

**From
Individual
to
Social
Foresight**

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A THESIS SUBMITTED FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY

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Abstract

To this point in time humanity has successfully responded to the challenges to its existence. A viewpoint becoming widespread is that humanity will have to respond to even greater challenges to its existence in the future. If adequate responses are not formulated to these emerging challenges then a dystopian future for humanity is a strong possibility. While experience can teach us how to act in the future it is the express intent of this research that we should not have to experience dystopia in order to learn how to prevent it. The innate human capacity for foresight has played a pivotal role in responding to past challenges, however, a more extensive form of foresight will need to be developed to respond to these future challenges. That form of foresight will need to be both individual and social in nature.

Part I of this thesis generates an original theory of how foresight could develop in individuals beyond our innate capacities. The theory argues that foresight capacities develop through the expansion of individual consciousness, particularly the individual's sense of 'self'. The theory is synthesised from the work of a number of psychological researchers including Jean Piaget, Jane Loevinger, Lawrence Kohlberg, Clare Graves, Susan Cook-Greuter and Ken Wilber.

Part II is a two year study of students undertaking a postgraduate course in strategic foresight. The study is utilised to add preliminary empirical support to the theory proposed in Part I.

Part III integrates the previous two parts to further elaborate the attributes and dynamics of individual foresight development before describing how social foresight capacity can emerge from individual development. Expanded individual and social foresight capacities are achievable, but cannot be assumed. The contribution of this thesis is to give a theoretical base to such development and to outline further research. The development of individual foresight and the emergence of social expressions of foresight can offer preferable, and not dystopian, futures for both current and future generations.

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Finally, and most importantly, I would like to thank the unwavering support from Lynette who has partnered me on this journey and without whom it would never have eventuated.

Declaration

This thesis contains no material accepted for the award of any other degree or diploma in any university. To the best of my knowledge, it contains no material published or written by another person, except where due reference is made in the text. Where the work reported is based on joint research or publications, the relative contributions of the respective authors or workers is disclosed in the text.

Peter C. Hayward
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Abbreviations

dq-er	Transition stage between SD stages DQ and ER
ER	SD stage ER
er-fs	Transition stage between SD stages ER and FS
FS	SD stage ER
fs-gt	Transition stage between SD stages FS and GT
GT	SD stage GT
gt-hu	Transition stage between SD stages GT and HU
HU	SD stage HU
LL	Lower left quadrant
LR	Lower right quadrant
MBA	Master of Business Administration
MSF	Master of Strategic Foresight
SD	Spiral Dynamics
UL	Upper left quadrant
UR	Upper right quadrant

Chapter 1

The Case for Foresight

1.1 Introduction

This thesis considers two questions. First, ‘How does individual foresight develop’?, and second, ‘Does a social form of foresight develop’? At the civilisational level, the scope and range of social, economic, political, and technological development continues to increase as it always has done. History is replete with people who foresaw the ‘end of the world’ at various historical epochs. This research will not follow that path, yet there does appear to be a *prima facie* case that human development is now bumping into systemic ‘limits’. Individual demands and aspirations may indeed be limitless and they certainly underpin a consumer culture oriented towards perpetual growth in many areas (income, wealth, share prices, lifestyle options, Gross Domestic Product, television channels etc.). Politicians, manufacturers, retailers, advertisers and economists would like us to believe that perpetual growth is not merely probable but certain (Meadows, Randers & Meadows 2005). As the idealised theories of perpetual motion are, in turn, defeated by physical laws of friction and thermonuclear dynamics, so does the optimistic idea of perpetual growth appear to be challenged by the ecological realities of a growing scarcity of matter and energy. In order to exist we must consume matter and energy. Matter and energy, while they were comparatively plentiful in earlier times, are now becoming scarce. The once plentiful raw materials of human development, potable water, breathable air, arable soil, hospitable climates and inexpensive energy sources, are now commodities where demand is ostensibly outstripping supply. These are some of the growing challenges that will have to be resolved.

Optimists suggest that the ingenuity of humans coupled with technological advances will ensure that our societies will respond to these challenges, yet the study of earlier human societies suggests that these ‘civilisational challenges’ (Slaughter

1999*a*, p.178) are not always successfully resolved. Diamond (2005) demonstrated that Easter Island, the Anasazi, the Maya and Viking Greenland were societies that failed to respond to challenges to their existence. His research found four factors contributing to societal failure (p.412):

- a challenge may not be anticipated before it arrives;
- a challenge may not be perceived when it does arrive;
- a challenge may be perceived but not be addressed;
- a challenge may be addressed but efforts to mitigate it may not succeed.

The first three of those factors - the inability of individuals, or their societies, to anticipate, perceive or to act upon challenges to existence - describe failures of foresight. The inability to anticipate challenge occurs when thought does not learn from the past, does not pay attention to the ‘weak’ signals of change and does not sufficiently consider the future implications of present actions. The inability to perceive a challenge that is present occurs when the habits of mind, language and custom reify the present ways of the world as ‘natural’, making people blind to what is happening around them. The inability to address challenges that are present occurs through the incompetence of leaders, the indolence of a society’s members, an overconfidence of human adaptability, the idea that there is always ‘more time left’ and a zealous belief in technology as always providing answers. The development of individual and social foresight could have prevented the failure of those societies. But is foresight of a nature and scale that Diamond (2005) found lacking sufficient for the challenges that our societies could face?

The four failed societies that Diamond’s research studied were examples of localised failures of foresight. Each did fail, with catastrophic consequences for their members, but their failures of foresight did not threaten overall human existence. None of those failures of foresight triggered new challenges that threatened the existence of planetary society. In the past, societies faced localised challenges, like the threat of insecure food supplies. Foresight, and bitter experience, changed agricultural behaviours in order to meet those challenges. First, the responses to the challenges themselves were localised: e.g. storing food, saving seeds and crop rotation. The localised nature of many of those responses meant that they themselves did not precipitate the emergence of more generalised challenges. As societies grew in size, scope and complexity then more generalised responses could be made to localised challenges. The challenge of insecure food supplies, for example, brought forth generalised responses, such as using pesticides and man-made irrigation system. These ‘escalations’ of response gave the initial appearance of having completely

met the localised challenge but later generations found that they also introduced generalised, ‘man-made’ challenges such as salinity and toxic residues in the food chain. These too are examples of failures of foresight, however, at a generalised scale. A localised failure of foresight can have a significant impact on local inhabitants but have little effect on other, non-localised, inhabitants. Generalised failures of foresight, however, can significantly affect both localised and non-localised inhabitants. A more generalised capacity for individual and societal foresight, one with more depth and scope than previous localised foresight capacities, could have anticipated, perceived and addressed the generalised challenges that are with us today. Yet is that the nature of the foresight capacity that we require?

Nanotechnology and genetic engineering are suggested as possible solutions to some of the generalised challenges we currently face. A failure of foresight with interventions at the genetic and atomic levels could lead to mega-challenges that would affect all humanity, both present and future (Joy 2000). Furthermore the localised challenges of famine, plague and natural disaster are always with us, plus they have the additional potential to escalate into generalised or mega-challenges. There is also the hitherto unanticipated scenario of a series of ‘overlapping’ global challenges that present and future generations may have to respond to (Slaughter 2004a). Challenges of this magnitude would demand much of humanity’s reserves of individual and social foresight - assuming that those reserves did exist.

The prevailing view of how best to handle the current challenges of managing our ‘becoming-scarce’ planetary resources and the emergent challenges inherent in genetic engineering and nanotechnology is to allow the ‘invisible hand of the market’ to do its bidding, with governments operating as both economic enablers and social/ethical arbiters. Transnational corporations, operating from neo-conservative ideologies and with the apparent blessing of compliant national governments, increasingly seek to profit from both sides of this equation. On one hand, advertising and popular culture reifies the inalienable rights of unlimited individual demand while technological innovation is directed towards creating ever more goods and services for which a new demand can be subsequently created. On the other hand, those same corporations recognise the scarcity that is being created and so they also act to gain control over the supply of these increasingly valuable, raw materials of development and the intellectual property contingent in the new technologies. This is an *arbitrage* situation that creates an extremely profitable business model for those who have a proprietary interest in these corporations. Everyone else who misses out on gaining a share of this profitable business model must accept the runners-up prize of a rapidly widening gulf between rich and poor, growing unemployment and under-employment, ideologically-justified disregard for social safety nets and prob-

ably irreversible environmental degradation in their backyards (Trigger 1998). This would be an uncomfortable and unfortunate outcome for significant numbers of the world's population and one that is argued to be inevitable and irresistible given the 'powerful vested interests and the limitations on foresight, self-discipline and social restraint' (Clarke 1999, p.731).

Two responses to the foregoing viewpoint are commonly observed. The singer Doris Day popularised the first of these.

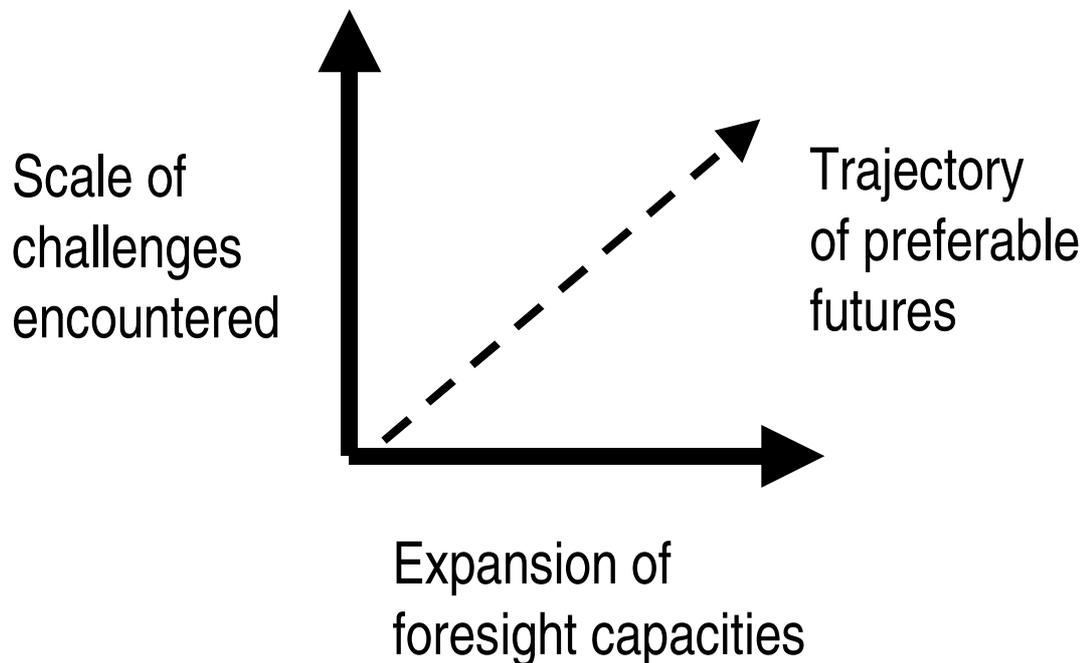
Que sera sera
Whatever will be, will be
The future's not ours to see
Que sera sera.

The second response is commonly referred to as 'TINA', (There Is No Alternative). However, there are alternatives and this is the primary justification for this research. Rather than accepting the 'default' future of *que sera sera*, there is the possibility of considering what future(s) we wish to live in; and of taking steps in the present to increase the likelihood of 'desired' futures and to reduce the likelihood of the 'undesired' ones. To do this is to employ foresight. Foresight is an innate capability of every person, and it operates in us as an adjunct to other human capabilities like experiential learning (Bell 1997). Rather than having to experience a challenge in order to learn how best to manage it, foresight allows us to prepare for a challenge and even to take actions to prevent the challenge occurring. Most importantly through social modelling, the advantages gained from the foresight of one person can be gifted to others, thereby making foresight a *social* as well as an *individual* capability.

It is an explicit wish of many that we do not want to have to experience dystopia in order to learn how to prevent it. While there is a relationship between foresight and experience it is to be hoped that we do not require the latter in order to engage the former (Slaughter 2002*b*). If we have to wait until the challenges to our survival are so obvious before we take them seriously, then there will be no way back from the brink. If we want to maintain and realise notions of social justice, humanity and dignity for all, rather than human worth determined through social Darwinism, then it must be through purposeful human action. Foresight that can separate out the retrograde elements from our Western inheritance will play a significant role in such a process (Gaspar & Novaky 2002). Figure 1.1 is a simple representation of the intent of this thesis.

The vertical axis represents an increasing scale of challenges over time. To respond to this the horizontal axis represents the expansion of our foresight capacity,

Figure 1.1: There is an Alternative



both individual and social, over time. As the challenges to existence grow in scale then so to must our foresight capacities. The dotted line represents the belief that expanding foresight capacities will give us the ability to anticipate, perceive and act on our present and future challenges and thereby produce a trajectory of preferable futures for ourselves and future generations. The nature of human existence is that we will continue to face challenges into the future. Existence is precarious, and precious. No matter how good our thinking and technologies are, we will continue to face an increasing scale of challenges to our existence. Our ancestors were aware of localised challenges. We, on the other hand, are aware of planetary challenges. Furthermore as we learn more about our planet and the galactic neighbourhood more challenges will be detected. This research seeks to make a contribution to understanding the expansion of foresight capacities and thereby, in some small way, to the trajectory towards preferable futures.

1.1.1 Outline of the Thesis

A twin research strategy was employed to consider the research questions of this thesis. The first part consists of theoretical research into the development of individual and social foresight culminating in a hypothetical model of how foresight could develop. The second part consists of empirical research based on the theo-

retical model; the research collected data and sought to test, in a preliminary and tentative manner, the theoretical model. Accordingly, this thesis has the following structure.

- Chapter 1: the remainder of this chapter gives the background to the research, frames the research questions and introduces the overall research strategy;
- PART I outlines the theoretical research into individual and social foresight that comprises the next three chapters.
- Chapter 2, *The Worldviews of Foresight*, surveys the archaeology of the evolution of human consciousness through the relevant literature. In particular it employs the work of Gebser (1985) on how foresight has evolved and this is further elaborated with original theory;
- Chapter 3, *The Lineage of Foresight*, reviews the contemporary literature of the futures field to seek correlates to the Gebser theory and to outline the known aspects of individual foresight, and this is further elaborated with original theory; and
- Chapter 4, *Inside the Foresight Mind*, surveys the relevant psychological literature on futures thought and the three self-related lines of development that form the basis of the research methodology and this is further elaborated with original theory.
- PART II describes the empirical research into individual and social foresight that comprises the next three chapters.
- Chapter 5 details the research method followed;
- Chapter 6 discusses the findings from the research; and
- Chapter 7 draws the implications from the empirical research.
- PART III summarises the overall research findings that comprise the next three chapters.
- Chapter 8 - Discussion and Implications - Research Question 1.
- Chapter 9 - Discussion and Implications - Research Question 2; and,
- Chapter 10 - Conclusions and Recommendations for Further Research.

1.2 A Definition of Foresight

Human beings have a highly developed sensory mechanism that has an enviable record in the accuracy and perspicacity of its insights. This mechanism is not taught to students at school nor do parents have to show their children how to use it. The mechanism is probably as old as humanity itself. It provides a decision maker with almost complete certainty into how a critical matter should be resolved. Yet, powerful as this mechanism is, it cannot help anyone facing a decision right now, at this very instance in time. This remarkable yet flawed mechanism that each of us have is called *hindsight*. Citing hindsight suggests that foresight should have been employed to inform a decision.

Hindsight, like experience, educates our thinking by the results of actions. Both hindsight and experience are actions leading to thought; “that wasn’t a good experience, I won’t do that again”. Both are very useful and powerful learning mechanisms; however, their shortcoming is that we have to experience something to learn from it. Foresight, on the other hand, is thought informing action. Foresight’s express intent is not to experience everything in order to learn from it. This difference can be simply represented.

$$\text{Hindsight} = \text{Action} \rightarrow \text{Thought}$$

whereas

$$\text{Foresight} = \text{Thought} \rightarrow \text{Action}$$

In this thesis foresight will mean the capacity to bring a consideration of the future into the present decision perspective (foresight capacity) and acting upon that consideration (foresight actions). There are a range of actions that can be considered as foresightful.

- provisioning - taking action in the present to prepare for a probable future event;
- prevention - taking action in the present to prevent or mitigate the occurrence of a probable future event; and
- wisdom - taking action in the present that not only deals with the exigencies of the present but which also deals compassionately with the exigencies of the future.

Those foresightful actions can be understood as the expressions of foresight capacities. Slaughter (1995) cites three general foresight capacities that attempt to bring a consideration of the future into the boundaries of perception via:

- the capacity to detect and avoid hazards;
- the capacity to assess the consequences of actions; and
- the capacity to envision desired futures (p.48).

A one-to-one relation between those three actions and capacities is not suggested but they are interrelated. Provisioning and prevention actions would each be expressions of the capacity to detect and avoid hazard. The capacity to assess consequence can elaborate thinking such that broader, deeper and extended contexts can be considered for foresightful actions. Envisioning the imaginary capacity to further broaden, deepen and extend the contexts for foresightful actions. Wisdom, however, is a qualitatively different type of foresightful action. Perhaps it is only the hindsight of future judgements that can determine if an action was indeed wise.

Since foresight actions appear likely to be dependent upon the development of foresight capacity, it is the development of foresight capacity that this thesis concentrates upon. It is individuals who represent this foresight capacity and yet there are occasions, such as wise foresight actions, when the interest served by the foresight capacities appears social in nature and not merely the expression of individual interests. This idea, that a foresight capacity can be engendered in individuals and then subsequently expressed in ways that transcend individual interest, is central to this thesis. The thesis will seek to explain the ‘how’ of individual and social foresight. While it will attempt to be fair and thorough it will, nevertheless, be selective, subjective and value based. The contention of this thesis is that social foresight is a desirable and necessary capability for humanity but one that is generally lacking in contemporary Western culture. This lack contributes, in part, to many of the dysfunctional problems that Western culture faces - such as environmental damage, individual alienation and the decline of civic culture and its institutions. The purpose of this thesis is to improve the understanding of foresight so that its capability, in both individuals and society, can be increased. Understanding must encompass not just ‘what’ foresight is but more importantly ‘how’ it is engendered and ‘why’ it is needed.

1.3 The Research Question

The research question for this thesis then is,

What is Individual Foresight and can it be used to develop Social Foresight?

This question can be broken down into two sub-questions.

1. **How does foresight develop in the individual?**
2. **Does a ‘social’ sense of foresight develop and, if it does, what structures and processes could be established which could support the development of Social Foresight?**

These two sub-questions will be examined separately.

1.4 Researching Foresight

The future of certain aspects of the physical world can be researched and empirically located. Knowledge gained obtained from observing the actions of the physical world has created thought (theories, formulae) that can foresee future actions or states. The actions of planetary objects in space or the actions of the ocean’s tides on earth can be forecast with accuracy at distant future dates. We do not need to employ foresight to study those aspects of the physical world. The future of human systems, however, cannot be so researched and empirically located. Human futures cannot be reduced to a mathematical proposition or formula. We can observe what actions humans have taken in the past and present, and from that we could try to forecast how they will act. Yet the humans concerned cannot be constrained within someone else’s idea of how they will act. Notwithstanding how humans may commonly say that they wish to ‘know their future’, widespread belief in human agency means that human futures are unforeseeable because humans can act to construct their future.

No matter how circumscribed certain situations are, an individual has a window, however small, within which they can alter their future. An individual can anticipate a bad personal future and then take action to prevent that likelihood or at least improve it. Was the anticipated future ‘false’ because it did not eventuate? No. The anticipated future was made ‘false’ by the very actions that followed the anticipation. Those actions were taken because the anticipated future had credibility. That is an example of foresight. Consider also the circumstances of a student who undertakes many years of educational study and at the end of this long process is gainfully employed in a satisfying vocation. Was it ‘true’ that the student knew that the particular future would occur? No, there was the desire for a certain future and so actions followed that made that future ‘true’. That too is an example of foresight. The same student’s thoughts may have had an ‘image’ of this future during their

school years. If they did hold such an image then it is very likely that the image changed as they, in turn, were changed by life's journey. The changeability of this imagined future, however, did not make that future less 'true' to the individual concerned. The student's capacity to envisioning this future was a continuing process of construction with thought informing action and likewise action informing thought. The student's eventual future was likewise constructed.

Human futures, therefore, are not 'received' but are 'constructed' (Slaughter 2004*a*, p.7). There are no future 'facts' of human futures that can be studied. Each individual is capable of acting in a way that could change any 'fact' of a human future. To some this would mean that the study of the future is not scientific; that the only knowledge of any significance is that which is derived from objective measures. Yet thinking about the future, in particular the capacity of foresight, is not an abstract theory but a biological and cultural fact. Our history tells us that individuals often act with a subjective belief that they can influence their future (Bell 1997). Thus we have an objective process that deals with a subjective construction. How then best to approach research into the capacity of foresight?

1.4.1 The Research Hypothesis

The deliberate expression of human foresight is a sub-field in the field of future studies. Bell (1997) regards future studies as:

A new field of inquiry that involves systemic and explicit thinking about alternative futures. It is a growing body of work that is based upon distinctive perspectives and assumptions that utilize specific theories, methods and values. It aims to demystify the future, to make possibilities for the future more known to us, and to increase human control over the future (p.2).

Foresight makes inquiry into possible future states and 'succeeds or fails according to whether the particular interpretations find echoes in other adequately equipped human minds and proceed towards action' (Slaughter 2004*a*, p.11). Foresight, as a human capacity, preceded the field of Future Studies but foresight is now central to the field's development. 'At the human level foresight is a largely underdeveloped human capacity... at the organisational level foresight is much rarer... at the social level a capacity for foresight barely exists' (Slaughter 2004*a*, p.184). What Slaughter (2004*a*) calls for is an elaborated individual and social capacity that can move future studies from 'what many regard as a semi-esoteric field of enquiry to a widespread operational capacity' (p.171). How best, then, could such a capacity-expansion be researched?

The traditional research viewpoint,

focuses on efforts to verify (positivism) or falsify (postpositivism) a priori hypotheses, most usefully stated as mathematical (quantitative) propositions or propositions that can be easily converted into precise mathematical formulas expressing functional relationships (Guba & Lincoln 1994).

In critiquing that traditional view of research, Guba & Lincoln (1994) state that ‘human behaviour, unlike that of physical objects, cannot be understood without reference to the meanings and purposes attached by human actors to their activities’ (p.107). They argue that employing paradigms as human constructions is a more appropriate way of understanding human behaviour, notwithstanding that there is no way to prove any such construction, from a traditional research sense.

In our opinion, any given paradigm represents simply the most informed and sophisticated view that its proponents have been able to devise. . . and all are cases of *human constructions*; that is, all are inventions of the human mind and hence subject to human error. No construction is or can be incontrovertibly right; advocates of any particular construction must rely on *persuasiveness* and *utility* rather than *proof* in arguing their position (Guba & Lincoln 1994)(emphasis in original).

Guba and Lincoln (1994) describe how the actions of individuals can be observed by a researcher but argue that those actions cannot be understood without reference to the subjective purposes and meaning of the actor; even though those subjective factors cannot be observed by the researcher. Positivist research does not give regard to those subjective factors, instead it focuses on rigour and replicability to remove the subjective biases, thereby giving ‘true’ research findings. Nonpositivist research, however, takes the position that this subjectivism is not a barrier to inquiry; it is central to any inquiry of human action.

Realities are apprehendable in the form of multiple, intangible mental constructions, socially and experientially based, local and specific in nature (although elements are often shared across many individuals and even across cultures), and dependent for their form and content on the individual persons or groups holding the constructions. Constructions are not more or less ‘true’, in any absolute sense, but are simply more or less informed and/or sophisticated (Guba & Lincoln 1994, p.110).

The premise has already been made that foresight differs from hindsight/experience in that it deliberately attempts to bring the meanings and purposes of individuals

to bear on their constructed notion of a 'future', in order for the individual to learn from that notion and accordingly to choose relevant actions. To wait for the lessons from hindsight/experience in order to choose relevant actions does have the advantage of removing the dependence upon the 'constructed notion' of the future but it also means that a hostile occasion has to occur before a human actor can 'know' that the occasion should be prevented or avoided. It does seem oxymoronic to argue that humans have to experience everything in order to know 'with certainty' what they do not wish to experience in the first place. The capacity of foresight is an expression of such a human construction and is thus best researched through methods that explicitly give regard to the process of human constructions of reality.

Denzin & Lincoln (2000) observed a 'nonpositivist orientation' in many studies and dissertations and commented that 'there can be no question that the legitimacy of postmodern paradigms (postmodern critical theory and constructivism) is well established' (p.164). They also stated that a 'blurring of genres' Geertz (1993) is occurring as inquiry 'methodology is inevitably woven with and emerges from the nature of particular disciplines'. Such a blurring and interweaving can be seen in Heron and Reason's (1997) argument for a new participatory, nonpositivist inquiry paradigm. That inquiry paradigm extends epistemology to locate knowing in the conscious reflexive action of the actor. The actor learns 'through' their state of subjective consciousness: 'we accept that our knowing is from a perspective and that we are aware of that perspective' (Heron & Reason 1997, p.282). The explicit capacity to do this is a capacity arising from the development of consciousness. '[T]he mind can choose its premises of understanding and action, can detach itself from all frameworks to peer into and reflect on their presuppositions' (Heron & Reason 1997, p.282). Slaughter (2004a) notes that many operating in Western and Westernised cultures naively carry forward ideas and lived practices but he also says that,

at more advanced levels, however, one of the distinguishing features of human awareness is reflexivity. It can look clearly on its own presuppositions and, where the evidence is clear, change them (p.175).

Heron and Reason's (1997) and Slaughter's (2004a) 'inquiry' stances appear to share epistemological bases. All three describe the actor's capacity to understand the necessary constructedness of their subjective reality and, yet, still find pathways of actions notwithstanding their inherent subjective biases. The 'inquiry' stance that underpins Heron and Reason's (1997) nonpositivist paradigm of Heron & Reason (1997) is called action inquiry. Torbert (1991) argues that action inquiry is a form of inquiry concerned with the development of effective human action that may

contribute to the transformation of organisations and communities towards greater effectiveness and greater justice. Foresight likewise seeks to promote effective actions and justice. Action inquiry also seeks integrated understandings of actions that do not exclude an actor's meanings and purposes.

The vision of action inquiry is an attention that spans and integrates the four territories of human experience. The attention is what sees, embraces and corrects incongruities amongst mission, strategy, operations and outcomes. It is the source of the 'true sanity of natural awareness of the whole' (Torbert 1991, p.219).

The actions of foresight also seek to correct incongruities between present wants and future responsibilities. The mission and strategies of a human actor are the thoughts that go towards the actualisation of human hopes and dreams. If action inquiry employs a similar inquiry stance to foresight then what is known about the individual capacity to undertake action inquiry?

Torbert (1991) considers action inquiry 'a kind of scientific inquiry that is conducted in everyday life' (p.221) and that it is 'consciousness in the midst of action'. He stresses the implicit cognitive models that operate in this type of inquiry in order to understand how an individual could develop such an inquiry stance. Torbert (1991) found that theories of ego development, particularly the theories of Loevinger (1976) offered much in explanation as to the development of action inquiry. 'Only towards the later stages of development is the person aware that there are alternative frames, that perceptions, including one's own, are always framed by assumptions, and that such assumptions can be tested and transformed' (Torbert 1989, p.86). Reason (1994) located action inquiry at a certain developmental stage, finding also that in prior stages the capacity for action inquiry is not fully apparent.

A theory, like Loevinger's on ego development, posits shared patterns of constructivism of the type that Guba and Lincoln (1994) referred to. These are cognitive models that have found repeated patterns of how the construction of thought develops in human actors. Wilber (2002) regards such theories as 'third-person perspectives on first-realities' (p.14). These theories do not adopt a positivist inquiry stance to subjective constructions of thought. They do not attempt to measure or circumscribe what an actor thinks. Instead they seek frameworks to understand how a particular cognitive stance may occur; as such these theories provide an understanding of commonly repeated patterns of human construction. Researching the capacity of foresight through theories of the patterns of human construction, like Loevinger's, presents an appropriate inquiry path that addresses the two research questions.

1.4.2 The Research Design and Hypothesis

This research sought to contribute to the knowledge of how foresight can be employed to assist both the ‘life conditions’ (Graves 1970, x) of those now alive and to allow future generations at least the same range of choices that present generations have. It is believed that improving the understanding of how foresight capacities develop will raise the likelihood of producing preferable futures for ourselves and future generations. It was initially hypothesised that the capacity of foresight, both in its individual and social forms, arises from the development of individual consciousness. One possible expression of individual consciousness is the notion of a ‘sense of self’.

Each time the self’s center of gravity orbits around a new level of consciousness, it has, of course, a new and different outlook on life. . . the self at each level sees a different world: it faces new fears, has different goals, suffers new problems. It has a new set of needs, a new set of morals, a new sense of self. I call all of those developmental lines the self-related lines or streams, because they are all intimately connected with the self and its extraordinary journey (Wilber 1999*a*, p.470).

By seeking to understand first the nature of consciousness development, such as the development of the sense of self, new understandings of foresight may emerge that could promote the likelihood of preferable futures. That understanding could then comprise the theoretical foundation upon which the individual development of foresight could be empirically tested.

Part I assembles of the theoretical foundation that seeks to understand the nature of the development of consciousness and its relationship to foresight.

Part I

Theoretical Research

Chapter 2

The Worldviews of Foresight: From the Creature Present to Integral Foresight

2.1 Introduction—The Worldviews of Foresight

What is a foresight worldview? It is an aspect of the mental model of the world held by an individual (de Jouvenel 1967). It is a cognitive construct, something that an individual assembles in their consciousness, and then acts as if this construct carries significance for the real world.

While a foresight worldview is to some extent an individual construction, that construction occurs within a cultural milieu. The culture within which an individual is immersed provides the language, symbology, archetypes and myths from which the individual constructs their worldview. The culture provides the raw material for the cognitive assembly process. While the finished product, the foresight worldview, will bear the particular stamp of the individual who fashioned it, those raw materials which went into its construction will still be discernible, albeit, in a subtle manner.

Foresight is a capability which operates to increase the biological continuation of a human organism by reducing risk, employing prudence, and taking care. Beyond this, certain individuals have evidenced something which appears to transcend individual, biological foresight. This appears to be a social or cultural form of foresight: rather than an individual asking, ‘what actions I should take?’, social or cultural forms of foresight speak of actions that transcend the needs of the individual.

As cultures have evolved over time then so too have the worldviews of foresight. These foresight worldviews can be hypothesised and compared to determine their trajectory and developmental structure. That will be the hypothesis which will be

tested in this section:

- that worldviews of foresight have evolved over time;
- that the evolutionary stages have a broad directionality; and
- that this directionality is towards greater inclusion and forms of foresight with an explicit social interest that transcends individual interests.

How might these foresight worldviews be uncovered and explained? Modes of thinking do not leave an archaeological record for later discovery. There is no straightforward way of proving how earlier individuals and their cultures perceived their times and practised foresight. There has, however, been research into the evolution of human consciousness. Gebser (1985) researched ‘the forms of consciousness manifest in various epochs of mankind’ (p.1). He found evidence of a series of ‘mutations’ of consciousness that presented a developmental structure, a structuring that commenced in human pre-history and that extended beyond, the present day.

If, in the course of the following discussion, we are able to establish the contents, forms of realisation, and attitudes expressed by these structures, we should be able to determine to what extent the one or other of these structurations predominates in us and predisposes our attitude to the world and our judgement of it (Gebser 1985, p.37).

The worldviews of foresight can be located within the contents, realisations and attitudes of Gebser’s structures. Not only will this permit the explanation of ‘past’ worldviews of foresight but it will also give a method for diagnosing the current manifestations of foresight. In effect, Gebser’s work provides a methodology to understand both the evolution of foresight and the lineages of present-day foresight.

2.2 Gebser and the structures of consciousness

Before commencing the specific examination of the worldviews of foresight it is useful to outline Gebser’s theory. From this generalised understanding a deeper and more particular examination of the contents, realisations and attitudes that are relevant to foresight can be made.

2.2.1 Jean Gebser in brief

Gebser’s work can be located in that epoch of Western thinking that arose around the two World Wars.

In the wake of materialism and social change, man had been described in the early years of our century as the ‘dead end’ of nature. Freud had redefined culture as illness - a result of drive sublimation. Klages had called the spirit (and surely he was speaking about hypertrophied intellect) the ‘adversary of the soul’...and Spengler had declared the ‘Demise of the West’ during the years following World War 1. The consequences of such pessimism continued to proliferate long after its foundations had been superseded...As early as Planck it was known that matter was not at all what materialists had believed it to be, and since 1943 Gebser has repeatedly emphasised that the so-called crisis of Western culture was, in fact, an essential restructuration (Gebser 1985, xix).

Gebser presented evidence that human consciousness structures had undergone three mutations from the archaic or primordial structure; the magic, the mythical and the mental structures. The term ‘consciousness structures’ means the ‘perception of reality throughout the various ages and civilisations’ (Gebser 1985, xx). Generally speaking, then, how do each of Gebser’s structures perceive reality?

2.2.2 The Archaic structure

The initial stage of human consciousness is almost impossible to conceive since individual consciousness is not operating in it. Gebser describes this phase as ‘origin’, a consciousness structure where there is no distinction between the person and their environment. He cites statements from post-archaic thinkers that demonstrate an understanding of the archaic structure. ‘Dreamlessly the true men of earlier times slept’ (Chuang-tzu cited in Gebser (1985, p.44)). In that statement ‘sleep’, is equated to the lack of individual consciousness at this stage and ‘dreamless’ to the apparent harmony between inner and outer concepts of identity, demonstrated by the absence of any dualistic or constructive notions of ‘reality’. ‘The soul [came into being] simultaneously with the sky’ (Plato cited in Gebser (1985, p.45)). Here the ‘sky’ is not regarded as any more existential than the ‘soul’. Both not only co-exist but appear to emerge simultaneously, although emerge should not be mistaken for any idea of their being distinct.

Here it is appropriate to highlight the method followed by Gebser in his explication of theory.

In retrospect it may seem as though this conscious mutation occurring in man were directed towards us: towards present-day man and our

consciousness structure; but we must guard against such a one-sided relativization of these events. Our present mode of thinking would insist that everything be regarded from the vantage point of the present and would proceed to trace in reverse the path of events. Yet if we did this, we would draw conclusions and results from fragmented manifestations and would never reach the nearly inaccessible origin. It is for this reason that we have attempted to avoid this retrograde mode of inquiry and have begun our investigations with the original structure (Gebser 1985, p.45).

For Gebser, then, the tendency of the rational mind to inquire into previous modes of consciousness from its rational viewpoint must be acknowledged as potentially distorting. Instead an understanding of the structure of consciousness comes from sensing the mode, attributes and attitudes of the structure ‘from within’, rather than ‘from without’. Gebser called this *presentiating*, sensing what was actually present, rather than interpreting what was present through another structure. The deliberate suppression of the rational mode of thought in trying to understand earlier structures of consciousness is fundamental to Gebser’s research.

The observations of the Chinese and Greek sages which make previous unseen domains accessible, tell more about the archaic structure than would any retrospective conclusions and prognostications. Anyone capable of sensing and presentiating the significance of these utterances will at least be able to perceive some measure of the splendour of origin - the first radiance of the emergent world and man that suffuses the words of ancient time still present in us (Gebser 1985, p.45).

2.2.3 The Magic structure

The next conscious structure, the Magic structure, signifies the release of consciousness from its simultaneous identity of inner and outer. From ‘sleep’ to a ‘waking-state’ awareness of an external world. This is still not the emergence of a subject regarding an object. There is no subject-consciousness in this structure. Also, the world is not seen in the detail of pattern, causality and relationship. Instead, the external world is experienced as ‘point-like’ phenomena: not a conception of the world as a whole, instead, a consciousness of details that in themselves are the world. How then would consciousness navigate existence from such a structure?

Impulse and instinct thus unfold and develop a consciousness which bears their stamp—a natural and vital consciousness which enables man, despite his egolessness, to cope with the earth and the world as a group-ego,

sustained by his clan. Here, in these attempts to free himself from the grip and spell of nature, with which in the beginning he was still fused in unity, magic man begins the struggle for power which has not ceased since; here man becomes the maker. Here too, lie the roots of that tragic entanglement of fighter and fought: to ward off the animal that threatens him—to give but one example—man disguises himself as that animal; or he makes the animal by drawing its picture, and to that extent gains power over it (Gebser 1985, p.46-7).

Gebser cites the hunting ‘ritual’ as emblematic of the magic structure of consciousness.

Leo Frobenius in his book *Unknown Africa...* describes how, in the Congo jungle, dwarf-sized members of the hunting tribe of Pygmies drew a picture of an antelope in the sand before they started out at dawn to hunt antelopes. With the first ray of sun that fell on the sand, they intended to ‘kill’ the antelope. Their first arrow hit the drawing unerringly in the neck. Then they went out to hunt and returned with a slain antelope. Their death-dealing arrow hit the animal in exactly the same spot where, hours before, the other arrow had hit the drawing (Gebser 1985, p.47).

The characteristics of the magic structure are all present in that last quotation. There is no ego present, the pygmy does not kill the antelope, the sun does that when it touches the drawing. A causal relationship between the ritual and the hunt does not exist (because causal thinking is not operating at this structure), instead there is a vital or natural nexus. The ritual is the hunt, they are not different points or phenomena but the same phenomenon. Absolute reality is based on phenomena, it is ‘magical’ - all the phenomena are ‘merged’ into something ‘magical’, something that gives power to the group, but ‘this character loses its effectiveness with the... injection of consciousness’ (Gebser 1985, p.49).

2.2.4 The Mythical structure

The magic structure is about the relationship between the individual/group and nature manifested in emotion and instinct: there is no real individual identity in this structure but there is a form of group identity. The next consciousness structure, mythical, is about the relationship between the individual and their consciousness mediated through their imagination. Whereas the magic structure is about the emotional and instinctual responses to external phenomena, the mythical structure

is about inwardly focused contemplation. This is still not what the modern mind would regard as fully awakened consciousness. Citing Chuang-tzu Gebser likened the mythical structure to becoming aware of the dream in awakening. ‘Are you and I perchance caught up in a dream from which we have not awakened’ Gebser (1985, p.72). Likewise, ‘I see that all of us who are alive are but figments of a dream—no thicker than the thickness of a shadow’ (Sophocles cited by Gebser (1985, p.72)).

The symbol of the magic structure is the point, representing the point-like unity of the person and nature, whereas the mythical structure differs through the emergence of an internal world and so its symbol is the circle, the age-old symbol of the soul. The circle also exemplifies the linking of the polarities of daylight and darkness, the seasons and the orbits of the planets. The sun mythologies, which emerged in the East and West around the eighth century BC (Gebser 1985), are also considered emblematic of the brightening of consciousness. Another significant element that appears at this time is the ‘hero’ who asserts his independence from magic enmeshment. ‘Divine wrath’, which is described as a fire immanent in man, is often expressed through the hero. *The Iliad* begins with the words ‘Sing, goddess, the wrath of Peleus’ son Achilles’, words in which a summons to consciousness is recognisable (Gebser 1985, p.72).

Gebser found archaeological evidence of this step out of the magic consciousness structure. Figure 2.1 shows a mosaic relief from the second millennium B.C.

It expresses man’s extrication from his intertwining with nature in two ways: first, by presenting terrestrial man (and not a divinity) standing out in partial relief from the background which surrounds and protects him, and thereby depicting the body in partial extrication from his surroundings; and second, by placing the upper torso against the ‘sky’—‘*the sky is simultaneous with the soul*’, and we would also add ‘*simultaneous with time*’. The upper torso is free, as it were, and only the actual vegetative-vital region of the body, from the waist to the feet, is surrounded by nature; and even this is no longer an enmeshment, for the ‘nature’ surrounding him, is a nature already illuminated (Gebser 1985, p.62-3)(emphasis in original).

2.2.5 The Mental structure

Finally the structure of consciousness that operates today is reached. For Gebser the root of the word ‘mental’ contains many of the characteristics of what is regarded as ‘modern’ thought. From the Greek we have *menis* (wrath or courage) and *menos* (resolve, anger, courage and power). In Latin we have *mens* (intent, anger, thinking,

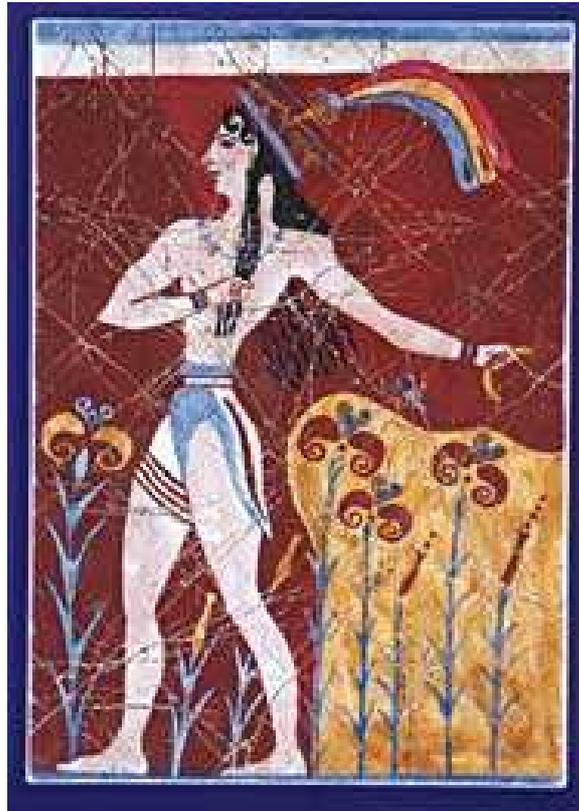


Figure 2.1: **The Prince of Knossos**
(ArtfromGreece 2004)

thought, understanding, deliberation, disposition, mentality) (Gebser 1985). The mode of consciousness representative of those characteristics, the mental structure, is discursive and directed. No longer the mythical imaginative process within the polar cycle, but ‘directed towards objects and duality, creating and directing this duality and drawing energy from the individual ego’ (Gebser 1985, p.72).

The point was ascribed to the magic structure representing its point-like unity with nature. The circle was assigned to the mythical structure as both representing the interior (soul) and also the polar relationship attendant in that structure. The triangle is assigned to the mental structure, the two points on the base of the triangle representing oppositional or antithetical positions held and the apex as the directionality inherent in the structure. The characteristic attribute of magic was the emotional/instinctual interpretation of nature and the characteristic attribute of mythical was the imaginative interpretation of the soul/psyche. With the mental structure the characteristic attribute is the abstraction and quantification of the material world (Gebser 1985).

Every act of abstraction results from the presence of measuring thought in the ostensible invisibility of what is being calculated, while every quantification results from the presence of measuring thought in the semblance of what is actually measured. This process is reflected in the reality of our world of thought; the symbol, always inherently polar and imagistic, is reduced to allegory, then to mere formula, as in the formulas of chemistry and physics and even the formulas of philosophy. In its extreme forms of exaggerated abstractness, it is ultimately void of any relation to life and becomes autonomous; empty of content and no longer a sign but only a mental denotation, its effect is predominantly destructive (Gebser 1985, p.88).

2.2.6 The Integral structure

Gebser suggested a fourth mutation was emerging but that it was not widespread and by no means certain. It was not merely the synthesis of what the mental structure has dualistically separated but an integration of all the previous structures of consciousness. For Gebser, this is the ‘conscious’ return to origin, instead of existing in the non-conscious archaic structure.

By integration we mean a fully completed and realised wholeness - the bringing about of an *integrum*, i.e. the re-establishment of the inviolate and pristine state of origin by incorporating the wealth of all subsequent achievement. The concretion of everything that has unfolded in time and coalesced in a spatial array is the integral attempt to reconstitute the ‘magnitude’ of man from his constituent aspects, so that he can consciously integrate himself with the whole (Gebser 1985, p.99)(emphasis in original).

Gebser saw the characteristic attributes of the mental structure as abstraction and quantification tending towards immoderation and ultimately to existential disconnection. This disconnection precipitated the typical reactions of either reversion to mythical consciousness and the sense of unity found in the circle or to the search for synthesis. ‘Either we run in a circle, inexorably confined and imprisoned, or we run to and from one opposite to another in the belief that this compulsive back-and-forth will find a synthesis’ (Gebser 1985, p.99).

The next mutation was not the next step on the existing path but a ‘leap’.

Rather we are dealing here throughout with an intensification of consciousness; not because of any qualitative character which might be as-

cribed to it, but because it is by nature ‘outside’ of any purely qualitative valuation or quantitative devaluation (Gebser 1985, p.99-100).

In summary, Gebser identified a series of mutations in human consciousness that could be evidenced in archaeology, language and culture. At origin humans existed in a non-conscious unity of body/mind/nature. The first mutation, magic consciousness, saw humans waking up from their ‘sleep’ to sense the point-like phenomena of nature surrounding them, and to find power in their ‘magical’ enmeshment. With the next mutation, the mythical, humans awakened to their internal consciousness and, through imagination, they saw polarities in nature that mirrored the polarities they found in themselves. In the final mutation, the mental, humans became fully awake to ego-consciousness and through the attributes of abstraction and quantification the ‘material’ world was brought forth. While a structure of great power this ‘modern’ consciousness tends towards atomisation and disconnection and so a fourth mutation, the integral, is a potential. This mutation would return unity; however, it is not a step in the evolution of consciousness a leap into an intensification of consciousness.

These then are the Gebser structures in general and now it is possible to examine specifically how the consciousness of time is manifested through the structures.

2.2.7 Time, space and perspective through the structures

Each of Gebser’s structures of consciousness brings forth a new dimension and with each new dimension the space/time world of the structure changes as well. Table 2.1 represents this.

Table 2.1: **Time, space and perspective** (Gebser 1985)

Structure	Dimension	Perspectivity	Emphasis
Archaic	Zero-dimensional	None	Prespatial Pretemporal
Magic	One-dimensional	Pre-perspectival	Spaceless Timeless
Mythical	Two-dimensional	Unperspectival	Spaceless Natural temporality
Mental	Three-dimensional	Perspectival	Spatial Abstractly temporal
Integral	Four-dimensional	Aperspectival	Space-free Time-free

The archaic structure, in its non-conscious state, can have no perspective and so brings forth no dimension. Hence this structure is prespatial and pretemporal. The mutation to the magic structure has the perspective of point-like phenomena in nature. Gebser called this pre-perspectival and what it brought forth was a single dimension. On this single dimension all phenomena are related and interchangeable. There is no causality; instead there is unity through a natural nexus, and so the magic structure is both spaceless and timeless. Importantly, though, while the magic structure is timeless there is a time concept latent in it. From the growing awareness of periodicity in nature, there then arises a sense-of-time rather than a knowledge-of-time.

Wherever we encounter seasonal rituals in the later periods of the magic structure, and particularly in astronomical deliberations and various forms of the calendar, as for example amongst the Babylonians and later in Egyptian and Mexican civilisation, we find anticipations of the mythical structure (Gebser 1985, p.61).

The magic/mythical transition is the point where time emerges. The late magic structures evidence the maturity of the awareness of a rhythm in nature that weakens the point-like single dimension perspective, hence mythical thought literally steps out of nature and into consciousness.

Although still distant from space, the mythical structure is already on the verge of time. The imaginatory consciousness still alternates between the magical timelessness and the dawning awareness of natural cosmic periodicity. The farther myth stands removed from consciousness, the greater is its degree of timelessness. . . By contrast, the closer its proximity to consciousness, the greater emphasis on time. . . Slowly the timeless becomes temporal; there is a gradual transition from remote timelessness to tangible periodicity (Gebser 1985, p.67).

From the emergence of consciousness comes an expanded perspective and so the second dimension is brought forward. The single point in one-dimension is now the encompassing circle in two dimensions. This is the time-sense of polarities; the rising and setting of the sun, the movement of the celestial bodies and the cycle of the seasons. Still this form of time-sense should not be mistaken for merely the observation of external phenomena. The key element here is that through imagined consciousness 'time' is found.

With the transition from mythical to mental, natural complementarity disappears and dualistic opposition replaces it. This duality is resolved through abstract

and synthetic thought. Human thought now encompasses the perspective of three dimensions and that creates both time and space as realms that the human consciousness can range over. This is ‘the world of man, that is a predominantly human world where “man is the measure of all things”, where man himself thinks and directs his thoughts’ (Gebser 1985, p.77). There are two significant aspects that arise from this mutation in consciousness towards discursive and directed thought. The first is that its capacity for identification and measurement sets up a one-sidedness that ‘embodies the greatness as well as the ominousness of this structure’ (Gebser 1985, p.85). The perspective that reason and right follows from identification and measurement strengthens everything that pertains to consciousness and displaces all that is immeasurable and non-conscious.

The unmeasured and autozoetic, that is, self-thinking world of mythical images has no place in the world measured and thought by man; at best, it is assigned a place in opposition, for there is no bridge to the inestimable in the world of measuring thought; in terms of its measurement, it does not exist, or at the very most it exists as ‘non-being’ (Gebser 1985, p.85).

The second significant aspect is that the future now emerges as a realm that this consciousness can shape. There is a partial rejection of the past, to the extent that it is unmeasurable, and in its place the future becomes the focus of attention.

To the thinking person the past exists only to the extent that he can measure it or fix its outlines with dates. As for himself, he one-sidedly sets his sights on the future, particularly as he thinks—from his anthropomorphic attitude—that he can shape this temporal sector at will, as if it were dependant upon him. In view of this one-sidedness. . . it is evident in the conviction of present-day man that he is the maker of the future (Gebser 1985, p.85).

The point-like unity of magic in its pre-perspectival single dimension gave way to the polar unity of the mythical circle and its two-dimensional perspective. Likewise the magic attribute of emotion was replaced with the mythical attribute of imagination. Now with the advent of the mental structure the full force of perspective brings forth three dimensions and the idea of abstract space, especially the abstract space of the future. Dualistic thought replaces polar thought and so the circle becomes a triangle with the two points and the base representing thesis and antithesis and the apex as the synthetic unity discovered by discursive and directed thought. The identifying characteristic of the mental structure is abstraction:

this thinking removes man from the impulsive world of emotion, as well as the imagistic world of the imagination, replacing them with the world of mental thought which inevitably tends towards abstraction (Gebser 1985, p.87).

Thus the understanding of how time, space and perspective emerges through the structures and a sense-of-time, and then a sense-of-the-future, emerges as well. This sense-of-the-future too becomes a source of fear. ‘Unease, anxiety, tension, stress, worry – all forms of fear – are caused by too much future’ (Tolle 1999, p.50). With this understanding of the structures of consciousness the evolution of the foresight worldviews will be explored.

2.3 The Creature Present

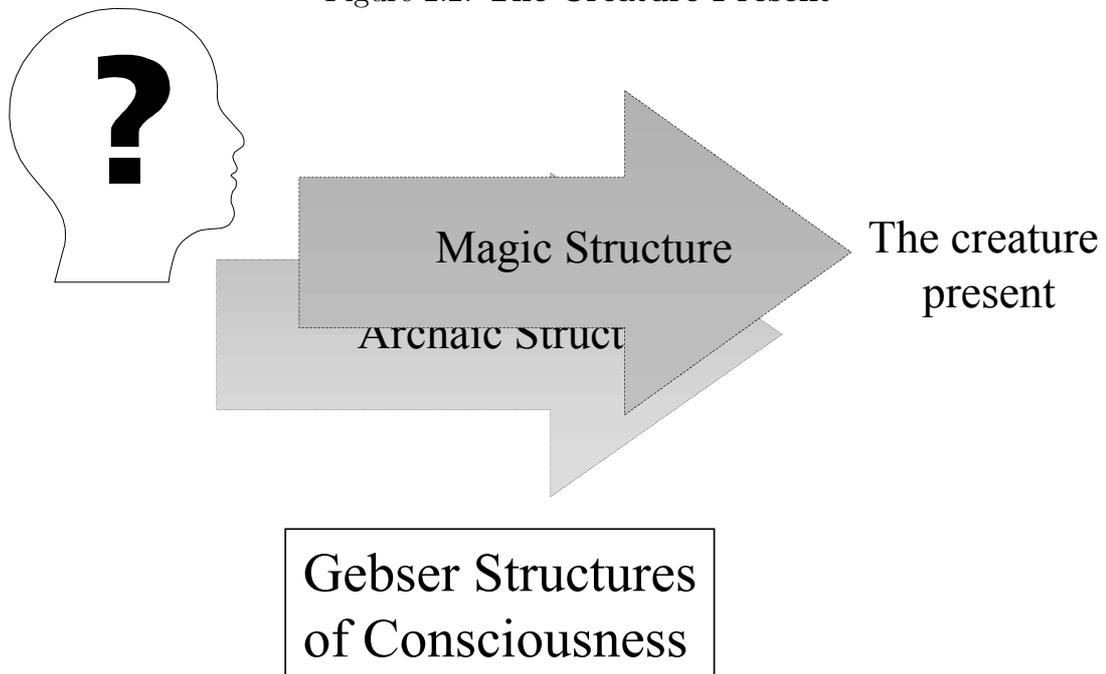
Between 50,000–12,000 years ago small bands of 20–30 people roamed the earth as hunter/gatherers. In the Gebser structure these bands were operating from the magic consciousness structure. The people lived pretty much moment to moment, or at most, day-to-day (Whyte (1950) cited by Wilber (1996*b*)). The sense of self is distinguished from the environment, but it is combined with it in a seemingly ‘magic’ way. This is likened to the cognition operating in dreams, where images are displaced and transformed in a way that would be considered non-logical were the images operating in the ‘waking’ state, but still an association is ‘known’ by the dreamer (Freud (1953) cited by Wilber (1996*b*)). With a sense of self not clearly differentiating subject and object then preservation of self would be associated with what happens in the immediate present. There is no future time orientation operating in this structure, hence there is no future. There is the memory of efficacious behaviour, and so the ability to remember other presents that are like this one, but not the capacity to imagine a future present. There is no worldview of foresight—only the creature present shown in Figure 2.2.

To describe this as the ‘creature present’ is not to suggest that these people were any less human than we are today. Rather it makes the point that their structure of consciousness was ‘creature-like’. A short digression into evolutionary neurobiology will elaborate this point.

2.3.1 Primary Consciousness

Edelman posited a theory of the evolutionary and biological development of two forms of consciousness, a primary consciousness (a creature present) and a ‘higher-order’ consciousness that shares much in common with Gebser’s later mutations

Figure 2.2: The Creature Present



of consciousness. His theory was premised upon two neurological capacities, *value determination* and *categorisation*, and he explains how they interact and evolve to enable individual consciousness.

Value is the property of the brain stem together with the limbic (hedonic) system. These two systems, the value and the limbic, manage the body and its functions. They are not directed towards stimuli in the external environment; rather, the two systems regulate the body in order to maintain the conditions for life by way of evolutionarily selected value patterns. It is important to note that the successful evolution of a species, in this case homo sapiens, results from those value patterns which have proven successful in attributing ongoing fitness to homo sapiens. Thus, these value patterns are enduring and they deeply affect individual consciousness. Edelman is not saying that these evolutionarily selected values make our responses predetermined, however, they are nevertheless universal values (Edelman 1992).

The second neurological capacity, *categorisation*, is the property of the thalamocortical system (the thalamus and the cortex). This system receives its information from outside the body and it creates detailed mappings of the signals received through each of the sensory modalities. These mappings are the means by which the sensory signals are categorised. The thalamocortical system evolved later than the brain stem and limbic system and the two systems were linked. This linking meant that the categorisations were mediated by the evolutionary values and from

this emerged the further properties of *value-memory* and learning.

The mapping of the sensory stimuli produces a ‘scene’ and the value-memory would highlight the salient events in that scene. Events could be identified which had a higher relative value than others. Behaviours could be adapted to better suit the value patterns. This combined system has a clear evolutionary advantage as it served adaptive behaviour that better suited the environment. This is what Edelman calls *primary consciousness*.

This form of consciousness still lacks a notion of self, cannot model the past or future and to a significant extent is only able to correlate external perceptions. Edelman describes an animal with only primary consciousness as seeing ‘the room the way a beam of light illuminates it. Only that which is in the beam is explicitly in the remembered present; all else is in darkness’ (Edelman 1992, p.122). Still primary consciousness is necessary for the development of higher-order consciousness.

It is this primary consciousness that would be predominant at the magic structure of consciousness. There is, of course, a capacity for higher-order consciousness that is latent in humans in this structure. That consciousness, however, does not become fully manifest until the next mutation of structure.

2.3.2 The hint of what is latent

The magic structure’s natural and vital nexus with nature contains a latent time-sense. While the magic perspective only draws forth a one-dimensional view of the world, with its point-like observation of phenomena, within it is the source of the next mutation.

In a sense one may say that in this structure consciousness was not yet *in man himself*, but still resting *in the world*. The gradual transfer of this consciousness, which streams towards him and which he must assimilate from his standpoint, and the awakening world, which he gradually learns to confront (and in the confrontation there is always something hostile) is something that man can master. Man replies to the forces streaming towards him with his own corresponding force: he stands up to Nature. He tries to exorcise her, to guide her; he strives to be independent of her; then he begins to be conscious of his own will. Witchcraft and sorcery, totem and taboo, are the natural means by which he seeks to free himself from the transcendental power of nature, by which his soul strives to materialise within him and to become increasingly conscious of itself (Gebser 1985, p.46)(emphasis in original).

This need to overcome nature in order for ego to develop will be a recurrent theme in later worldviews of foresight. In it can be found much that resonates with the ‘future’ of human interaction with nature. Magic man had a need to dominate nature in order to grow but did not possess the instrumental power to do nature much damage unless the ecosystem was particularly unresilient and localised. The other harmonic that resonates from the magic structure of consciousness into later worldviews of foresight is the will-power-drive dynamic that is established in this struggle.

This remarkable and deeply inveterate impulse to be free from miracles, taboos, forbidden names, which, if we think back to the archaic period, represent in the magic a falling away from the once-prevailing totality; this urge to freedom and *the constant need to be against something* resulting from it (because only this ‘being against’ creates separation, and with it, possibilities of consciousness) may be the answering reaction of man, set adrift on earth, to the power of earth. It may be a curse, blessing or mission. In any case it means: whoever wishes to prevail over the earth must liberate itself from its power (Gebser 1985, p.51)(emphasis in original).

Already it will be sensed that there is much that seems ‘modern’ and not ‘antique’ in those assessment of humans operating a thousand years ago. What this exemplifies is that the ‘earlier’ structures of consciousness still operate even though later structures of consciousness may be operating. The mental structure is adept at producing a conceptual-level understanding of what is physically experienced at the emotional and instinctual level. Still, this does not mean that humans are necessarily ‘slaves’ to their emotions and instincts. Later structures of consciousness would be elaborated by imagination and abstract thought, and give humans, at least, the potential to moderate what has the potential for immoderation. Foresight is one such capacity for moderation; however, at the magic phase of the ‘creature present’, a foresight worldview was not in operation. A mutation of consciousness was needed to bring the first worldview of foresight into being.

2.4 Out of the Darkness

Characteristics identified in the magic structure included the need to dominate nature, and the need to oppose something in order to find consciousness and power. These are characteristics that resonate in expressions of modern consciousness and

their worldviews of foresight. The mythical structure also has unique characteristics relevant to this study.

One such characteristic of the mythical structure is the strong connection with darkness and emerging individual interiority. First, the mythical structure embraces a two-dimensional, spaceless perspective. The night is a realm of two dimensions as it is devoid of spatial depth. Language contains references to nocturnal, rather than, daytime periodicity; consider the word ‘fortnight’—fourteen nights rather than fourteen days. In German there is ‘Fastnach’—Shrove Tuesday (night) and ‘Weihnacht’—Christmas night (Gebser 1985). Second, Plato spoke of the soul emerging simultaneously with the sky (Gebser 1985) which has also been linked to the idea that natural periodicity was first observed in the movements of the celestial bodies in the night sky. This regularity of movement in the environment corresponds with awareness of movement in the interior of the individual, hence the emergence of the ‘soul’ simultaneously with the (night) sky (Gebser 1985). Third, is the myth of Kronos, the father of the gods who populated the night, who ate his children rather than let one of them succeed him, whose act was defeated by Metis who made him disgorge the children whole and who was eventually banished to ‘the realm of the shades’ (Gebser 1985, p.168). Gebser argues that this is a clear example of wakefulness (daytime) predominating over the dreamlike (evening), that the link between ‘chronos’—Greek for time—and the myth of Kronos illustrates the root of time consciousness is nocturnal (Gebser 1985).

This establishes the interior imagination, soul or psyche, as the generative source of time-sense. The etymological root shared by chronos and Kronos is ‘gher’—to desire, strive for, need—‘and therefore evidences a tendency towards goal directed movement’ (Gebser 1985, p.170). This juncture is the appropriate point to complete the brief expedition that was begun previously into the territory of human neurobiology. Primary consciousness was operating in the previous structure and now what was latent would become manifest. The predominant aspect of the mythical structure is imagination and this too is the predominant aspect of higher-order consciousness.

2.4.1 Higher-order Consciousness

The key to the evolution of higher-order consciousness is *concept formulation*. This is the ability to identify a thing, which is not an external perception, and, on the basis of the thing identified, control behaviour (Edelman 1992). In comparison to perceptual categorisation which is unconscious and externally focused, conceptual categorisation is conscious and internally focused. With concept formulation then

comes selfhood, past and future, symbolic memory, symbolic relations, semantics and lexical learning.

One property of describing the evolution of consciousness this way is to see the entire process as sequential. First this, then this and now we think. This structuring might help the reader understand the ‘story’ but it will not do for an explanation of the evolution of higher-consciousness. From this point the order in which capabilities are described does not indicate causality. It serves little to try and work out which is next, as each of the new capabilities emerge epigenetically rather than sequentially.

The evolution of linguistic capabilities in homo sapiens is an obviously critical step in the evolution to higher-order consciousness. Articulated sounds and their symbolic meaning required a new, or at least dramatically enhanced, form of conceptual memory (Edelman 1992): not only the memory of the process but the memory of the sound, and finally semantic memory itself. Further, the conceptual categorisations were linked to value-category memory so as to ensure that communication too would be categorised with evolutionary value-patterns. This adaptation of conceptual categorisation would give further evolutionary fitness to homo sapiens to adapt behaviour to environmental complexity (Maturana & Poerksen 2004).

As the semantic lexicon increases then syntax emerges as a new form of conceptual categorisation. Symbolic meaning can also be conveyed through the plasticity of the syntactical items themselves. Thus a sense of self and its link to primary consciousness through value-category memory can emerge. With a sense of self can also arise a sense of the world the self inhabits, as well as changes in that world. The ‘ever-present’ present of primary consciousness is now expanded by a memory of a present recently removed, the past. With a memory of the past comes the anticipation of a present not yet arrived, the future. These concepts arise in interaction with other members of the same species, through social transmission and learning, all of which is still mediated by the evolutionary value patterns.

The freeing of parts of conscious thought from the constraints of an immediate present and the increased richness of social communication allow for the anticipation of future states and for planned behaviour. With that ability come the abilities to model the world, to make explicit comparisons and to weigh outcomes; through such comparisons comes the possibility of reorganising plans. Obviously these capabilities have adaptive value. The history of humanity since the evolution of hunter-gatherers speaks to the adaptive and maladaptive properties of the only species with fully developed higher-order consciousness (Edelman 1992, p.133).

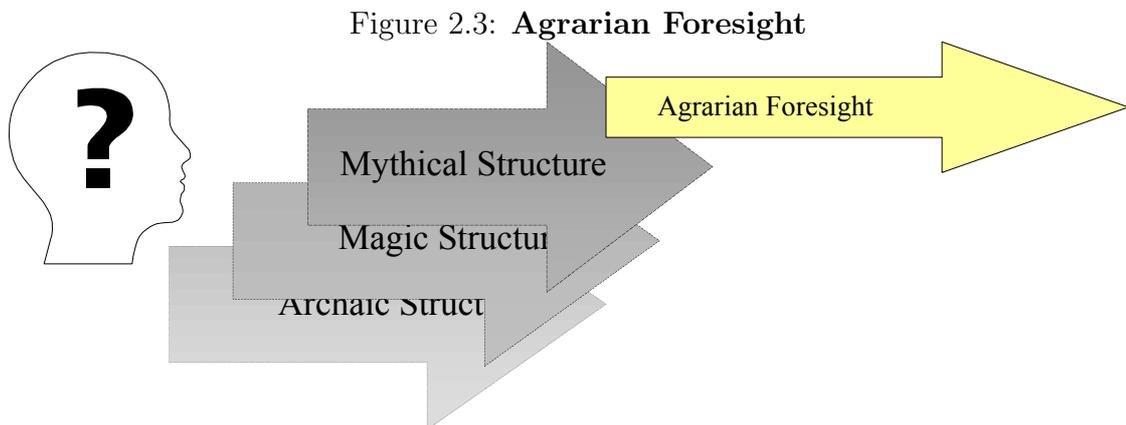
2.4.2 Agrarian Foresight emerges

Around the tenth millennium B.C. there occurred ‘a prodigious transformation, certainly the most important in the history of the world’ (Campbell (1959) cited in Wilber (1996*b*, p.93)). The tribes stopped their roaming and instead began to farm the earth. This was a dramatic change in their behaviour and environment and so it brought forward a dramatically different structure of consciousness– the *mythical*. Farming as an activity was totally different to the activities of the hunter/gatherer. It required a great deal of cooperation. The activities themselves were now systematic; you plough, then plant, then tend, and then harvest. It takes time, it is seasonal or cyclical rather than immediate. So the conception of time had now to include the idea of time that would occur after the present - future-sense conceived through circularity. ‘I sow the seeds now to harvest the plants later and I (and my children) will sow the seeds again as I (and my ancestors) have done before’. In addition to the emergence of a future-sense the people would have had to learn impulse control, ‘I need to do this now to get something in the future’, and also to learn the discipline needed to stay at tasks for long periods of time. While language as an individual capacity had emerged earlier, language had to be elaborated to convey these new concepts so that people would be clear on what they needed to do and when/where they needed to do it. All this, and more, was needed for farming to be successful.

Concept formulation, linguistic capability, co-operation, task complexity, social role complexity and impulse control acted in concert to moderate the modes of emotion and instinct that were operating in the magic structure. It has already been noted that the appearance of seasonal rituals and calendars was associated with the last stages of the magic structure and the emergence of the mythical structure (Gebser 1985). Those social innovations too would also have been advantageous to the farming behaviour that was strongly associated with this mutation.

The first worldview of foresight emerged as is shown in Figure 2.3. The worldview of agrarian foresight encompasses this broadening of perception. The hunter of the magic structure would practise consequence assessment but the temporal space for the consequences would be the present. ‘Do I go this way or that, do I pursue this animal or that one’? The farmer, however, would assess the consequence of present actions in terms of the future. Time orientation must be extended. Rather than harvesting all available food, some food would be allowed to ‘go to seed’ in order for a ‘future’ planting to occur. Cropping the same piece of ground, over and over again, would have the consequence of reducing soil fertility and yields in the ‘future’. Likely actions arising from this assessment would encompass fertilising and crop rotation.

Dependency on food stocks and the weather would see the storage of food ‘until a rainy day’. Problem detection would arise from things in the present and also from a sense of history or the repetition of time. So not only is time extended forward but also backwards.



There is a broad correlation between the structures of consciousness Gebser outlines, and the type of cognition associated with the structure of consciousness Piaget outlines (Piaget (1977)). Gebser’s mythical structure correlates to Piaget’s *concrete operational* thinking ‘operating on the world, farming the world’ (Wilber 1996b, p.100). Here the thinking focuses on the *actual*, a form of causality but not true cause and effect. ‘I did this and this happened, I did something different and something different happened’. The thinking here allows for reversibility so, ‘if I want this to happen then I need to do this (and not that)’. Hypothetical thought, ‘what-if’ thinking, is not possible with concrete operational thinking. Foresight actions, therefore, would be limited to actualities and reversibles.

This is important in considering how a person of this time considered the matter of their own thoughts. With concrete operational thinking prevailing at the mythical structure then it cannot be said that a person would reflect on ‘their’ thoughts (at least not how ‘we’ would consider such reflection). Studies in transactional analysis have shown there are four degrees of internal dialogue that run through a person’s consciousness.

In the first degree, the words run through a [person’s] head in a shadowy way, with no muscular movements, or at least none perceptible to the naked eye or ear. In the second degree, he can feel his vocal muscles moving a little so that he whispers to himself inside his mouth. In the third degree, he says the words out loud. There is also a fourth degree,

where one or more internal voices is heard coming from outside the skull (Berne (1984) cited by Wilber (1996b)).

What then would the mythical structure make of these voices? The voices of the ‘bicameral’ mind were concerned with simple day-to-day tasks. As situations arose, an inner voice would supply advice or commands from the vast store of all the admonitory advice ever given to the individual. As the function of the gods was chiefly the guiding and planning of action in novel situations then it was probably thought that the gods were giving admonitory advice (Jaynes (1976) cited by Wilber (1996b)). This would be consistent with the worldview of agrarian foresight that would see much of the strategy formulation and envisioning roles being ceded to the gods of the respective culture.

In summary, the worldview of agrarian foresight would have a strong focus on actualities. What worked in the past would be a strong influence on the perceptions of foresight thinking, especially around consequence assessment and problem solving. Ritual would be seen as a way of ensuring a desired causal outcome. Allied to this was the sense of the guidance of the gods. A foresighting process here would be divination where an oracle or medium would contact the gods to learn of future events, or who would interpret omens in natural events, or the behaviour of animals. This worldview still lingers today in astrology and palmistry in the West but in mythical times it had the status of a science (Wagar 1991). There is the recent experience of astrological input into the decision making of one White House incumbent which would support the idea of the worldview of agrarian foresight still operating today (Kelly 1991).

2.4.3 The urge to break the circle

Directionality without spatiality is a circular movement. The polar movements of the celestial bodies (like the moon) are seen as the energy source that drives the tides. Polarities seen in the natural world thus contain and provide sustaining energy. Farming is largely a circular activity too. Yet farming mostly takes place in the daytime, whereas the energy of the mythical structure is based in the nocturnal realm of the imagination. Day and night can be seen as a polarity but they can also be seen as opposed.

As ‘gher’ was the etymological root shared by chronos and Kronos then its opposite, or ‘mirror’ root, was ‘regh’—straight-line movement (Gebser 1985, p.172). ‘And those words which signify “right” and “direction, orientation” in the Western languages are derived from this particular mirror root *regh*’ (Gebser 1985, p.170).

With this we leave the rhythmic temporality which sustains and encloses

the stars as well as our hearts: the zone in which the inexorable course of events harnesses man's fate to the periodic tides, the inescapable destiny of ascent and decline. Let us rather return to the attempt by Western man to extricate himself from the restrictions of destiny and the confines of the soul. When we view this struggle henceforth from a temporal aspect, we will perhaps better understand how the step from the circular or cyclic image of temporicity was able to usher in the predominance of the rational concept of time (Gebser 1985, p.173).

2.5 Immortal Foresight

Somewhere within the mythical period the 'gods' who guided mankind's actions on earth were transformed into kings. From ethereal beings whose plans and designs were mediated through flesh and blood oracles and priests, to individuals on earth who were regarded as gods-on-earth, or divine (Wilber 1996*b*). This was a change within the mythical structure, not a fundamentally new structure itself.

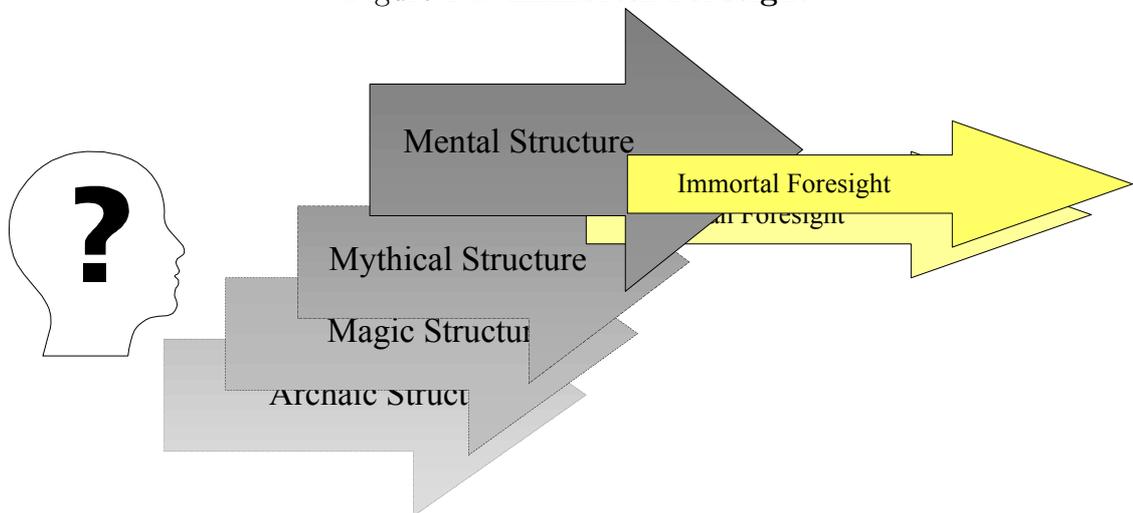
Within the mythical structure sacrifice to the gods was often practised, often seen as part of the cycle where the god dies, like the plants die in winter, only to be reborn with the coming of the spring. When the gods came down to live amongst the people as kings then the sacrificial ritual still continued. One ritual was recorded where the king would cut off his body parts and toss them to his populace before slitting his own throat (Campbell (1959) cited by Wilber (1996*b*)). Clearly an individual who would voluntarily commit ritual regicide was operating from the mythical consciousness structure and imagined the importance of reinvigorating the circle of life. This belief then underwent a change. Instead of the king committing self-regicide the ritual was altered so the king would merely be humiliated and a proxy would be sacrificed instead (Frobenius (1939) cited by Wilber (1996*b*)).

That this change in ritual behaviour would still be considered appropriate would indicate a change in structure. Within Gebser's methodology that change is the coming of the mental structure of consciousness. Whereas mythical thinking was circular, mental thinking is directional, objective orientated and turned towards the objective world. Why was such a change in worldview occurring? One explanation is that the nature of the evolution of social groups from hunting tribe to farming community and then to early city-state was providing stimuli to develop the individual's cognitive processes. With the advent of urban living, 'mythical' life meant that faculties that had previously had little opportunity for use were now exercised. New concepts and patterns of behaviour, including planning of actions extending over time spans of months or even years, were now developed (Whyte (1950) cited

by Wilber (1996*b*)).

The rising complexity of social conditions was developing greater cognitive complexity but probably not in everyone. Certainly those in control of the mythical rituals were displaying the changed thinking. This change released the king from the need to serve the circle of time to the service of the objective present. With the focus on service of the present then the time orientation went from circular to linear: from the continuation of the present into the future by respect of the past to the continuation of the present into future immortality. Now the foresight worldview shifts to include the thought of projection of the present into the future, forever, immortal. The worldview of immortal foresight emerges as shown in Figure 2.4.

Figure 2.4: Immortal Foresight



An example of immortal thought is illustrated by the Sumerians who attributed the early dynastic reigns of their legendary kings as 250,000 years for eight kings before the Flood and 25,000 years for the two dynasties after it (Mumford 1967). No sense here that the king would be sacrificed for the good of the group. This was divine reign for keeps. How was such a reign to be achieved? Through the exercise of total power.

Mumford (1967) describes this kingship as the organisation of an archetypal machine composed of human parts. The features of this machine were:

the centralisation of political power, the separation of classes, the lifetime division of labour, the mechanisation of production, the magnification of military power, the economic exploitation of the weak and the universal introduction of slavery and forced labour for both industrial and military purposes. Slavery had never really existed on any large scale before this (Mumford (1967) cited in (Wilber 1996*b*)).

These institutions would have completely discredited the primal myth of divine kingship and the derivative myth of the machine had they not been accompanied by another set of collective traits that deservedly claim admiration: the invention and keeping of the written record, the growth of the visual and musical arts, the effort to widen the circle of communication and economic intercourse far beyond the range of any local community: ultimately the purpose to make available to all men the discoveries and inventions and creations, the works of art and thoughts, the values and purposes that any single group have discovered (Mumford 1967).

To what end, then, was this total power put? First, it sought to project demonstrable power through gargantuan construction projects. Projects of such a scale, complexity, and perfection as to clearly state that the power behind them was divine and immortal. The Great Pyramid is 755 feet square at the base, rising to a height of 481 feet and yet it has joints of 1/10,000 of an inch while the dimensions at the side differ by only 7.9 inches in a structure that covers acres. 'Only a divine king could demand such a massive effort of the collective will and effect such a large-scale material transformation' (Mumford 1967, p.196). Second, total power sought to exercise absolute control over nature. Recall here the aspect of the magic structure that was directed towards the demonstration of power over nature as synonymous with the emergence of consciousness. This worldview of Immortal Foresight could give full reign to that desire. The Mesopotamian canal system and the Roman aqueduct system were both attempts to wrest control of destiny from nature and to bring it under divine control. While the machine was capable of great engineering feats it still lacked the means to significantly affect or control the forces of nature. That state of affairs, however, would change in later times. The third aspiration of total power was the need for speed which was both a means of effectively deploying power and a demonstration of it (Mumford 1967). Arrow straight roads, bridges over impassable rivers and canals where water does not flow in order to link the empire, to enable trade and, most importantly, to get the imperial army to wherever it needed to be. The divine hand now shapes time which was once perpetual. Fourth, total power aimed to bring order and predictability into everyday life. Food supply, flood control, common weights and measures were all attempts to impose the rational and efficient universally rather than allowing what was customary or traditional to exist (Mumford 1967). Fifth, total power contained the concept of sovereignty, the projection of the absolute power of the sovereign by the sacrifice and service of its population. In effect, the projection of a universal culture (Mumford 1967).

In summary, Immortal Foresight was a worldview that evolved from the one that preceded it. Agrarian Foresight would still, however, be practised during the period of Immortal Foresight as is shown in Figure 2.4. At the micro level there would still

be the attention to ritual and repetition. Groups would still be following the lessons of the past and their ancestors. Their attention would still be on the actualities. There would still be the bicameral mind operating in the majority of people and the belief in the godlike status of the king.

At the macro level, however, a new worldview was operating. This worldview was of a scale of complexity and capability far above that of the mythical structure. The scale of the physical achievements of those who practised testifies to its effectiveness. Apart from the quantum jump in the operating effectiveness of this worldview over its predecessor, the other significant difference was the envisioning of desired futures made by man. The foresight project was the projection of power into immortality. ‘My name is Ozymandias, king of kings: Look on my works, ye Mighty and despair!’ (Shelley 1951, p.32). Monumentalism, control of nature, control of time through speed, removal of variability, and directionality and projection of universal culture were all foresight actions of this worldview. The minds that produced this worldview and operated the machine were ‘minds of the highest order with a unique combination of theoretical analysis, practical grasp and imaginative foresight’ (Mumford 1967, p.197). Unfortunately:

once mankind got the means for large-scale manipulation of the world, the lust for power began to take a devastating toll. This new arrangement unleashed on mankind regular and massive miseries that primitive societies encountered only occasionally and usually on a small scale. Men only succeeded in laying waste to themselves with the new plagues unleashed by their obedience to the politicians (Becker (1975) cited by Wilber (1996b)).

The minds that produced and operated the Immortal Foresight worldview had almost certainly moved beyond Piagetian concrete operational cognition and were now able to practise what is described as *formal operative* thinking. The change from concrete operations to formal operations occurs when the actualities that concrete operation saw as the only realities are now seen as possibilities instead. Another actuality was possible if a different action was taken or if circumstances were different. This is the beginning of hypothetical or abstract thought. In terms of cognitive processing power this mode of thought can do more than concrete operation. Certainly theoretical thought would depend upon formal operation cognition being available. The machine did not require everyone in the machine to be formal operation thinkers. In fact, the machine would probably be more effective if those forming the ‘parts’ of the machine were not capable of abstract thought. This was an extremely effective foresight worldview if measured by the criterion of projected

power into the future. That makes this worldview still attractive today, especially where there are not counterbalancing forces present which can restrict its excesses.

Still, at some point in time formal operation thought became more widespread and the worldview of many people began to change. This change, which began between the ninth and sixth century BC, was a change in the inner against the outer. This change did not depend on physical power and so it could not be suppressed by the military power of the machine (Mumford 1967). The next foresight worldview was emerging.

2.6 Revelatory Foresight

The human machine built upon Immortal Foresight was effective at producing spectacle and material goods. It was also very effective at producing inequality and excess. A revolt began to be quietly expressed, by seemingly ordinary people:

An Amos who was a shepherd, a Hesiod who was a farmer, a Socrates who was a stone-cutter, a Jesus of Nazareth who was a carpenter and by Siddhartha Gautama who was a prince who left his royal family, and a Confucius who was an unemployed scholar (Mumford 1967, p.259).

These ordinary people were largely responsible for bringing down much of the human machine of Immortal Foresight. How was this possible?

To find the beginnings of an answer it is necessary to return to the period of Immortal Foresight, to the point where the 'divine' kings were changing from circular time to linear time. What also emerged at this time was ego sense. In the period 1600 to 400 B.C. the Bronze Age civilisations collapsed and the Iron Age civilisations emerged. As instinct and tradition was proving inadequate individuals were compelled to rely on their own mental processes for guidance. Individuals were now increasingly following their own thought processes. As individuals became aware of their own thoughts then decisions were made in accordance with their internal norms (Whyte (1950) cited by Wilber (1996b)).

As the hero kings emerged to take a linear view of time then other individuals saw the failure of the agrarian worldview of foresight. This began to transform the egoic structure of self (Wilber 1996b). The good news was that the apprehension of linear time and historical realities was necessary for the evolution of consciousness; the bad news was that the vast new world of linear horizons stretching out beyond seasonal circles played directly into the hands of the often 'power-crazed' appetites of the heroic ego (Wilber 1996b, p.213). Here, too, is harmony between the magic consciousness structure of opposition and the mythical structure of the wrath of the

hero. Ego, opposition, wrath and power make for a dangerous cocktail and to those ingredients was added a rise in sensual instinctualism. Under pre-egoic consciousness the individual's instinctive tendencies were held in check by physiological controls. Now ego emerged in the select members of the community who could live off the surplus of the production of the community. Free of physiological controls they could devote themselves to the pursuit of sensual pleasures (Whyte (1950) cited by Wilber (1996*b*)). This can explain the sadistic and masochistic tendencies of some of these hero kings. The excessive actions of some of these deities-on-earth would have further reduced their standing in the eyes of their citizenry. The decline in the veneration of their kings would also have compelled citizens to look more within themselves for guidance and answers, to begin to transcend their mythical consciousness structure.

The final realisation of the newly emergent ego was a rising sense of the individual's own mortality, or more accurately, the ego's sense of a rising fear of physical death. Along with emerging self-consciousness the individual was also experiencing emerging body-consciousness. The mind and the body were becoming separated and, importantly, the mind begins to associate the corporal flesh with death (Becker (1975) cited by Wilber (1996*b*)). The mind attempted to suppress the rising sensuality of body-consciousness as a way of suppressing the thoughts of death.

By deadening the body, the self can pretend to gain some distance from it, mortal flesh that is. The ego can, that is, split itself from the body by deadening the body's hold on it. By attempting, as it were, to kill the body, the ego can pretend to be aloof from the flesh, free of its mortality and death taint (Wilber 1996*b*, p.223).

The actions of the becoming-rational mind and its suppression of the body 'gives us a soul (disassociated) from the body' (Brown (1959) cited by Wilber (1996*b*, p.223)). While soul or psyche is associated with the development of the imaginative experience of consciousness, what the mental structure enables is the 'concept' of a soul. Not felt or imagined but instead a thought or an idea.

Gebser considers that in the Greek sculpture of 700 and 600 centuries B.C. there appears an 'awaking sense of the body', 'the archaic smile...reflecting the awakening and dawn of human consciousness' and the 'free and clear forehead which in the earlier sculpture is covered by artfully plaited hair down to the eyebrows' (Gebser 1985, p.78). This changed emphasis on the human consciousness is also evidenced by the strengthening sense of 'direction' and 'right'.

Since ancient times, the left side has stood for the side of the unconscious or the unknown; the right side; by contrast, has represented the side of

consciousness and wakefulness. The degree to which this valuation has been reinforced over the years is evident from the fact that in the present-day European languages ‘right’ does not merely mean ‘to the right’ or ‘on the right-side’ but also ‘correct’ and ‘direct’, in the sense of leading towards a goal (Gebser 1985, p.79).

Religion also reflected the emergence of the mental structure. The original meaning of ‘religion’ comes from *relegare* indicating ‘*careful observance*’ and is the opposite of ‘negligence’ (*neglegare*), ‘*careless non-observance*’ (Gebser 1985, p.63). Gebser places this meaning squarely in the mythical structure where everything is charged with significance, language is nuanced and little is seen as arbitrary. By contrast, under the mental structure the interpretation of religion was based upon *religare*, ‘*to tie back, constrain*’ (Gebser 1985, p.91), partly as a defence of Christianity in the face of magic/mythical structurally-driven persecution, and partly as the structuring of church and priestly power as lawgiver (rights) and direction setters (redemption).

The Christ figure shows a figure who through consciousness (mental structure) manages the soul (mythical structure). Christ survives a shipwreck and is not immersed in the sea (psyche) but rather ‘walks on water’:

[And] with this deed he overcomes the depths of the chaos and is entitled to say not ‘I am Christ’ but ‘I am the light of the world’. With that declaration the first wholly self-assured resplendence of humankind breaks forth, a resplendence venturing to state for the first time that it will assume the burden for the world’s darkness and suffering (Gebser 1985, p.90).

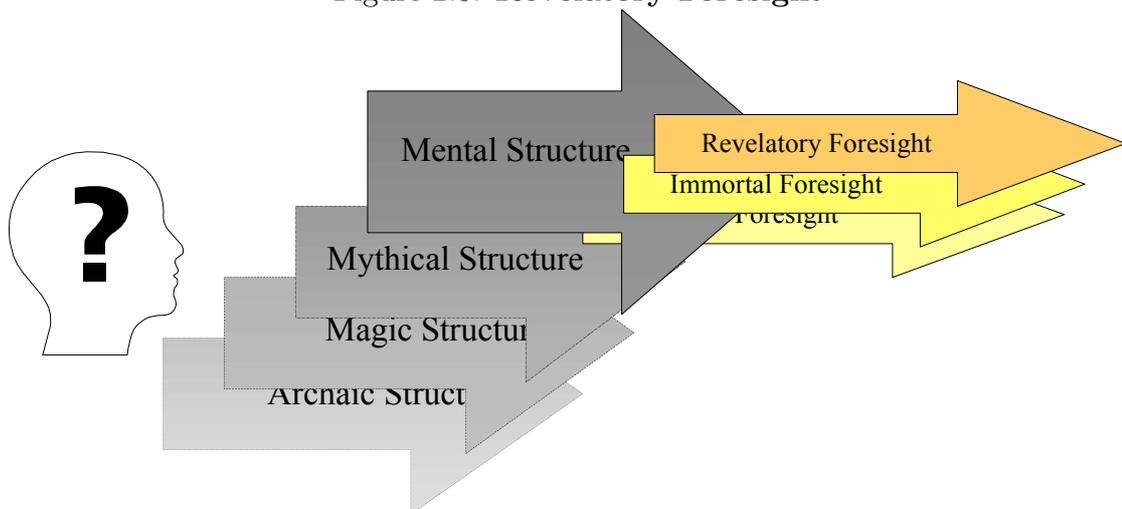
All the necessary ingredients for the next worldview shift now exist. The burgeoning ego, the becoming-rational mind, the focus on direction and right, the rising physical sense of death and the idea of a ‘soul’ whose fate could be managed by the mind rather than led by the emotions.

This is now the worldview of Revelatory Foresight as shown in Figure 2.5. Still linear but with the direction towards a monotheistic sky/sun god (Neumann (1973) cited by Wilber (1996*b*)). A movement embodying the journey from darkness to light (Cassirer (1953) cited by Wilber (1996*b*)). The mental-ego was on a search for truth and it saw the truth being found in the heavens. The most dominant heavenly body is the Sun and so the Sun became associated with the light of reason (Wilber 1996*b*). Still ‘immortal’ in scope but the immortality is not earthbound but is instead directed to the sky/mind. Not a change in the capacities of foresight, but a significant change in the envisioning of a desired future. An aspect of this

worldview is that as the immortality project departed the physical realm it became less important to be strongly concerned about the sanctity of the physical earth. As our bodies are temporary, then so too is the earth. The earth will not go on, but is merely something that was constructed and will pass away. There is still the magic harmonic of the express need to control nature and in ‘Genesis’ there is clear expression of this viewpoint.

So God created man in his own image, in the image of God created he him; male and female created he them. And God blessed them, and God said unto them, Be Fruitful, and multiply, and replenish the earth, and subdue it: and have dominion over the fish of the sea, and over the fowl of the air, and over every living thing that moveth upon the earth (*The Bible* 1971, ‘Genesis’ 1:27–8)

Figure 2.5: **Revelatory Foresight**



Some interesting developments came from the practice of Revelatory Foresight. One was the idea of the work of the free man as opposed to the labour of a slave. The offering up of a life of gainful employment became, itself, a foresight project. The Benedictine Order added the performance of daily work to prayer, obedience and poverty as Christian duties (Mumford 1967). Yet the power of this was that the individuals, not the coercive overseer of Immortal Foresight, disciplined themselves. The monasteries laid down the basis of a self-governing society within which individuals cooperated in order to survive. Labour and service were humanised in the monasteries, labour roles were shared as were the profits of labour itself. Importantly, labour of the hand was balanced with labour of the mind. The monasteries introduced the labour saving power of water and wind so as to reduce unnecessary

labour to create more energy for prayer and meditation. 'Rewarding work they kept for themselves; manuscript copying, illumination, carving. Unrewarding work they turned over to the machine: grinding, pounding, sawing' (Mumford 1967, p.269). Many of these patterns of behaviour have adapted well to the demands of capitalism.

Another development was the ordering of the day in accordance with the relevant timekeeping device. Now the ringing of bells would signify to all what task was to be undertaken next. Calendars were not invented in this era but the use of calendars certainly became widespread as hours, days, weeks, seasons and years all became factors governing the labour of the hand and the labour of the mind.

Finally came the removal of slavery. With the combination of the growth of moral thought in individuals, the operation of ordered life and the technological advances of wind and water power, came a growth in productivity. The productive efficiency of medieval society can be attested to in the number of holidays enjoyed. A worker in medieval Europe received 189 holidays per year, including Sundays (Mumford 1967). Slavery became unnecessary. The enlightened apostles of Revelatory Foresight had called for the abolition of slavery and finally the economics of medieval society had made it unnecessary. Of course, the exploitation of people would not disappear from the world and in some ways slavery in other forms would reappear.

2.6.1 A path forsaken

With the advent of the mental-ego of Revelatory Foresight the worldview moved closer to the modes of thought operating in the present day. The next foresight worldview, Progressive Foresight, is one that is still dominant in the West. Before we move on, however, it needs to be noted that different paths of foresight were opening up and one that was chosen by Western civilisation was not by any means the only one available to it. 'It is at this point where the paths of mankind, East and West, are to diverge' (Gebser 1985, p.90).

Another path, almost a point of bifurcation, is the path that was opened up by spiritual development. Certain enlightened individuals, operating from a different worldview to the bulk of the population, were able to spread messages of humanity, moderation, piety and dedication to the population at large. These messages swept away the old god-kings and their megamachines. In their place came new forms of societal organisation around incipient cooperation, voluntary labour and spiritual development. Heaven on earth did not necessarily come from these changes, but moral thought was certainly injected into the ruling worldview. Yet what later emerged in the West from this development, was not predestined. To understand what emerged and, more importantly what did not emerge, the evolution of religious

thought must be examined.

The Eastern religious traditions divide consciousness into three realms: the material, gross or *physical realm*; the purely unmanifest *causal realm*; and the *subtle realm*, which is everything between the physical and causal realms. The emergence of mythical consciousness from magic consciousness is associated with the emergence of monotheistic religions from polytheistic religions. The description of Moses' meeting with God on Mount Sinai, with fire, light, angel, and disembodied voice, is a description of a subtle level religious experience.

A higher God exists, which is Fire and Light, which can be contacted in revelation and prophetic ecstasy, which confers meaning on personal destiny, which must be contacted through discipline and struggle but which remains ultimately an Other - ultimately a Creator separated from all creation, a God separated from the world and the soul. It is possible to deeply commune with this God, but not absolutely become one with it (Wilber 1996*b*, p.255).

When Moses descended from Mount Sinai he confronted the old magic religion of animism and nature gods (physical realm) encountering the new mythical religion (subtle realm). This is the thematic battle of the Old Testament, the physical realm religion versus the later evolving subtle level religion. One reading of the revelations of Christ, 'I and the Father are One', and of the Upanishads, 'you and God are ultimately one', is that these are articulations of a causal level religion. Christian gnostic texts contain instructions such as 'Abandon the search for God and the creation and other matters of a similar sort... Look for him by taking yourself as the starting point... Learn who it is within you' (Wilber 1996*b*, p.256). A religion operating at the subtle level never took firm hold in the West. Its viewpoint would be seen as blasphemous and it was opposed by the bishops and banker-priests who had a vested interest in the existing expression of a causal level religion, which granted them political power on earth (Wilber 1996*b*). It was only in the East that the subtle level of spiritual evolution took hold, in Hinduism, Buddhism, Taoism and Neo-Confucianism.

This reading of the evolution of religious thought provides an explanation of the difference between the apparent duality of Western Religion (God and man) when compared to the synthesis presented by the Eastern religions. When the further duality between man and nature is added then all the elements exist for the Western worldview of 'Man is against God, Nature is against God and Man and Nature are against each other' (Wilber 1996*b*, p.260). There was nothing, therefore, predetermined about the way that foresight would continue to evolve in the West.

Had the gnostic aspects of Western religious evolution taken hold then a different worldview of foresight could well have developed in the West.

2.7 Progressive Foresight

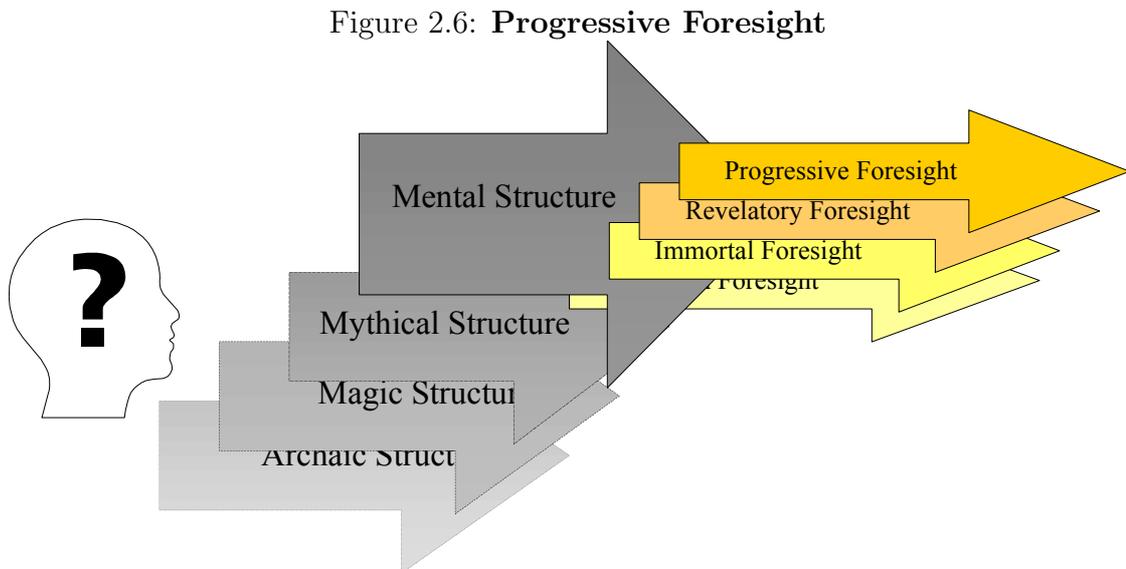
The mental-ego continued its search for truth. The previous worldview believed that the heavens contained the light of reason and from here the future destination of humankind was found. Back on earth that proposition was questioned. With the emergence of the mental structure came an increasing emphasis on the emancipation of consciousness from the 'confines' of the mythical psyche and magic emotional vitality.

Every emancipation is a process threatened by a latent perspectivization and sectorization; these become acute whenever the emancipation is deficient; that is; when it does not merely aspire to a rearrangement or an equalisation of emphasis, but to dominance or predominance. The degree of slackness or tautness of the bonds between the psyche and the mind depends on the intensity of the mind; as long as the mind moderates and directs the psyche, the psyche is to a certain extent dependent on it. But whenever the mind in its intellectualised form loses its moderating ability and is dispersed without direction, the relationship is reversed: the negative aspect of the psyche imperceptibly gains dominance over the rational. Because the potentiality of the mental world grew out of the mythical world with its psychic emphasis, it necessarily evidences the dual aspect of everything psychic as a latency within itself, if only in the diminished and mentalised form of duality (Gebser 1985, p.94).

Gebser observes a juncture where the mental structure began to part with moderation and become hyper-rational. A quote from Parmenides (510-440 B.C.), 'for thinking and being is one and the same', captures the idea of moderation and balance in thought. A quote from Hobbes (1588-1679), that 'thinking is calculation in words', indicates the change from the qualitative nature of thought into quantitative measure alone. Descartes, 'I think therefore I am', continues this intellectualisation of thought as an individual act, one apart from environment, imagination and society. 'What takes place here is typical of all thought processes that result in extreme abstraction: they denature and invert the genuine interdependencies' (Gebser 1985, p.96).

Still, the mental structure of consciousness, even with its tendency towards extreme intellectualisation was still a powerful instrument. To escape from the seeming

limitations of the mythical polarities was to feel more powerful, more instrumental, able to direct more, to bring the future more within the sphere of the ‘right-thinking’ mind. In others words, a new worldview, Progressive Foresight, emerged as shown in Figure 2.6.



The eighteenth century intellectual movement, the Enlightenment, brought forward the questioning of the nature of authority, the promotion of scientific inquiry and a rising interest in social and cultural conditions on earth. While many names were associated with that rise in rational intellectualism, one who exemplified the new emerging worldview of foresight was the Marquis de Condorcet (1743-94).

Human enlightenment was believed a fact proven by the evidence of historical experience. As science had demonstrated laws that governed the properties of physical bodies so then history demonstrated the laws of human and social advance. The operation of these laws was how humanity had risen from primitive society to enlightenment society. On the basis of these laws, Condorcet projected the progress of humankind. His vision of the future was a world ‘free of military strife and the cruelties of conquest, a world liberated from ignorance and disease, a federation of man bestowing the blessings of security and prosperity for all’ (Gershoy 1963, p.205). Condorcet’s naive and optimistic view of the inevitability of human progress was the essence of this foresight worldview. Although the worldview would be further developed in the next century, Condorcet represented its key elements. Consequence assessment was to be managed by scientific methods and not by superstition or myth. Strategy formulation was to use history as the highway into the future (Clarke 1999).

History helped the student to modify his views of the present and his

forecast of the future... it ought to exhibit the general tendency of English affairs in such a way as to set us thinking about the future and divining the destiny which is reserved for us (Seeley 1883, p.1).

Finally, the normative scenario, the vision splendid of the future was of humanity that had redeemed itself by cumulative improvements in knowledge, technique, education, government, all based upon the premise of justice for all (Wagar 1991).

The future was now of prime interest to experts in their chosen fields. In the last 30 years of the nineteenth century there were articles by military officers, social scientists, engineers and industrialists, all setting out coming developments in their area of expertise (Clarke 1999). Nascent foresight experts also began to use foresight methods. In 1897 an economist studying the Franco-German War of 1870, applying statistical techniques to troop numbers, rates of fire, and casualties, announced that the next war would be a war of entrenchments, with conscript armies and immense firepower leading to tremendous slaughter and a stalemate (Bloch (1898) cited by Clarke (1999)). This might be one of the earliest recorded examples of a piece of useful foresight research being ignored by senior-decision makers because its findings did not accord with the facts of history and their own experience.

H.G. Wells then arrived on the scene. Wells represented the high point of this worldview and he also acted as the bridge to a later one. As one of the prime exponents of Progressive Foresight, Wells pronounced on the future of humankind. His *Anticipations* series (1902) predicted the benefits to humankind that were to be provided by science. Those scientific achievements were then coupled with social changes and outlined in *Mankind in the Making* (1903). The culmination of all those changes were finally set out in *A Modern Utopia* (1905). Wells differed from the expert commentators who had come before him in that he was able to foresee how scientific achievements would accelerate social change. Rather than merely applying new technologies in existing cultures, Wells saw that the new technologies would reshape the cultural values that currently existed and would thereby create social innovations. Wells also saw a need for the professionalisation of futures research.

Why were there so many thousands of professors of history, and “not a single professor of Foresight in the world”... When would the human race decide to take its affairs in hand and make a livable world (Wagar 1991, p.22).

Alongside these technologies, Wells foresaw an increase in the scale and pace of life. The old order would break down, the nation-state system would prove ineffective and war would come (Wagar 1961). What was needed was a planetary system to govern life on a global scale. While there was much of Condorcet in Wells' early work,

namely a belief in human progress and in a social utopia, Wells understood that it was with social development rather than material progress that human advancement would occur. The advent of World War I changed his thinking.

I feel that I have been coming awake and finding out things ever since that tremendous shock of August 1914. I had what I may call a *sense of change* before, but my sense of change was enormously quickened by that illuminating catastrophe and its desolating consequences (cited in (Wagar 1961, p.31))(emphasis in original).

The Wellsian foresight worldview had now moved from Progressive Foresight to something different. He no longer saw anything inevitable about human progress. There could still be utopias, he outlined three more in his post World War I writings, but these were not to be delivered on the back of scientific advancement; rather they were to be brought to fruition by world reorganisation. He first supported and then gave up on the League of Nations after the Versailles peace settlement.

This civilisation in which we are living is tumbling down, and I think tumbling down very fast. . . I think rapid enormous efforts will be needed to save it; and. . . I see no such efforts being made at the present time (cited in (Wagar 1961, p.38)).

Wells' target now was reform of education and the revolution of human minds in order to create 'knowledgeability' in the public. It was 'a race between education and catastrophe' (Wagar 1961, p.38). H.G. Wells, personally, lost that particular race. In his final book, *A Mind at the End of Its Tether* (1945), he said

the writer is convinced that there is no way out or round or through the impasse. It is the end. . . The stars in their courses had turned against Man. . . and he has to give place to some other animal better adapted to face the fate that closes in more and more swiftly upon mankind (cited in (Wagar 1961, p.12)).

The Wells who wrote that was sick and dying while World War II was six years old. His attempts to create world revolution, the Open Conspiracy, had seemingly failed. He lived just long enough to hear the news of the bombs dropped on Hiroshima and Nagasaki. It is reported that he wanted his epitaph to say 'God damn you all: I told you so' (cited by (Wagar 1961, p.48)). Still Progressive Foresight lives on in confident pronouncements about the future, as is often heard from the techno- and bio-optimists. Condorcet was somewhat ahead of his time, yet his worldview would still make good copy for *Wired* magazine.

2.8 Political Foresight

The next worldview of foresight evolved out of the tumultuous changes brought forward in the period during and between the World Wars. In some respects it was a continuation of the Progressive Foresight worldview, albeit, with a more pragmatic outlook than the naïve optimism of its predecessor. In terms of Gebser's structures of consciousness, this is a further mutation of the mental structure in that abstract and intellectual aspects were gaining pre-eminence in the form of consciousness.

The need for the coordination of industry and the national mobilisation of workforces and armies on a scale that was, hitherto, unknown gave impetus to national planning and this became the dominant *raison d'être* for foresight. The Great Depression added a sense of collective failure caused by a lack of human control and emphasised the idea that foresight should serve as an aid to control mechanisms to ensure that such an event should not occur again. Communist Russia and Nazi Germany also gave rise to the idea of a planned economy being directed towards economic, cultural and political ends. The Thousand Year Reich envisaged by Hitler would be the extreme demonstration of foresight employed towards these ends. Communist Russia, Nazi Germany and Fascist Italy can be seen as examples of both Immortal and Political foresight working hand-in-hand. After World War II:

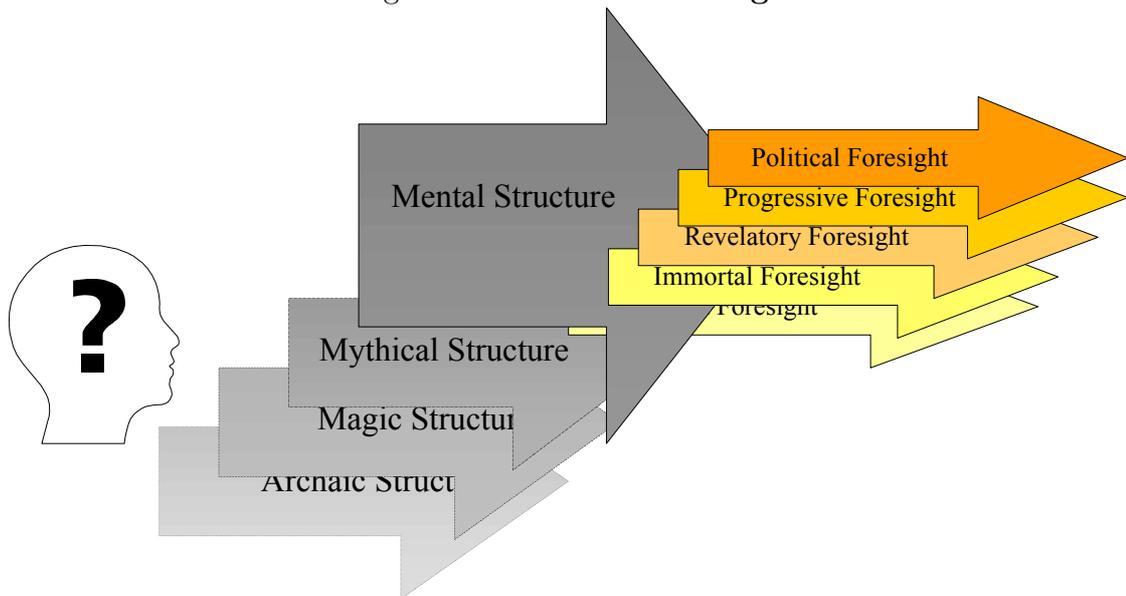
[N]ational planning blossomed nearly everywhere. Wartime economic controls over such things as consumer goods, raw materials, and foreign exchange gave a new respectability to the idea of planning in private enterprise-driven economies. At this time, public expenditures were reviewed and policies formulated several years ahead, usually to raise the rate of economic growth (Bell 1999, p.2).

Now foresight was very closely allied to the expression and maintenance of national power in all its forms: political, economic and social. One quite explicit example of this was the RAND corporation, originally established to support war management in 1945, it went on to undertake a range of military foresighting actions including developing scenarios for nuclear war (Bell 1999).

The Political Foresight worldview was now fully established (Figure 2.7). Consequence assessment was based on science, economics and mathematics with its methods directed towards extrapolation and prediction. Strategy was premised around planning for enduring growth in economic and political power while maintaining social stability. Normative scenarios were still largely positivistic, an improved future would arise from stability and growth. The high point of the Political Foresight worldview has been referred to by some as the 'Golden Era of Future Studies'

(Moll 1999, p.4) when there was a strong preparedness to fund and support futures work. The work was supported because it promised what the owners of power wanted to hear; or, perhaps, the owners of power heard what they wanted to hear and disregarded the rest.

Figure 2.7: **Political Foresight**



The so-called ‘Golden Era’ did not last long. With the OPEC oil shock in 1973, economic instability increased and as the forecasts and extrapolations of the Political Foresighters were proven wrong, the owners of power withdrew their support. The owners of power went elsewhere to find the means of their maintaining control and stability, finding it instead in the ideas of neo-conservative economic monetarism (Moll 1999). Political institutions, by and large, have not regained any confidence in foresight as a means of maintaining control and so very few national foresight bodies still exist. The fact that some foresight bodies survived at all shows that all owners were not operating from only the Political Foresight worldview.

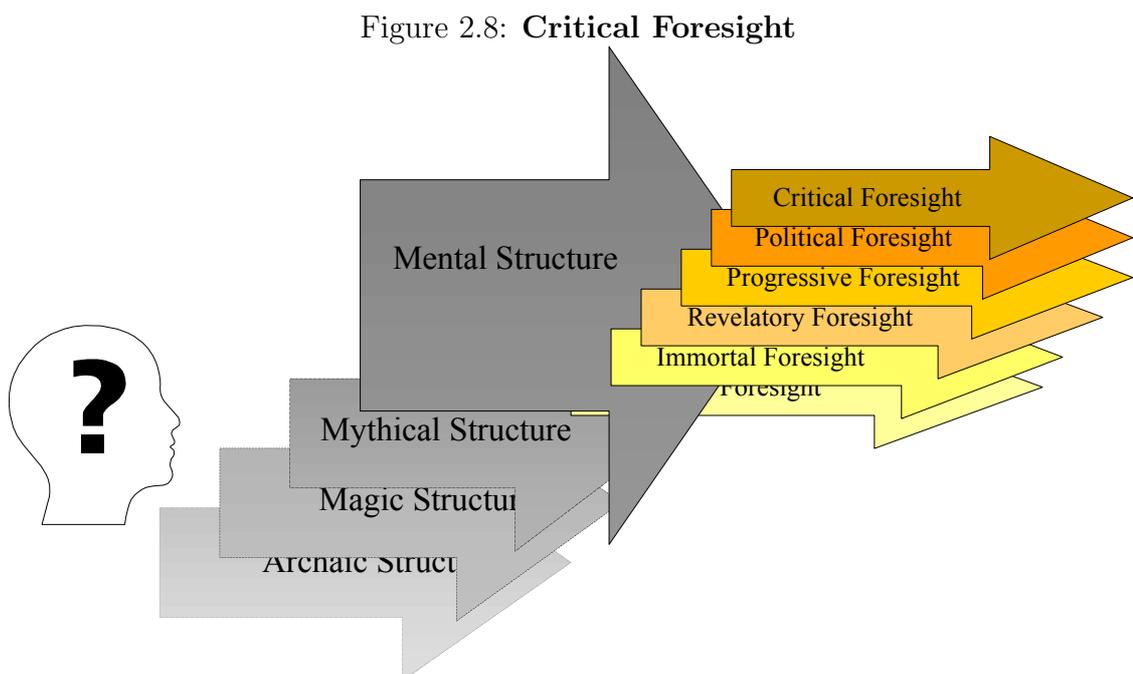
Some commercial institutions, however, have continued to operate from within the Political Foresight worldview. For them foresight is valued if it can offer stability and commercial opportunity leading to growth in profit and market share. To this end, a cut-down version of Political Foresight still operates on a smaller and quite pragmatic scale. However, the practice of foresight within the traditional twelve-month business cycle, or even the three-month financial market cycle, is really foresightful in name only.

2.9 Critical Foresight

After World War I, H.G. Wells was very critical of the actions of the existing owners of power and he came to the view that the necessary change would not occur through those owners but in spite of them. Thus Wells adopted a foresight worldview that was antithetical to Political Foresight, seeking a revolution of enlightened opinion arising from education and communication (Wagar 1961). Increasingly, the actions of those operating from the Political Foresight worldview assisted in the creation of an alternative viewpoint for foresight: the Critical Foresight worldview (Figure 2.8). Critical Foresight certainly arises out of an awareness of the excessive tendencies of both Progressive and Political Foresight.

Gebser had ‘anticipated’ this development in his explanation of the mental structure of consciousness and the consequence of perspective and dualism becoming more dominant in thinking.

Perspective fixes the observer as well as the observed: it fixes man on the one hand, and the world on the other. Compelled to emphasize his ego even more strongly because of the isolating fixity, man faces the world in hostile confrontation. The world, in turn, reinforces this confrontation by taking on an ever increasing spatial volume or extent, which the growing strength of ego attempts to conquer (Gebser 1985, p.94).



Europe after World War II, particularly France, operated from this differing

worldview. Rather than foresight to give stability and certitude, in France the emphasis was on choosing and shaping one's future (Moll 1999). This emphasis was demonstrated in the language used to encompass these foresighting actions. Terms emerged, such as 'prospective', meaning to adopt a stance towards the future which accepts a responsibility for taking action. To take this stance is to 'avoid walking into the future backwards' (Masini 2001, p.4). Another term is 'conjecture'. Instead of forecasting, conjecture means to open up the mind to possibilities which vary between frames of reference, between cultures and between disciplines (Masini 2001).

The dominant role played by military interests in Political Foresight through organisations such as the RAND corporation gave impetus to a counterbalancing peace movement which banned military topics and funding (Bell 1999). This counter movement culminated in the founding of the World Futures Studies Federation (Bell 1999) which focused research into areas such as hunger, education and alienation, areas that did not come within the interest realm of the practitioners of Political Foresight.

The methods of Political Foresight were turned against the owners of power when the Club of Rome's report, *The Limits to Growth*, employed extrapolation and computer modelling to show that population and industrial growth will stop within the next century (Bell 1999). Such a conclusion was deeply shocking to many operating from the Political Foresight worldview and this, in part, explains why it caused such a large public controversy at the time. It is ironic that the report's opponents were able to show that the conclusions of the report were specious because of the 'assumptions' that it was based upon, and yet, the assumptions of its opponents were not open to the same challenge. The Limits to Growth report was symptomatic of a bifurcation within foresight where camps of 'growth vs zero-growth' proponents formed (Moll 1999). Many environmental movements can be located within the zero-growth camp of Critical Foresight, along with many of the anti-global free traders and anti-free marketeers. The Critical Foresight worldview attracts groups who wish to displace the traditional power structures of Political Foresight.

Non-Western cultural influences also found the Critical Foresight worldview would accommodate their efforts to introduce an alternative voice to counter the hegemonic American viewpoint contained in Political Foresight. One such voice was the development of a Latin American World Model (LAWM) as a response to the models employed in the Limits to Growth project. The LAWM was based upon a non-Western viewpoint that the problems faced by the non-Western world were sociopolitical and not physical (Gallopín 2001). The viewpoint underpinning that model can be seen as in direct contrast to the Political Foresight worldview, espe-

cially in its focus on equity and non-consumerism as basic elements in a desirable society. Another ‘dissenting’ view is the concept of the ‘shaman’. The shaman is a person both within and outside society who is not part of stability but, instead, part of revolution - the half-mad, non-sense of the person who chooses to see not what is there what else could be. But this is not a comforting figure because there is often savagery in such wildness (Nandy 2000). This viewpoint challenges the ‘scientific’ nature of Western thought. Finally the Critical Foresight worldview highlights the common Western perception that the non-West is the dark or inferior side of Western civilisation and is therefore something to be either made Western or rejected (Sardar 1999).

The search for inspiration and hope and the revealing of options for renewal and recovery is another theme in the Critical Foresight worldview. It sees the previous worldview as the ‘flatland’ of instrumental reason that is eminently capable of producing material comforts and diversions but is unable to give meaning to life itself (Slaughter 2002*b*). The Critical Foresight worldview’s raising of these points are political statements as they go to the core of the existing power structures.

The consequence of the perspectivization of the world evident in the isolation and mass-phenomena of our day are patently characteristic of our time. Isolation is visible everywhere; isolation of individuals, of entire nations and continents; . . . in every-day life in the form of the immoderate ‘busy’ activity devoid of any sense-direction or relationship to the world as a whole; isolation in thinking in the form of the deceptive dazzle of premature judgements or hypertrophied abstraction devoid of any connection with the world. And it is the same with mass-phenomena: overproduction, inflation, the proliferation of political parties, rampant technology, atomization in all forms (Gebser 1985, p.95).

These then, are some of the aspects of the worldview of Critical Foresight. Consequence assessment has moved from forecasting to participatory action learning (Inayatullah 2002*b*). Strategy formulation is based on the interrogation and critique of the symbolic foundations of social life in order to discern the grounds of new, or renewed, options (Slaughter 2002*a*). Normative scenarios are now about the justification of preferable futures (Bell 1999) rather than merely giving a range of options without defending any set of values or goals. Whereas the Political Foresight worldview equates progress with change, the Critical Foresight worldview does not (Bussey 2002). Instead progress is a path towards greater meaning.

There is also the possibility of the emergence of the ‘next’ worldview of foresight. That worldview could seek commonality amongst the earlier worldviews in an at-

tempt to sidestep the differences that exist and to focus on what is shared, perhaps Consensus Foresight. Another possibility is something more dramatic, something akin to the impact of the leaders of Revelatory Foresight, where existential needs were broadened to reflect the interior needs of the individual as well as those exterior needs. This marks the emergence of a new consciousness structure, a ‘leap’ to a new, fundamentally different worldview of foresight. Gebser’s next consciousness structure is Integral, and his work here and those of other ‘integral’ theorists offers insight into what the characteristics of the next worldview of foresight might include.

2.10 Integral Foresight

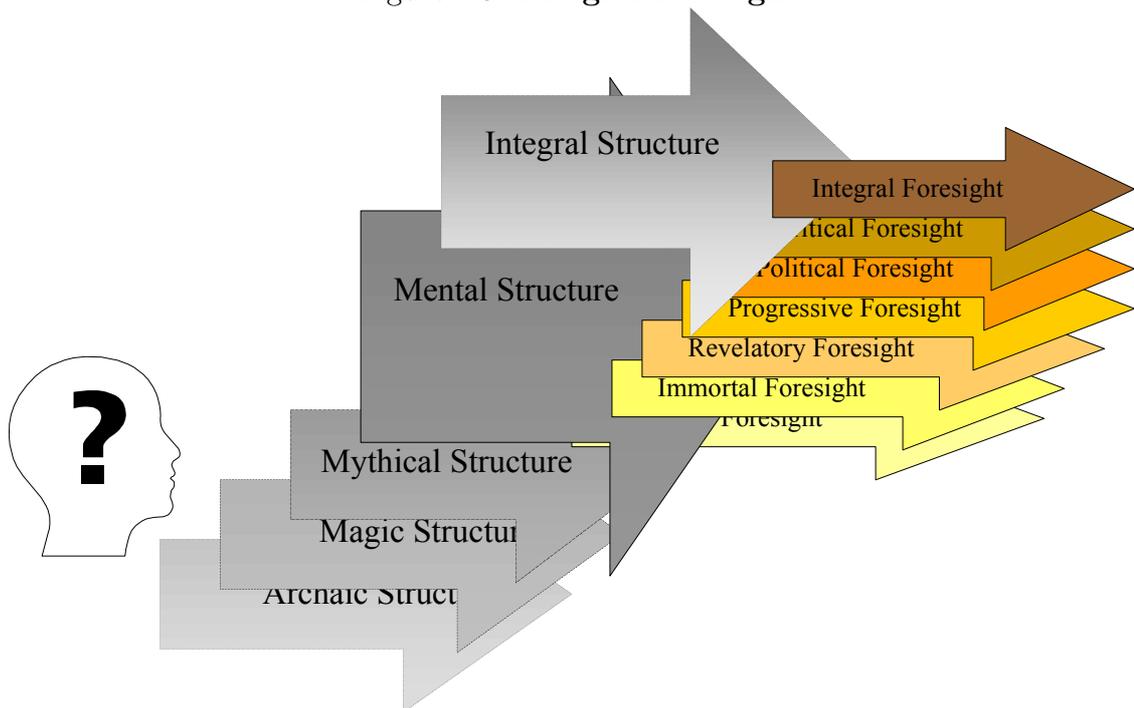
For Gebser the integral structure was neither the reactivation of those structures that preceded it nor the synthesis of those perspectives. ‘The integral structure of consciousness shall be neither forward directed nor backward orientated, neither qualitative nor materialistic, neither fragmenting nor unifying’ (Gebser 1985, p.98). All those earlier structures are critical to the new structure but in isolation they are necessary but not sufficient. Gebser describes what awareness of the integral perspective means to an individual as:

the various structures that constitute [the individual] must have become transparent and conscious to him; it also means that he has perceived their effect on his life and destiny, and mastered the deficient components by his insight so that they acquire the degree of maturity and equilibrium necessary for any concretion. Only those components that are in this way themselves balanced, matured, and mastered concretions can effect an integration. The difficulty is that in every instance we are necessarily dealing with the ability of our consciousness to adapt itself to the different degrees of consciousness of the various structures... There are two important observations that indirectly result from these observations. One is that consciousness is not identical with intelligence or rational acuity. The other is that the completion of integration is never an expansion of consciousness as spoken of today particularly by psychoanalysis and certain ‘spiritual’ societies of a quasi-occult kind. The expansion of consciousness is merely a spatially conceived quantification of consciousness and consequently an illusion. Rather we are dealing here throughout with an intensification of consciousness; not because of any qualitative character which might be ascribed to it, but because it is by nature ‘outside’ of any purely qualitative valuation or quantitative

devaluation (Gebser 1985, p.99).

It follows, then, that an Integral worldview of foresight (Figure 2.9) arises from a personal mastery of each individual's consciousness structures, with personal mastery referring to balanced structures. The worldviews of foresight outlined in this chapter have arisen from the late-mythical and mental conscious structures. While mastery of those worldviews of foresight would represent part of the 'sufficiency building process', alone that would not be enough. There are earlier consciousness structures that need to be accessed and balanced. In addition to the rational wakefulness of the mental structure there is the dream-sleep of the mythical, the sleep-like state of the magic and the deep sleep of the archaic. 'A mere conscious illumination of these states, which for the most part are only dimly conscious, does not achieve anything; in fact, to illuminate these states from consciousness is to destroy them' (Gebser 1985, p.99).

Figure 2.9: Integral Foresight



At this stage this is all that can be said about the characteristics of a possible further mutation of consciousness structures and any resultant worldview of foresight arising from it. The rational perspective will, of necessity, find any suggestion of another consciousness structure that is 'above' it as objectionable, if not faintly ridiculous. It will find such talk reminiscent of retrograde mythical notions of psychic unity when, from Gebser's viewpoint, it is clearly not. The best action that can be

suggested is for individuals to note such doubt but to suspend the urge to act upon it. What seems paradoxical or nonsensical when viewed from a particular worldview can, when viewed from a ‘different’ worldview, seem acceptable. What can be suggested now is that if another mutation of consciousness structure eventuates and a ‘new’ worldview of foresight emerges then that worldview will appear, at least, paradoxical to individuals operating from those earlier worldviews outlined above. As it always does, time will tell.

2.11 Chapter Summary

This chapter has demonstrated how foresight may have evolved and that it had a broad directionality. Gebser’s framework of the structure of consciousness is central to such an understanding of the evolution of foresight. The worldviews of foresight have undergone a series of transformations that have altered the capacities of foresight and, consequently, the nature of foresight actions. The two dominant foresight worldviews currently operating are Political Foresight and Critical Foresight, with traces of the earlier worldviews also operating in certain circumstances.

A foresight worldview will be sustained, and seen as legitimate, as long as it continues to be efficacious in its capacity-broadening and action-generating properties. Someone operating from a later foresight worldview who observed someone else applying an earlier worldview could find it very difficult to accept that person’s foresight capacities and actions. It would be very easy for a person operating from Political Foresight to see Progressive Foresight as ‘idealistic’ and Critical Foresight as ‘impractical’. Whereas someone from Critical Foresight could see Political Foresight as ‘superficial’. Debating the relative merits of a particular worldview would be unlikely to resolve those differences as each person would see their worldview as the exemplar. There is also the not insignificant matter of the power of the vested interests of a particular foresight worldview.

Some of the worldviews of foresight better suit the interests of the owners of power in a society. Immortal Foresight is conducive to the assembling of the ‘megamachines’ and Political Foresight is directed towards the continuity of power and stability. Alternatively Revelatory Foresight and Critical Foresight work towards dissolution of the existing power arrangements. History indicates that power structures are not transformed from within but rather from without. The withdrawal of legitimacy appears to be central to changing of vested interests. Similarly, the appeal of the anti-power interest worldviews are diminished when the existing power structures demonstrate that they can satisfy the existential needs of its culture.

What the twenty-first century holds is a continuation of the ‘struggle’ between

Political and Critical Foresight: a cycle of legitimisation and de-legitimisation of power with, of course, the existing structures of power supporting Political Foresight.

The rational phase of the mental structure has not yet come to an end, and its actual end is not yet in sight. None of the structures we have described ever completely ‘ended’. There are still unsuspected, although probably merely one-sided technological and dehumanizing ‘progressive’ developments within the realm of possibility... If a new mutation does not take effect—and only a completely new attitude will guarantee the continuation of the earth and mankind, not some sectorial partial reforms (reforms are always merely efforts to revive something)—then the consequences of the deficient residue of an age such as ours, which is in itself deficient, will soon assume forms, will necessarily assume forms that will make the previous events of our time look mere child’s play (Gebser 1985, p.96).

This archaeological study of human consciousness has uncovered a number of elaborated worldviews of foresight thought. Gebser’s work illustrated the interrelationship between the worldviews of foresight and life conditions. Later chapters will also deal with this point. While the progression of worldviews have developed towards greater inclusion and adequacy that does not necessarily mean that later worldviews have been ‘better’ than earlier ones. Each worldview should be seen as being relevant to its life conditions. The fact that life conditions differ across the planet is why many of those worldviews can be seen as still operating today.

While the environment significantly shaped the early worldviews it is also notable that the evolution of worldviews was equally an expression of the growth in intensity of individual consciousness. The mind, so the later worldviews suggest, is able to transcend and transform its environment. This finding, however, raises a seeming paradox. While the mind, through the Mental structure, transcends and transforms its environment, it seems that the mind is seemingly ‘blind’ to its own actions. It testifies to the mind’s powers of construction that the reality of the state of the environment is not part of the mind’s ‘reality’. It is also a paradox that the idea of the mind’s continuing intensification could be denied by the same Mental structure that is itself an outgrowth of such intensification.

The application of Gebser’s theory to foresight gives this thesis its theoretical foundation. The next chapter will apply that foundational understanding to the research questions, namely a better understanding of individual foresight and ideas around the development of social foresight.

Chapter 3

The Lineage of Foresight

3.1 Introduction

What does the explication of the Gebser structures of consciousness and the resultant worldviews of foresight offer to an understanding of individual foresight and of the possibility of developing a social form of foresight? The propositions below follow from the previous chapter.

- Foresight is an attribute of the development of individual consciousness. Instinct and emotion are the sensory modalities of primary consciousness and they produce a sense of the present. Imagination plays a pivotal role in the emergence of foresight as it moderates emotion and instinct and is one of the key enablers of higher-order consciousness. Yet imagination appears to be progressively removed from foresight as the mental structures of consciousness become predominant.
- The expression of foresight is mediated by the historical, cultural and social milieu in which it is practised and what emerges is a ‘layering’ of foresight. The dynamic of foresight oscillates between an external and internal focus. The increasing complexification of the external world drives the foresight focus outward, from the observer, and the realisation of the immoderation in that external focus turns the focus inwards, in order to solve the immoderation or to re-scale the perspective. Over time the scope of the external focus becomes more circumspect, complexity causes a reduction in hubris, while the inward reflexivity becomes more encompassing.
- Education, or the development of ‘knowledgeability’, is an aspect of consciousness development. External knowledgeability and education liberate foresight from exclusive rationality. Internal knowledgeability is central to becoming

aware of the limits of knowledge. In developing knowledgability in both the external and internal perspectives foresight can act as a higher-order language.

- Further developments in consciousness and hence futures thought are possible. Transcending ego and transcending rationality are critical junctures in the evolution of foresight. To become aware of the totality of the structures of consciousness, to make them whole and to bring them all to bear is to bring all the modalities of instinct, emotion, imagination and thought to foresight. This is the challenge of the conception of the self.

These four propositions, that arose from the previous chapter, were used to interrogate the literature of Future Studies, especially 37 years of the ‘flag-ship’ journal of the discipline, *Futures* (1968—2005). That interrogation sought all instances where knowledgable writers in the domain of Future Studies made comment upon the nature of futures thought. What did they regard as embodying such thinking or what was its opposite? What encouraged and hindered the development of this type of thought? In short, what did the writers have to say about the evolution of human consciousness insofar as that evolution could be understood through the expression of foresight?

3.2 Foresight as an attribute of individual consciousness

Primary level consciousness is instinctually, emotionally and experientially driven. It is the creature present, the realm of sensory stimuli and individual responses. The individual operates from a representation of the external world thought to be ‘out there’, while the same individual is not usually conscious that the representation is constructed ‘in here’. If what is sensed does not accord with the representation of the world then cognitive dissonance arises in the individual. The emotional or instinctual response to such dissonance is caution, concern, anxiety or fear as things are not ‘as they should be’. As an evolutionary ‘early warning’ system, this is an exemplary way of ensuring that caution is taken when something unusual is sensed in the environment. What is learned from cognitive dissonance is linked to the remembered experience and its emotional responses. In the future, either a similar experience or the arising of the same emotional response can activate the same ‘warning system’ and its attendant behaviours. This could be appropriate or inappropriate.

Higher-level consciousness enables conceptual stimuli to be introduced to this

representational process. The imagination adds to the representational stimulus that do not exist ‘out there’, instead they originates only ‘in here’. This evolutionary adaptation enabled the development of conceptual capacities such as language, social memory and cultural expression. Homo sapiens could, therefore, react to conceptual stimuli the way that mammals without such a highly developed cortical area could only respond to sensory stimuli (Maturana & Poerksen 2004). Homo sapiens could still learn from actual experience and its attendant emotional responses; as well their learning opportunities could also be elaborated by imagined experiences.

This imaginary representational capacity is central to the development of foresight in humans. It encompasses the capacity to imagine through pictures and to conceptualise future events (Paskins 1997). It includes the capacity to represent imaginatively the world and has allowed humans to ‘reflect, learn and evaluate’ (Pirages 1994, p.199). Ultimately those elaborated imaginative capacities provide an enhanced capacity for choice.

Human beings have an innate capacity for speculation, foresight, modelling and choosing between alternatives. We are not stranded in a deterministic world (Slaughter 1994).

Even the emotions that arise from the exercise of this imaginary representational capacity have evolutionary attributes. An individual can only worry about an undesirable outcome if there is the capacity to imagine such alternatives happening in the future (Paskins 1997). To find things of worry and concern can be regarded as evidence of a functioning imaginary representational capacity. Likewise adventurous thoughts may stimulate the imagination of possible futures and also stimulate anxiety, with the anxiety providing the motivation for action (Landau 1976). Central here is how counterfactual thinking shapes the specific emotions that an individual experiences. A sense of causation will often provoke behavioural change designed to affect the likelihood of a future event, whereas a sense of resignation sees the individual rely on the likelihood of the future event changing through a different external situation. Counterfactual framing of emotions can evoke passivity or activity in an individual. Overall the representation of the world that an individual employs to manage their life choices is enriched and contains more potential for adaptation through the operation of an elaborated individual imagination.

‘Many human groups have perished through improvidence, the men who have peopled the earth are the prudent ones’ (de Jouvenel 1967, p.6). Experience operates best in the realm of precedented situations. When an individual or group encounter situations that share similarities with earlier times then previous experience is likely to be the pathway to prudence, while improvidence will likely follow

from ignoring the experiences of the past. Flip the circumstances from precedented to unprecedented and the pathways to prudence should be inverted as well.

Human experience has developed generation after generation but it cannot tell us about the consequences of unprecedented situations, thus we are moving into a most dangerous and unstable period in history without the adequate means to look ahead and steer carefully (Slaughter & Garrett 1995, p.95).

It is the engagement of foresight that acts to clarify the dynamics of emerging and unprecedented situations (Slaughter 1990). It is prudent in conditions of novelty and change to use all human cognitive capacities, the memories of actual experience and also imaginative speculation, to take a forward view and to navigate accordingly. To be foresightful is to 'be a citizen of two worlds, the present and imagined, and out of this antithesis the future is born' (Polak 1973, p.1).

Yet an examination of human behaviour suggests that 'there is an indissoluble relationship between foresight and experience, we require the latter before the former will be seriously engaged' (Slaughter 2002*b*, p.353). That is an admission that humans are suppressing their ability to learn through imaginary representation (higher-order consciousness) and instead are relying predominantly upon the primary consciousness mode of representation from experience and emotion. Why? The answer lies in an examination of the characteristics of fear.

3.2.1 Failure, Fear and Foresight

The idea that humans utilise three different modes of perception: mythological, rational and evolutionary, is useful here.

Modern man lives in a threefold space: physical, social and spiritual. . . bringing into play the three basic modes of perception. . . rational, mythological and evolutionary. . . in rational inquiry subject and object are separated; the observer does not interfere with the observed. In mythological inquiry, subject and object are linked through feedback loops and affect each other. . . In evolutionary inquiry, finally, subject and object become one, both constituting aspects of an unfolding wholeness (Jantsch 1975, p.465).

Fear is the predominant motivating factor operating at the mythological level of perception; fear of the spirits, fear of taboo, fear of falling from divine grace. At the rational level of perception certainty operates to motivate while hope operates

at the evolutionary level through the perception that existence is embedded within the unfolding of a macrocosmos (Jantsch 1975). Rational certainty is the premise that what is represented ‘in here’ is the reality of what is ‘out there’; not the felt or instinctual realisation of environment but the cognitive construction of reality. Cognitive dissonance occurs when the individual becomes aware of a discrepancy between what was thought as real and the dawning awareness of reality. Such dissonance does not automatically lead to the failure of rational certainty. Humans are adept at the reintegration of dissonant phenomena into existing representations of the world. Still, failure of rational certainty is a possible outcome and what Jantsch concludes is that the failure of rational certainty as a motivator has ‘brought back fear’ (Jantsch 1975, p.466). The individual perception of the failure of rational certainty,

activates psychodynamic responses that are not socially constructive. One such response is to . . . reduce anxiety by gratuitously avoiding or deprecating the ambiguity and uncertainty—what is called denial (Michael 1985, p.98).

Another response, noted earlier, is that unless we have the actual experience then we will not seriously engage foresight (Slaughter 2002*b*). A third response is to simplify the circumstances in order for the dissonance to disappear (Funtowicz & Ravetz 1994). All these forms of psychodynamic response seriously compromise foresight. An encompassing term for all these responses is ‘*defuturing*’ (Polak 1973, p.196). Defuturing is a low quality response to the failure of rational certainty; however, there are high-quality responses that could be adopted instead. Foresight, as an individual capacity, cannot operate to any effective level unless some of these high-quality responses are adopted (Slaughter 1991).

By seeking to broaden the consequential aspect of foresight, then the seemingly causal relationship between experience and foresight can be inverted. We should ‘analyse in depth because the facts that are harbingers of the future are not always those that appear at first glance’ (Masse 1972, p.26). Against that, however, is the notion of *tactile agnosia*. Significance is immediately apprehended or recognised and then the significance is either reconstructed through analysis or it is ‘self-censored’ if it cannot be deduced by observable signs (de Jouvenel 1967, p.126). The idea that logical reasoning does not necessarily uncover what is hidden, but instead gives external validity to what is felt as significant, is heresy to those who see futures approaches as an extension of empirical science. As imagination operates as the equal partner of reason in the cognitive capacity of foresight, then the cultural or behavioural factors arising through fear are operating to censor apprehension of

significance.

As serious thinkers we do not want to put forward anything about the future unless it is deduced from observable signs. . . [this] does explain why men who want to use ostensible procedures are reluctant to take into account a crisis which can be sensed more easily than argued (de Jouvenel 1967).

Still humans do not always have to adopt the low-quality response to the loss of rational certainty. There are attitudes and other capacities that reduce self-censorship and create environments conducive to high-quality responses.

3.2.2 Transcending Fear through Foresight

The low-quality response to fear felt by the failure of rational certainty occurs when the individual acts solely on the basis of emotional and instinctual responses. The literature has identified a range of attitudes that act to mitigate this emotional response and thereby allow high-quality responses. If an individual is able to tolerate ambiguity, adopt an experimental outlook, take a cybernetic view of error and work within an atmosphere of trust (Markley 1983); or if an individual can develop creative thinking, adopt a future-orientated approach and has the ability to tolerate strain (Novaky, Hideg & Kappeter 1994), then they can remain in an open condition. Openness to cognitive dissonance allows what could be easily interpreted as inaccuracy, failure or shortcoming and felt as discomfort, anxiety, or repulsion to be noted but not immediately acted on. From this point, other responses can be chosen.

An individual's understanding that his/her sense of the world 'out there' comes via internal models held 'in here' would allow them to understand better the emotional responses that can arise with cognitive dissonance. With that understanding an emotional response could be reframed or reinterpreted. A low-quality response to anxiety, for example, would be to treat it as a signal to deny, flee from or fight with the cause of the anxiety. A high-quality response to anxiety, however:

can lead to a change in orientation: rather than a continued search for solutions in the outside world, it can lead to looking from the outside inwards to discover ability inside the individual (Landau 1976, p.161).

Another form of high quality response is to create knowledge surrogates. The idea of a presumptive truth can maintain the sense of plausibility and therefore allow decision-making and social processes to continue rather than be frozen while waiting

for certainty to return (Bell 1989). The other property of a presumptive truth is that it can lead to actions that negate the truth of the presumption itself (Bell 1997), effectively operating to empower people to take preventative action. The use of knowledge surrogates does not rediscover the sense of rational certainty but it does ensure that paralysis does not set in, allowing other high-quality responses to be taken. Being motivated to undertake certain actions, despite the failure of rational certainty, is itself a high-quality response.

Human control in the design of systems and behaviour leads to the ability to predict with increased accuracy. And the ability to predict can lead to control. . . Presumptively true predictions are useful precisely because they lead to human control, but they can also be self-altering, leading to actions that negate the predictions themselves. Thus, presumptively true predictions may turn out to be terminally false, even though they can serve to organise effective action, reduce anxiety, give meaning to events, and ensure that the predictions will be more likely to turn out true or false as the actors wish. Thus, predictions, even—perhaps especially—self-altering predictions, increase the human ability to control (Bell 1997, p.233-4).

Human actions are based upon anticipations that are felt to have a real possibility of occurring, notwithstanding the recognition that what is anticipated is probably inaccurate and uncertain (Fuller 2000). It is a low-quality response to adopt the contrary position. To say that action can only be taken when total certainty is held, or to say that there cannot be action because there is no certainty, is a prescription for taking no action at all. Embracing, rather than rejecting, the paradox of predictive uncertainty is one that leads to an inversion of the pathway of thought, from deduced futures to a plurality of imagined futures (Masse 1972).

Dialogue is another high-quality response to the failure of rational certainty. By moving towards the knowledge deficiency and exploring it then uncertainty can be accommodated (Healy 1999). Dialogue can illuminate contradiction and seemingly antagonistic forces can be seen from different perspectives. If these contradictions and antagonisms can be maintained in coexistence, rather than banished, then oversimplification will be prevented (Funtowicz & Ravetz 1994). ‘Fear may be understood as a consequence of the illusion of separateness’ (Slaughter 1987, p.59). Dialogue around the uncertainties removes the separateness that may be felt, maintains the shared social worldview and removes fear, thus allowing the subsequent making of high-quality responses.

Each of those previous responses are rationalisations of the failure of certainty.

Rather than conceding agency to the felt emotions, instead, recognise the emotion for what it is and stay open, reframe the emotion, look for plausible certainty, do something about it or talk about what is thought uncertain and why. They are each high-quality responses at the level of rationality. There is also another, qualitatively different, high-quality response to the failure of rational certainty that Jantsch described. He said that there were three levels of perception operating in humans. The mythological level (where fear operates), the rational level of perception (where certainty operates), and the evolutionary level (where hope operates) (Jantsch 1975). Hope is a high quality response that acts to transcend fear.

Sardar says that optimism and pessimism are irrelevant considerations for the enabling of foresight. An optimist believes that the future will unfold in a positive way so nothing need be done, and a pessimist believes that the worst will occur and so nothing can be done to change it. Hope, instead, is neither optimistic or pessimistic, it is causative. ‘This is what I hope will happen and my actions will follow my hopes’ (From a lecture by Zia Sardar at the AFI on 5 August 2003). To approach the future with hope is to overcome fear, ‘only hope through unfolding the living of a meaningful life in this superior context can renew hope and give balance to the lives of humans and human systems’ (Jantsch 1975, p.466). If hope enables humans to overcome fear, and thus transcend the loss of rational certainty, then are there other conditions that support that same outcome?

By encouraging adventurous thoughts through questions that stimulate the imagination of possible futures...[by] involvement, daring, confidence and the desire to be active...the acquisition of emotional skills which enable us to stand up to ambivalent, unclear and insecure situations [can be achieved] (Landau 1976, p.161).

People must be assisted to become more open, experimental and flexible, to see their organisation as a complex system embedded in complex environments (Nanus 1977). Yet people will not become more open in organisational environments unless they feel safe to do so, unless they trust the organisation (Healy 1999). Outside the organisational context citizens are exhibiting shrinking levels of trust of their institutions and actors. Those institutions and actors have largely maintained the scientific/technological viewpoint that predictability and control are the hallmarks of modernity while uncertainty is negative. Instead, those social movements that have been critical towards modernity have shown a higher tolerance of uncertainty and ambiguity and, in turn, an important part of the citizenry trust those movements (Todt 2003). Humans once put their trust in rational certainty and a foresight approach that embodied this and now they feel their trust was betrayed

when rational level foresight failed. The next worldview of foresight might become widespread when humans trust in something that transcends certainty, the imagination of inspiring and hopeful futures. Through imagination and hope, fear can be transcended and from inspirational images of the future, alternatives can be found.

Alternatives must emerge if we wish to stop the destruction of the environment, the deterioration of society, the apathy of the young, and the manipulation of values by presenting alternatives that emerge from outside the present social structures (Masini 2002). This kind of foresight explicitly seeks inspiring and hopeful images that do not exist before the foresight process commences. To know what the image is, and to seek to move towards it, involves planning. To generate the image, that is unknown at present, is to engage in foresight. 'Our primary purpose is to generate images and analyse them so we can act to increase the probability of futures we prefer' (Amara 1991, p.648). Thus it is thinking that must be explicitly outside the present in both time, structure and culture. The trick, if that is the correct word to use, is how to get outside the present while still being in the present.

The first premise is that what is imagined is the map and not the territory. The image, if compelling, encourages movement towards it. It gives a general orientation, a sense of direction but not the final destination; '[a] sense of direction on the assumption that as you start heading towards your preferred future you will experience new things and develop new ideas' (Inayatullah 1993, p.236). Next comes the recognition that foresight generally, and the speculative imagination specifically, is compromised by a culture that is predominantly outward and materially focused. If the tentative nature of what is uncritically thought of as real is uncovered and challenged then speculation can be rediscovered. By admitting the interior dimension of individual and collective life plays a role then inspiration and hope can emerge (Slaughter 1998a).

Another element is the recognising the central role of symbols in imagining hopeful and inspirational images of the future. 'Symbols constitute significant indicators of the outlooks and aspirations of the cultures which generate them' (Page 1992, p.1062). Awareness of the existing contemporary symbols that constitute the 'default' futures image is fundamental. The present can also be examined for other images that do exist but for some reason are obscured from general view. They could be hidden because they are antithetical to the default images, or because they represent an interest that threatens the interests of conventional modernity, or because they arise from a non-Western cultural perspective and are therefore regarded as 'non-modern'. The past can be examined to see if prior symbols can be renewed, not to bring back the past but instead to honour the wisdom and legacy of those who preceded the present generation. None of these precludes the need for the

imaginative generation of fresh symbols as indicators of a future cultural viewpoint. Explicit foresight processes can establish a forum within which alternative symbols can be developed and trialled. 'It is in this second dimension of the study of symbols and future studies that the real worth of the exercise lies' (Page 1992, p.1063).

3.2.3 The Socialisation of the Imagination

Humans share worldviews in order to create a 'meaningful social world' and to find their place in it (Clark 1994, p.183). Accepting a society's norms is the individual's pathway to socialisation. Society encourages children to progress through their egocentric stages of psychological development and to internalise the values and behaviours that the particular society regards as valuable. Adopting social norms and roles is fundamental to the continuation of human existence. Sharing imaginatively rich worldviews with other humans enables 'extensive amounts of non-genetic information' to be communicated across generations via this shared worldview (Pirages 1994, p.199). The benefits of elaborated learning opportunities can then be transmitted to future generations via this social process. Future generations do not have to make the same mistakes as their predecessors. Received wisdom is what parents can leave as their children's legacy. As wise parents can beget wise children, then wise groups can beget wise communities. The imagination performs a central role here too.

Within the necessity to internalise societal norms and roles lies the possibility that what is carried forward is not wisdom but folly. Why is it that the actions of the past must set the precedents for the future? Social norms and roles contain what was necessary and appropriate for prior sets of life conditions. Are those norms and roles still appropriate? What can be done to prevent the transmission of imprudent norms and roles to future generations? The answer is that the individual has the responsibility of making the choice. Individuals:

must learn to trust the knowledge and insight of others and to be grateful for all that exceeds [their] own. . . [They] need to consider seriously but critically [their] culture's invitation to internalise its norms. [They] need not adopt them automatically but [they] need to be aware of the reasons for their existence, the cost of breaking them and their power over others. [They] need to accept the inescapable conflicts and contradictions of the requiredness within which [they] live. They need to accept the obligations to make for himself a set of internalised norms sufficiently within [their] compass to be a useful guide; and not be more divergent from those of [their] neighbours than they can tolerate. . . [They] need to

take seriously the responsibility for [their] attitude to all [their] fellows, each faced with similar choices (Vickers 1979, p.30).

The pressure placed upon an individual to conform is great, even if the norms and roles are taking a community towards destruction. It is, in part, the capacity of the creative imagination that gives the individual the means to stand up to 'society's invitations', especially those invitations about 'the future' that a society is heading towards.

Research has shown that at some point in time [the actual age of the children was not reported] children have a clear image of themselves in the future as well as that of their environment, especially the natural environment, and that they both seem to lose this ability to retain this clear image and to become more influenced by the images that they see around them (Masini 2001). This finding is of central concern to any notion of the imagination and the exploration of inspiring and hopeful futures. That such images are needed is self-evident and that the steps to discover such images are known is also clear. What needs to be understood is why this capacity seems to be available and then seemingly lost in the minds of the young. Is this lost capacity part of a natural developmental process, or part of a socialisation process? Is this loss of capability, however, something that is contributed to by factors external to the individual? If so, the focus should be on containing the factors that precipitate the loss and enhancing the factors that sustain it.

Research shows that the young seem to be better at sensing 'probable futures' than many older people.

The young expect new technologies to further entrench and concentrate power and privilege rather than create closer-knit communities of people and to lead to the greater use of alternative energy technologies... they dream of a society that places less emphasis on the individual, competition, material wealth and enjoying the good life and more on community, family, cooperation and the environment (Eckersley 1997, p.247).

Foresight is clearly operating in the young, a foresight that is looking at least for signs of preparation or prevention and preferably searching for the provisions of hope. What then is known about how the young deal with this awareness? First, discourse alone does not sustain the capacity in the young, the opposite appears the case.

Many students cut off when they realise the extent and nature of the global crisis, discovering that they share similarly pessimistic outlooks can encourage despair rather than solidarity (Hicks 1996, p.743).

Countering this finding, however, is the finding that ‘pessimistic views are often associated with ignorance, when people are made aware of alternative futures they become rather optimistic’ (Ono 2003, p.755). What recurs here is the idea that the young are only equipped to ‘fit’ into the intuitions of modernity and thus they feel ill-equipped when they begin to sense the limits of modernity and they do not know how to build a post-modern world (van Gelder 1999). This is a tragic assessment. The young sense what their ‘betters’ do not appear to see and yet they are also not equipped with the means to devise high quality responses to it. In some ways this is the curse of Cassandra being revisited on the young.

In Homeric legend Cassandra, the daughter of Priam and Hecuba, was taught the gift of prophecy by her divine suitor Apollo. When she rejected his suit, however, he put a curse upon her that her truthful words about the future would never be believed. Homer describes how the citizenry of Troy ignored her words of prophecy. How she warned them not to admit the Trojan horse and how they did not heed her warnings of the destruction of Troy. Who really was cursed in Homer’s tale? Was it the pitiful figure of Cassandra, the mad woman, who could not be heard or was it the Trojans who had within their society a person who foresaw their fate and yet they did not heed her? Likewise, is it the young who are cursed as adults seemingly disregard what they sense?

Still, there are signs of hope. The young, and those older, could learn something from the very young. Among four- and five-year-olds, it has been observed that the conventional imagery of the mass media remains wholly subordinate to the child’s own perspective. The conventional and the negative are cancelled out by the energy and positivity of the young child’s imagination (Page 1998). Older children, and many adults, remain locked into received frameworks of conventional media images. It is a natural developmental step for individual psychological development to move from an egocentric/preconventional to a sociocentric/conventional viewpoint. This is part of children learning to become functioning members of a society; however, it does appear to come at some cost if children are encouraged to remain in this sociocentric mode for a significant time. The stage beyond the sociocentric/conventional viewpoint is the worldcentric/postconventional viewpoint. Not the rediscovery of the dominant ego of the four-year-old, but the realisation of themselves as autonomous individuals within a larger universal schema. When children in the midst of the sociocentric/conventional viewpoint are provided with artistic, imaginative, values-based, meaningful educational experiences and processes, then these seem to counterbalance the fragmented, violent, meaningless and pessimistic images provided by contemporary culture (Gidley 1998). An area of useful research would be to see if the same developmental process might occur in adults. Does the teach-

ing of foresight, from practical through progressive and onto civilisational foresight (Slaughter 2002*c*), propel psychological development from sociocentric/conventional viewpoints to worldcentric/postconventional viewpoints? The research in this thesis will make a contribution here.

There is, however, always a contradiction that must be faced. A powerful imagination can give individuals the means to decide which of society's norms they will accept and which they will set for themselves. That choice can prevent the transmission of folly but also the transmission of wisdom. What keeps this imagination from becoming escapist is that it must be 'grounded in a deeper spiritual awareness of the human condition and in an awareness of human folly' (Boulding 1991, p.536). Imagination is at the core of the human capacity to moderate and negotiate the terms of human existence; however, it is a capacity that is based upon the level of individual consciousness development. This goes to the heart of Gebser's theory of structures of consciousness and how each structure has inherent adaptations and maladaptations. The challenge for the individual is how to integrate these contradictions and find balance.

This means that the various structures that constitute [an individual] must have become transparent and conscious to [them]; it also means that [they have] perceived their effect on [their] life and destiny, and mastered the deficient components by... insight so that they acquire the degree of maturity and equilibrium necessary for any concretion. Only those components that are in this way themselves balanced, matured, and mastered concretions can effect an integration. The difficulty is that in every instance we are necessarily dealing with the ability of our faculty of consciousness to adapt itself to the different degrees of consciousness of the various structures (Gebser 1985, p.99).

The young provide ample demonstration of the 'curse of Cassandra'. The expression of their 'pre-socialised' imagination creates a nascent foresight capability in themselves that makes them extra-sensitive to the prevailing 'defutured' environment that surrounds them. Like Cassandra, they see what their 'betters' cannot, or do not, and society's answer is to socialise this capability out of them, replacing their imaginative and creative images of futures with the image of the 'defutured' present.

We mean by the term defuturizing a retreat from constructive thinking about the future in order to dig oneself into the trenches of the present. It is a ruthless elimination of future-centered idealism by today-centered realism. We have lost the ability to see any further than the end of our collective noses... We are no longer willing or able to peer around

the corner of the next century, or even to peer into the next decade, except when there is a question of dealing with millions of years and vast distances in space. The very size of such time dimensions renders them harmless and non-threatening to the present (Polak 1973, p.195).

Previously, it was pointed out that denying the future is a low-quality psychodynamic response to uncertainty. If the operant social processes reinforce that response, as opposed to the aforementioned high-quality responses, then it can hardly be surprising that children accept that same ‘invitation’. Still there is also the option that ‘when we adults begin to act as a respectable role model, young people will follow us’ (Ono 2003, p.757).

3.3 The Internal/External Dynamic of Foresight

To find an example of an external focus of foresight, one need only look at the editorial in the first issue of the journal *Futures*.

The aim of futures is to reduce the margin of error in estimating likely developments and to introduce a measure of stability into decision-making by reducing the uncertainty that attends the contemplation of major projects in times of rapid change (Editor 1968, p.2).

Futures data was to be transformed through a futures methodology into foresight and that would then feed into a decision about a future state. ‘To invest in this or that’. ‘To build this or that’. The decision-maker wanted stability and certainty in which confident decisions could be made. To such a worldview, it made perfect sense to focus on improvements to the quality of data and methods of data collection. Further improvements would follow from raising the veracity and skill with which methodologies were employed, promoting increased use of computers to produce more comprehensive models and simulations with which to test decisions, and the more widespread use of statistical and probability methods to raise the quality and rigour of foresight as well. Foresight was about finding ways to remove the defects in method and thought and thereby to ‘minimise the self-delusions of the forecaster and carry him [sic] much closer to the real world decision process’ (Linstone 1984, p.399).

Foresight was about reducing error and bringing about stability, about the banishment of chaos. It was a further demonstration of the instrumental power of humans, an extension of Habermas’s technical interest. It is also emblematic of a scientific, empiricist view of the future that it could be approached in such a

quantitative manner. That error reduction and stability were sought highlights that the clients are decision-makers and the view that foresight was best approached by experts. Stability and confidence were the normative states that underpinned this view of foresight. The aim was the stability of the present and the future. Those who were in charge would stay in charge. The voice in that editorial was confident. It would not be a simple task but it could clearly be done, ‘we must show the intellectual courage to figure out where our knowledge is wrong and put more and more effort into foresight’ (de Jouvenel 1967, p.8). Yet even while that externalisation of foresight was going on, there were others who felt the potential for immoderation contained within such a worldview. To those individuals, foresight was less about the technique, data and technical interest and more about the realisation that such a confident and instrumental view of foresight was masking an internal crisis in society. The worldview of foresight here was turned inwards.

3.3.1 The Inward Turn

Polak (1973) suggested that we do not think about the future, instead, that we are ‘dug into the trenches of the present’, unable to observe anything else. It represents a retreat from constructive thinking about the future, instead only the scientific, technological and political sit at the centre of ‘today-centred realism’ (p.196). That was a clear expression of a predominantly external focus of foresight tending towards immoderation. Another term employed to describe that symptom was ‘chronocentrism’, a belief that these times are paramount and that other periods pale into insignificance by comparison (Fowles 1974, p.66). Both these perspectives act to diminish the value of the future in comparison to the present.

Another inward observation was an extension of the first, that our ‘frantic presentness’ acted as a defence mechanism for some form of egocentric or existential pain and so solace was found in ‘substitute satisfactions’ (Slaughter 1987, p.54). Commercial interests acted to capitalise upon this avoidance tendency amongst individuals. Even Adam Smith foresaw that likelihood occurring.

Though profitable speculation generates comfort and improvement. . . the nature of this growth is that it is at once undirected and infinitely self-generating in the endless demand for all the useless things in the world (Cited in (Maiteny 2000, p.345)).

While seeking comfort by distraction can be seen as an innocent action by an individual, when this action is leveraged and promoted by powerful commercial interests then its consequences are not so benign.

Just because the market is becoming more sophisticated, it does not necessarily mean that it is becoming more wise. This is particularly true when consumers are susceptible to seduction, convenience and novelty, and unmindful, particularly at the moment of purchase, of the social and environmental consequences of their actions. Markets, where people are treated as consumers rather than citizens, have neither memory, morality or foresight (Fricker 2003, p.511).

In driving people towards being present-centred and to seek the ‘comforts of the unreality industries’ (Slaughter 2000, p.43), what followed was the tendency of individualism and technology to deprive people of meaningful interactions with other human beings (Tonn 2002).

The tendency is towards the emergence of individualised forms and conditions of existence, which compel people—for the sake of their own material survival—to make themselves the centre of their own planning and conduct of life. . . In fact, one has to choose and change one’s social identity as well as take the risks in doing so. . . The individual himself or herself becomes the reproduction unit of the social in the lifeworld (Bauman 2000, p.135).

It does not help too that ‘we have no ethics, nor do we know what the ethics should be, appropriate for making hard choices in a contentious world’ (Michael 1991, p.75), nor that ‘morality is subordinated to individual interests [and] economy follows its own rules’ (Gaspar, Gervai & L.Trautmann 2003, p.606). The conclusion here was that ‘humanity manifestly lacks the wisdom or means to mediate or control’ what technological change is bringing (Slaughter 2002a, p.362).

The external perspective of foresight placed significant emphasis upon technologies as the drivers of the future. Bringing an internal consideration to technology explored the interplay between technology and cultures. Technological development can be quite rapid, especially if development and deployment are driven by the exigencies of the market economy whereas cultural change operates to a different tempo. ‘Futures research will have to focus on these underlying changes which are creating a very different world’ (Masini 1984, p.469). In addition the differences in tempo are the dynamics of the co-evolution of technology and society rather than the simplistic conception of a neutral technology being introduced to a static society (Geels & Smit 2000). Technological innovation and social impacts have been studied for some time in Europe and North America but foresight also has to consider ‘what are the consequences of new technologies or of social innovations in environments of which they know so little’ (Masini 1984, p.468).

As the inward focus of foresight highlighted the future consequences of emerging and unprecedented situations that externally focused foresight appeared blind to, then the notion of a precautionary principle became germane. ‘Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be a reason for postponing cost-effective measures to prevent environmental degradation’ (Clark, Stokes & Mugabe 2002, p.801). Traditional probability and risk based approaches were not thought appropriate to situations where the risks were dynamic, unprecedented, co-evolving, and changed by actions taken, especially with the tendency of traditional policy work to discount future factors such as their costs and benefits relative to those of the present (Linstone (1984), Slaughter (1990), Tonn (2002)). The suggestion was that decision-making in this light had to be more, not less, consensual with the largest range of interests represented. Decision-makers who did otherwise faced losing credibility and support (Clark et al. 2002).

Another contributing factor to externally focussed foresight was ways of seeing the world that created dichotomies such as in-group versus out-group or dominator versus dominated (Eisler 1981). Such thinking allowed for ‘large sections of humanity [to have] their ecological homelands and their livelihood pulverised and plundered by the dominant Western powers’ (Kapoor & Serra 2002, p.686).

The simplistic and naive notion of a foresight driven by technique and rigour that could constrain the dynamics of change devalued the imaginative and hopeful potential of futures thought, instead granting pre-eminence to the present. The immoderations contained in such an externalised worldview were highlighted by observations arising from the inward turn. A foresight dynamic was eventuating—as internal reflexivity arose then external hubris declined.

3.3.2 A Hierarchy of Foresight Interests

An entity without the ability to engage in future thought operates only in the ‘creature present’ of ‘this moment’, followed by ‘this moment’ and then ‘this moment’. Memory, learning and anticipation are not possible in this state. The evolution of the cognitive capacity of homo sapiens means that humans have a ‘native’ form of futures thought. This capacity is more or less developed in each individual and it can be enhanced by adopting the practices of futures thinking through data collection, data analysis, interpretation and ‘prospection’ (Voros 2003). In addition to elaborating what is innately human, finding ways to enhance anticipation and transcend the need for certainty, the literature identified additional possibilities for developing foresight.

Foresight operates within levels of interest that themselves broaden, or narrow,

thought. For example, foresight can operate at the levels of the pragmatic thought, progressive thought and civilisational thought (Slaughter 2002*c*). Those levels are used to explain how differing foresight interests can be operating at the same time. Those levels of interest can also be mapped to the worldviews of foresight based upon Gebser's structures of consciousness and this suggests two quite distinct hierarchies, one with a predominant external viewpoint and the other with a viewpoint moderated by inward reflexivity (Table 3.1).

Table 3.1: **External viewpoint of foresight**

Worldview	Scope	Future Interest
Immortal Foresight	Civilisational	Immortality
Progressive Foresight	Progressive	Society
Political Foresight	Pragmatic	Power
(No foresight)	(Present)	(None)

The external viewpoint of Immortal Foresight first held its interest at the scale of the 'megamachines' and the projection of a civilisation's immortal power into the future. The next major external manifestation, Progressive Foresight, saw the interest become more circumspect and the scale reduced to the interest of 'society'. With the passing of the ideas of Progressive Foresight, then the interest was further circumscribed and foresight was about supporting the power interests of commercial and political organisations. Each of those external viewpoints supported the notion of rational certainty although the scale of interest that certainty applied to was attenuated. The attenuation process also operated to foreshorten the temporal dimension, bringing the 'future' point closer and closer to the present. As Table 3.1 suggests, that attenuation process can eventually give rise to an external viewpoint lacking any foresight and an interest solely focused on the present. In effect, this is the 'defutured' present described by Polak.

When the internal viewpoints are introduced the hierarchy that emerges is an inversion of the previous one. Table 3.2 commences with the worldview of the creature present. This is that state before internal consciousness is fully available and it brings forth the ever-present 'present'. With the first major manifestation of reflexivity, Revelatory Foresight, the level of interest is pragmatic, in that it is about how the individual should live with self consciousness. This is the foresight of personal revelation. The interest here was on what actions 'I' needed to take in order to live 'properly'. With the next major manifestation of foresight, Critical Foresight, the scale of interest expanded to consider the interests of marginalised groups, alternative narratives and future generations. The notion of 'progress' here is one of inclusion of multiple interests rather than the preference of a dominant

or hegemonic interest. Should another manifestation of foresight occur, Integral Foresight, then the scale of interest will expand again, including an even greater number and variety of interests. Biological, environmental and spiritual interests are some possibilities; however, other interests, at this stage not manifest, could also be included.

Table 3.2: **Internal viewpoint of foresight**

Worldview	Scope	Future Interest
(Creature Present)	(Present)	survival
Revelatory Foresight	Pragmatic	proper life
Critical Foresight	Progressive	emancipation
Integral Foresight	Civilisational	future generations

These two dynamics—the internal and the external—operate in all worldviews of foresight. The external viewpoints promote contextually framed views of rational certainty that are propitious for individual psychodynamic comfort as well as the maintenance of existing power interests. While those viewpoints do support human activity, they tend towards immoderate expression. That immoderate expression encompasses denial, ‘de-futuring’ and fear while also narrowing the scope of interests that can be accommodated. If reflexive awareness senses this immoderation then the foresight worldview can be ‘inverted’, transcending fear and expanding the range of interests that can be brought within the viewpoint. Such moderated viewpoints of foresight can operate at the these three levels of the:

- pragmatic (helping organisations be more effective);
- progressive (help the move towards sustainable practices and outlooks); and
- civilisational (consider the foundations of the next civilisation beyond the hegemony of techno, industrial and capitalist interests) (Slaughter 2002*c*, p.232).

To practise pragmatic foresight in organisations is ‘to be trained in futures concepts, to become more future orientated at the fundamental levels of values, beliefs and philosophies’ (Nanus 1977, p.195). To have future orientated institutions, leadership that links vision to action and organisational cultures that are responsive to futures (Nanus 1984), would further embed and make ‘pragmatic’ foresight more widespread.

To practise progressive foresight means gaining an understanding of social change at macro- and micro-levels along with the integration of quantitative and qualitative analyses and the partnering of the social, physical and analytical sciences (Amara 1974). It would not treat information as neutral and it would actively

question preconceptions in order to move towards a way of thinking that was not predetermined (Godot 1986). It would not trust the dynamics of society to come up with correct forms of institutions and responses but rather to aim to initiate foresightful action in every setting of society, to make the self-reliance of society under a range of conditions the cornerstone of futures thinking (Laszlo 1985). It would deliberately seek the ‘conscious introduction of multiple perspectives’ (Linstone 1984, p.398) as actions to counter the tendency to treat the ‘normal’ perspective as the only one. It would encourage:

the negotiation of our maladaptive social behaviours. . . there are examples past and present that offer alternative ways of visualising human nature, alternative ways of imagining social behaviours and alternative ways of relating ourselves to the planet (Clark 1994, p.181).

Humans do not have to act the way that they have always acted. While they cannot escape biology, they can become conscious of it and seek to manage it. Likewise, of reason and imagination can be used without reflection or reflexively. By taking these actions humans would gain ‘a larger mirror for seeing the world’ via a mirror for seeing oneself (Michael 1985, p.100).

To practise foresight is to try to consciously navigate through the influences of language, culture, ideology and worldview. There is no objective account of the world, no way to avoid cultural framing. Each of these can be seen to encompass the other in an increasingly larger context. Making individuals and organisations more effective in their actions is a good and worthy thing, but what if those things they wish to do are ultimately proliferating unsustainable practices? It is then the task of progressive foresight to point out that pragmatic foresight must operate within the broader context of progressive foresight. To do otherwise is not to practise foresight. Still what is progressive may not be leading us towards the next civilisation, it may merely be making the present one sustain itself for longer than is appropriate. Western civilisation, while producing many benefits, such as political freedom, is also hostile to ‘aliens’ and allows many of the citizenry to live poorly while a comparative few live extremely well. Is a form of foresight that operates to improve the effects of this civilisation, but not to actively be working for its replacement with something better for humankind, properly called foresight? Foresight at this stage calls into question the moral dimension of futures thought. Whose interests are being served and should they continue to be served?

The central purpose of Future Studies is not to serve the already powerful, not to explore the horizontal flatland of the technological wonderland

but to illuminate the way beyond limited instrumental interests to shared transpersonal ends. The purpose of this work is to facilitate personal and social evolution beyond the present egoic/hegemonic/narcissistic stage to other stages of personal development and the corresponding new stages of civilised life (Slaughter 1998*b*, p.532).

Future Studies aims to produce knowledge and foresight that can be used to steer towards more consciously-chosen futures. Thus, Futures Studies places as much emphasis on the utilization of knowledge as on its production... Also, futurists explore values and the nature of good society... This means that futures researchers must devote some of our time to the study of human values and we must be responsibly concerned about the future consequences of our work for human welfare (Bell 2002, p.245).

This is the challenge for foresight, to create a field or discipline that is explicitly aware of the complicitness of all ways of knowing and hence the provisionality of all actions. Yet it also needs to place this awareness alongside an implicit concern for human welfare, to understand that all 'presents' cause some humans to suffer and the goal is to create futures where the extent and degree of suffering is reduced. To do this is 'to employ a higher-order language to decide propositions that are undecidable in the lower-order languages of the systems involved' (Beer 1971, p.346). The scientific approach whereby analysis is used to break down problems into component parts will not generate such higher-order languages. It is analysis used in conjunction with synthesis to re-assemble components into creative ways (Constanza 2003) that leads to the development of higher-order languages.

3.4 Foresight as a Higher-Order Language

A higher order language can be likened to the solution to the oft-cited paradox attributed to Albert Einstein, 'The significant problems we face cannot be solved at the same level of thinking we were at when we created them'. A higher-order language permits irreconcilable problems in the present to be transcended by something 'intervening from a higher level' (Schumacher 1990, p.124). If our language lacks sufficient 'height' then we will lack the ability to think our way through our current problems.

Our approach to education has resulted in a population that for the most part are unable and unwilling to think with the subtlety, skill and persis-

tence needed for participation in the conduct of democratic governance in a complex and ambiguous world (Michael 1991, p.72).

It is not surprising then that an unskilled populace would lead to ‘institutional inertia’ and to ‘electoral short-sightedness’ that preferred narrow local and national concerns rather than global dangers (Higgins 1991, p.655). Under our cultural conditioning ‘one thinks less and less about the future because one thinks less and less’ (Morgan 2002, p.890). At least one writer hypothesised that ‘it is an open question about whether, in the best circumstances, humans possess the innate capacity to practice sound futures decision-making’ (Tonn 2003, p.674).

Those are all diagnoses of an external viewpoint of foresight that has become immoderate. H.G Wells’ remedy to such immoderation was a ‘revolution of human minds’ in order to create ‘knowledgeability’ in the public (Wagar 1961, p.38). Wells sought a moderating inward perspective, a knowledgeability that could overcome immoderation. Foresight is still largely rational even when it draws insight from the imaginative realm and when it attempts to transcend the ‘normal’ need for a feeling of certainty. What is not explicitly challenged are the assumptions and presuppositions upon which that perspective is based. It is necessary for the thinking to turn in on itself to examine its own epistemic foundations. In doing so, the contents of present and future, the nature of how the present and future is manifested, and the inquiry mode adopted towards the present and future; are all transformed. This development crosses the boundary of the rational to the trans-rational. It seeks to illuminate those additional perspectives that are somehow hidden or unrealised in the ‘normal’ ontological gaze by truly understanding the present, embracing complexity and understanding the field.

3.4.1 Truly understanding the Present

Archaeologists often dig their way to an understanding of antiquity and their actions are a useful metaphor for what is attempted in truly understanding the present. ‘We could attempt a history of the present; a genealogy to see how the present way of constructing reality became the sole way of creating the world’ (Inayatullah 1990, p.130). Such a genealogy would discover that a culture invites those entering it to internalise its norms. Such norms are usually accepted, without serious thought, however, as already noted these norms ‘need not be adopted automatically but [we] needs to be aware of the reasons for their existence, the cost of breaking them and their power over others’ (Vickers 1979, p.29). At the deep levels of excavation the futures archaeologist would find that:

[T]hose raised in the Western cultures are likely to be imbued with the characteristic Western outlook: nature is purely utilitarian—a resource for human use; growth is seen as unproblematic and unquestioned good; science and technology are the primary forces creating opportunity (Slaughter 1996*a*, p.754)

Foresight practised without awareness of that outlook would largely be operating from the ideological basis of materialism, individuality and technological optimism (Inayatullah 1988). The literature was aware of that very possibility as the first issue of *Futures* also contained an article by Jungk:

[N]o concept or vision of the future will be correct if we do not find a way to bring man into the picture. The curves of economic and technological forecasting do not yet take account of the species (Jungk 1968, p.36).

That awareness, however, was not widespread amongst the authorised/accepted experts of foresight at the time.

Experts... see the world from above, in a systems perspective, from the vantage of the rich and powerful. Their lack of empathy and knowledge of the life at the bottom half of humanity is humanly deplorable and intellectually biased (Galtung 2003, p.138).

Foresight must acknowledge, and then seek reconciliation with, the likelihood that much of its efforts have operated, and continue to operate, from such an unreflected ideological basis; that some of its work has supported processes that have wrought havoc on the most powerless members of humanity and have served to maintain the basis by which power and influence is maintained by a few.

Probing beneath the surface of the Western worldview enables its systemic defects to be observed and its assumptions noted and possibly renegotiated (Slaughter 1991). One clear defect is the treatment of technology as a neutral factor in thinking about the future. ‘At best we think technology is indifferent to ethics, but we are not sure that it is absolutely neutral towards good and evil’ (Masse 1972, p.29). Far from being neutral tools, technologies should be seen as ‘complex social artefacts which are embedded social interests and ways of seeing the world’ (Slaughter 1989, p.452). If it is the interest of the status quo that is served then technological innovation is largely about ensuring that things remain as they are or even that the status quo is entrenched.

Probing beneath the surface of the Western worldview also raises the question, ‘why do we live in this world and not the other worlds that were once possible?’ (Slaughter 2000, p.45). For within the idea of alternative futures must be the

implication that the present contains choices that are not immediately apparent (Slaughter 1993a). Societies and cultures are held together by habits of mind, common understandings of the way the world works (Hollinshead 2002). Habitual thinking is a necessary evolutionary process as it conserves energy, increases skill, spares attention and reduces the cognitive dissonance raised by the sense of strangeness. To challenge the habits of mind that hold together a culture is to threaten its stability.

Western culture... rests on systems of analytic classification which separates one class of phenomena from another. Boundaries... give rise to dualities and opposites such that discourse swings wildly between extremes (Slaughter 1987, p.58).

To adopt a mindset that explores what is opposite, not-known, is to put oneself outside the boundary of the culture itself. It is the shaman who has one foot in the familiar, one foot outside who can articulate what is latent in a culture, what the sane or rational person cannot seriously pursue (Nandy 2000). As ethnocentrism is being unduly centred in one's culture and tempocentrism is being unduly centred in one's temporality, both provide the psychological security of an accustomed context (Textor 2003). By pointing out that there are other contiguous contexts that exist we can liberate thinking from 'the straightjacket of common sense' (Nandy 2000, p.150); however, it can also see the society turn the shaman into an outcast (Hollinshead 2002).

3.4.2 Embracing Complexity

As the familiar context and cultural habits of mind are dissolved by becoming fully present then certainty gives way to complexity. Certainty is not only transcended, it disappears. From this mind-set to hold a belief in certainty would be mistaken. The complexity in any system is in the eye of the beholder who expects a reality that accords with their internally held concepts. The beholder is surprised when their perceived reality departs qualitatively from this expected reality. Surprise continues to accumulate until it creates paradox which then forces the development of expanded concepts, concepts which are held to give order and meaning back to the beholder (Holling 1994).

All systems operate within limits; this may be one of the points of surprise that emerges to create complexity where once there was certainty. When the limits are reached then the system will become disturbed. The factor of the disturbance is the trigger for transformation or dissolution. If the disturbance is too low then the system's normal feedback buffers out the disturbance and nothing is changed. If the

disturbance overshoots the system's critical level then the catalytic feedback cycles are disrupted and the system dissolves into its more strongly held components. At the right level of disturbance the normal routines are disrupted, the system becomes critically unstable and is propelled towards basic transformations. Those transformations usually incorporate more complexity, more information content, a further move from the existing equilibrium and a more dynamic use of energy and material (Laszlo 1985). Most diagnoses of the present in the literature can be seen as disturbances that are probably operating below the level required for the system to move into transformation. The existing industrial worldview and its commercial interests can buffer out those disturbances and so individuals go along with the fantasy that the 'unreality industries' (the culture of deliberately manufactured lies) are, in fact, real (Mitroff 1985). If foresight can reach the right level of disturbance then transformation of mind-sets, behaviours and eventually institutions could occur which would evolve the system to a new equilibrium. If transformation does not occur then the system will likely overshoot and collapse, the existing system will largely disappear and its more strongly held components, like brute force and tribal groupings, would emerge and another equilibrium reached (Laszlo 1985). This viewpoint is no longer about maintaining stability, but instead, surprising the system till it has to change its concepts and assumptions in order to find a new equilibrium.

A more appropriate metaphor here is steering rather than planning. Social systems are emergent, dynamic, non-linear systems that are not developed through deliberate action. 'No member of a rain forest's ecology intends to create such an ecology. No one human member of a society sets out to create the society we experience' (Fuller 2000, p.83). There will be times where the concepts shared by individuals and their cultural worldspace resonate with the perception of reality. These will be seen as 'epochs of stability that allow some predictability' (Mannermaa 1991, p.358), however, they will be increasingly punctuated by periods of disturbance as limits are encountered. As new patterns that bring order and comfort are discovered equilibrium will be rediscovered. This may involve a 'capacity for seeing things in a way which afterward proves to be true even if it cannot be established at the moment' (Fuller 2000, p.151). The significant observation here is that the material transformation of social systems is towards greater complexity, and more dynamic energy and material usage, greater interconnectedness and mutual dependence. This means an evolution towards increasing external instability and non-resilience. The whole becomes more unstable and increasingly capable of catalytic transformation by one of its constituent parts. Paradoxically the reverse is true of individual and social interior transformation. More developed psychological stages, and their cul-

tural correlates, are more resilient, able to withstand greater shocks and vicissitudes. Foresight that is directed to internal social system transformation is complicit in transforming possibly unstable external futures.

The incompatibility of the individual drive for material comfort conditioned by the ‘good life’ cultural milieu and how its consequences is transforming the planet is leading to the ideological contradiction of a special civilisation or the humanitarian ideal of equality for all (Funtowicz & Ravetz 1994, p.581).

Another factor in the emergence of complexity and chaos is to re-evaluate the role of science in Western culture. Since the Enlightenment, science has been seen as engaged in ‘the noble pursuit of truth’ (Ravetz 2002, p.200). In many ways science has filled the gap caused by the decline in traditional religion, it has become the unquestioned belief system of modernity. The ideas of science and technology as the primary agents of change have supplanted the idea that our challenge on earth was to become ‘better people’ from the inside out. Unquestioned belief in science is the foundation upon which the modern hopes for certainty and control are largely based and so embracing complexity dissolves those foundations.

Complexity requires accepting that there are many factors that explain change and that there will always be some unknown factors, because our knowing effort is complicit in that which we desire to know (Inayatullah 2002*b*, p.301).

A point is reached in understanding where science is no longer seen as a neutral tool, where what is researched is preselected and shaped by those who sponsor the scientist and ultimately who control the product. What follows next is the realisation that ‘we live in a world partly defined by socially constructed ignorance’ (Ravetz 1999*b*, p.136). Our ignorance and our knowledge are conditioned by the power and values of the interests who control modernity. The science that once promised instrumental control to the owners of the world via ‘Big Physics’ has transformed itself into ‘Big Biology’ that now offers the power to create life, and to extract profits, only by those who own the patent (Ravetz 2002, p.201).

Science also comes to be seen as implicated in many of the problems that it was ostensibly trying to solve. This realisation coincided with the Reagan–Thatcher political ideology which downgraded studies and perspectives that were qualitative and that dealt with uncertainty and values. ‘There is no such thing as society’. ‘If you’ve seen one redwood tree you’ve seen them all’. ‘What’s posterity done for me?’ ‘Greed is good’. ‘If you can’t count it then it doesn’t count’ (Ravetz 2002, p.201). The

result is a complicit science and constrained politics, that while appearing outwardly democratic, are in practice retrogressive, backward looking and pathologically intolerant of difference (Healy 2003). The conclusion then is that Western culture and its institutions are biased against foresight-orientated concerns, that they are designed to promote short-term goals related to production and consumption and that there is an inherent contradiction in setting conservative, long-term goals through institutions and culture that themselves require major change (Tonn 2000). To promote knowledgability is to force the re-examination of assumptions that are unexamined and to question the motives of institutions that are ostensibly charged with the responsibility of protecting human interests. The deeper thinking goes, the more questions and challenges are raised. As naive certainty leaves then the individual becomes increasingly aware of their need to accept a personal share of the responsibility for the values Western culture embodies.

3.4.3 An Understanding of the Field

Once the future was organic: it arose from natural repetition and largely unregarded processes. Then came the realisation that the future was the product of actions and decisions of individuals, organisations and cultures. It was transformed into an artefact, something that could be studied and shaped (Slaughter 2002*b*). The early forms of foresight arose from this realisation and yet, with knowledgability, the neutrality of the very process of study and the mechanism for carrying forward discussion of the future was questioned.

The study of social problems is based on the idea that the researcher can be located in the area of the non-problem, not complicit in the problem itself. Yet both the object (researcher) and subject (the future as artefact) are constructed through discourse, hence there is no way to understand problems independent of the discourse that constructs and describes these problems (Yapa 2002). All discourse is not neutral, it is grounded in certain traditions (Slaughter 1989). The types of questions asked, the research styles adopted and the conclusions reached are derived from culture and over time these questions and styles have become frozen. Gallic research is concerned with language and elegance, Nipponic research with technical issues and copying, Teutonic research with theory driven by different schools of thought, Anglo Saxon research focused on bottom-line hypothesising, Indic research theory and morality driven and Australian research rigid and feudal at the top and practical and participatory at the bottom (Inayatullah 2002*a*, p.481). It is not surprising, then, that the artefact that is the future, that arises from frozen research styles, that is largely ignorant of the discourse and traditions that both 'define' the

nature of the problem and also what is observed of the problem, is so compromised.

Western society is dominated by a small number of discourses which condition the framing of problems and study: economic, commercial, and conservative/academic discourses (Slaughter 1996*a*). Coupled to this is the commonly held view that words mean what they say.

The notion that words simply “mean what they say” . . . is deeply held and comforting. . . because it preserves a simple view of language and meaning which naturalises a commonsense, taken-for-granted view of the world. Yet like the boundaries they enshrine, the comforts of realism are illusory. They obscure the ideological character and uses of language and leave individuals open to mystification and exploitation. . . since individuals are free to reinterpret texts they are also free to interpret inherited traditions and normative views of desirable futures (Slaughter 1987, p.65–6).

This culminates in the mechanistic worldviews represented by economics, international development, international free-trade and individualised society that do little to alleviate the crisis of a deteriorating global environment (Slaughter 1993*b*). Foresight from the empiricist-predictive mode maintains the power and currency of these dominant discourses and mechanistic worldviews thus situating knowledge in domains that make transformation impossible (Inayatullah 1992). So most sit on the beach, their mind focused on the petty things like ‘who forgot to bring the chicken to the picnic’, with their backs to the ocean oblivious to the future that is rushing towards them (Dator 1994, p.90).

What is needed is foresight that escapes from dominant discourse, cultural research stances and the taken-for-grantedness of language. One suggestion is a dialectical process, like that of Sarkar, which can establish alternative views of the future. Any thesis of a present and of a future embody discourse and contain contradictions or paradoxes from which the antithesis of both present and future can also be proposed; effectively an antithesis of the dominant discourse. From the clash of the two comes a new synthesis. The struggle contained in such a dialectical process can be that of the individual and the environment, of good versus evil, of material versus spiritual, of the individual versus the collective (Inayatullah 1988).

Another suggestion for this new foresight is to employ ways of considering the causes and mechanisms of historical change and the macrohistorical stages of change as a radically different way to ‘contour the parameters of possible futures’. This subverts the traditional Western discourses of technological innovation driving change, linear processes of growth, equilibrium as the preferred system state and individual choice as the prime social mechanism. Instead, change can be cyclical or dialectical,

structure or communion could drive change while superagency and the transcendental could govern overall teleology (Inayatullah 1998).

A third suggestion for such foresight is through the ‘critical appraisal of assumptions, the challenging of dogma, the critique of language... foresight as a method for interpretation, a method for learning’ (Fuller 2000, p.84). Rather than seeking preliminary or provisional knowledge of the future, foresight from this approach is about determining the present content already existing in the future, encouraging individuals to make responsible choices, and most importantly, to improve the social learning process (Hideg 2002). Deep foresight challenges all notions of objectivity and neutrality. It goes to the heart of the wish to know, to discover the limits of knowledge, to deflate the deception of any idea of control (Fuller 2000).

Given this, foresight cannot operate within a single discipline. It should be transdisciplinary, suspending the single point of view of a discipline in order to allow for a synthesis of viewpoints (Giri 2002). Bateson’s idea of deriving ‘abduction-constructing knowledge from consistencies in the evidence of multiple perspectives’, a learning of a ‘higher logical-type’ which transcends habitual behaviours and allows problems to be reframed in broader contexts, is relevant here (Tognetti 1999, p.693). Slaughter suggests the idea of a ‘knowledge base of Future Studies’ that:

is made up of several identifiable layers or elements... the elements are clusters of conceptual, methodological, social and cultural phenomena, all of which are socially constructed... The language, concepts and metaphors of the futures field can be regarded as primary intellectual and symbolic resources... the symbolic building blocks can be assembled into structures of great power and insight... The future can be explored through many avenues through many ways of knowing... the history, lines of enquiry, the intellectual and applied substance of the field. Teaching and research are heavily indebted to the literature... some support existing practitioners, others are the seedbeds of social and disciplinary innovation, it is the practitioners who provide the human, intellectual and applied power... the core of applied futures work is methodologies, they increase the intellectual and applied powers of ideas and theories... aligned with the core purpose of futures work, to act to bring about change (Slaughter 1996*b*, p.803-4).

Overall this is a knowledge base to engender knowledgability and to moderate a predominantly external viewpoint of foresight; the knowledge that the ‘present’ is constructed from assumptions and that these assumptions should be examined in order to determine their validity before they are employed in the design of possi-

ble futures. This viewpoint sees complexity, disruption and paradox as necessary properties of external and internal human life conditions and accommodation, transformation and equilibrium as preferred states rather than naive stability. It means replacing objectivity and neutrality with interpretation and critique in order to find, and then surpass, the limits of knowledge.

In discovering the limits of knowledge, we also encounter the limits of the conception of the self. Much of what is encompassed by gaining knowledgability is concerned with perception and the transmission of perceptions. Yet what of the knowledgability of 'who' does the perceiving and transmitting? Gebser's structures of consciousness suggest further mutations in consciousness are possible and hence further developments in foresight could occur. What Gebser described as an 'intensification' of consciousness is not knowing more about how perceptions are reached but in perceiving differently. In essence this suggests the transcendence of the self.

3.5 The Transcendence of the Self

While a field can be created from language, theories and methodologies, and around it can be assembled organisations and institutions, it is initially the individual who represents the agency of foresight. Much of the literature examines foresight as a quest for knowledge of the 'structures of perception' while other literature has taken, as equally significant, the inner journey of the individual concerned.

Foresight is not a spectator sport. The individual who thinks about the future creates part of what they discover (May 1997). Understanding reality is not a passive process of adaptation to a fixed reality outside but occurs through feedback between a search outside and a search within (Dobbert 2000). Thus the individual stands to learn as much about themselves, their own beliefs and worldviews, and the interests they represent as they learn about the world that they co-create.

Every learner tells me that learning about the future made them ask existential questions about the meaning and purpose of life and their own lives, it is not sufficient to have great knowledge, committed action arises through the soul (Rogers 1997, p.766).

This is risky work as the individual who discovers the contingent nature of many of the foundations of social life also discovers the same contingency in their own sense of self. In discovering the options for renewal of society then alternatives for self renewal are also uncovered. This demands much of the individual but at the same time offers more too (Slaughter 2000).

Once an individual is aware of how they are complicit in the construction of this particular social reality, of how the actions of others are observed and often judged as illegitimate instead of inquiring into their concerns, distinctions, assumptions and narratives (Echeverria 1999), then they can choose whether they are inculcated into the power structures that underpin this reality or whether they will take a stance opposing the structure. To do this is to adopt the rationale for dissenting futures. To hope for a world that can move beyond the conceits of materialism, the subjugation of nature and the marginalisation of non-Western cultures, is to dissent from what is regarded conventional and commonly accepted (Slaughter 1999*b*). In earlier, hierarchical societies dissent focused on the elimination of corruption from dogma. Yet in our modern industrial culture, where the dogma of belief has been replaced by the dogma of consumption, dissent is less clear.

[In a culture of the] bland leading the bland, dissent now goes deeper by forcing us to reconsider who we are, all self-respecting dissenters must question where we are going and the future will be nothing but a contested area of dissent (Ravetz 1999*a*, p.249).

3.5.1 Dissent and Foresight

This dissent, it seems, is necessary. There must be an open debate within our society about the challenges of the future and this can only happen when people have both the right and obligation to debate critically the future of their society (Williamson 2001). To do so is to focus on areas of contest and silence in the present culture and this in turn takes courage (Kelly 2002). This debate, this contest, is necessary for the young in any society. The young, for example, are not trained in how to turn their ideas into strategies and they often lack the means to organise. By default then, they often become the carriers of the ideas of seniors, others who are willing to create their future for them (van der Helm 2003). Dissenting foresight is to think of the future in ways that create spaces for the currently powerless to be heard, to propose images that counterbalance the default images of conventional interests and to show the courage to acknowledge individual complicitness in our current dilemma and to accept the responsibility to do something about it.

Such demands on the individual, not only to employ different thinking but also to examine themselves and to uncover the interests served by the manner of thinking that they employ, is a significant distance from the idea of foresight as a linear process that is improved through better data, method and rigour. This is akin to a post-modern mode of thinking, a type of thinking that is less an elaboration of

the thinking that was employed before and is, instead, a transformation of modern thought.

While the outer threats to humanity are visible the inner threats are different and require a different approach, the future emerges from the level and capability of the consciousness creating it (Slaughter 2000, p.48).

It is necessary, therefore, for foresight to take a deliberate turn towards thinking about the emergence of new psychologies of thought.

A significant evolution in thought is the cognitive evolution from stimulus, concrete and reactive thought, to non-stimulus, abstract and reflexive thought. That earlier mode of thought was strongly based upon maintaining a physical existence in a largely static, albeit hostile, environment. The latter mode allows for operations of thought about the world, a mode of thinking that has allowed homo sapiens to transform the environment. The threat to existence faced by the human species is thus largely the product of perception:

[M]ost humans are unable to conceive of reality as a system and so are unable to comprehend unintended consequences [therefore] there is a lag between technological achievement and human understanding of themselves and the world (Laughlin & Richardson 1986, p.411).

Maruyama identified seven tensions in human reasoning. Each tension spans an axis of thought that delineates an evolution in human thought. These axes range;

1. from competition to cooperative sharing;
2. from techno-centrism to harmony with nature;
3. from material efficiency to cultivation of mind;
4. from hierarchy to reciprocal adjustment;
5. from leadership to human interaction;
6. from majority rule to mutuality; and
7. from homogeneity to pluralism (Stevenson 2000, p.99).

The recognition and then resolution of those tensions in reason is tantamount to evolution in thought.

This evolution requires an evolution of thought that is coupled with a conscious inward turn towards self-reflection: an acknowledgment that constructions of reality are the direct product of the maturity and sophistication of individual self-development. This has led some to conclude that:

[A] transmodern way of thinking is emerging, a creative mix of rational and intuitive brainwork... a realisation that we are the dominant actors in our future evolution, an openness to spiritual guidance as a basis for private behaviour, public policy and consensual decision-making (Luyckx 1999, p.973).

This thinking also recognised that Western culture tended to employ a limited use of human brain capacities, predominantly focusing on the analytical neocortical brain functions, whereas other cultures deliberately suppress the neocortex and left brain to access other brain capacities (Hollinshead 2002). Research is needed on whether types of meditative practice enable the development of foresight but there is certainly evidence that, in the areas of imagination, creative thought, mystery, silence, paradox, insight and wisdom, meditative practice could be an enabling activity.

Still the challenges on this path are considerable for any practitioner. When the self examines the observing ego then doubts about one's own integrity and meaningfulness arise. Engaging those doubts is a necessary step in the evolution of thought, however:

[W]hen this is grasped intellectually but out of fear the meaning is not grasped then the dysfunction will continue, adaptive responses become impossible and instead dependence is put into maladaptive behaviour (Maiteny 2000, p.355).

It is not a search for a new self, it is the seeking of a deeper understanding of self. To erase history is to create a temporary 'sense of lightness' that does not account for evil, instead what is needed is a layered self, which moves through the various aspects of humanity to a neo-humanism self wherein nature and spirit are included (Inayatullah 1999, p.816). This is doubly difficult in modern societies that emphasise depthlessness and hedonism as ways to escape dissatisfaction, for choosing a different path is once again to be engaged in dissent. Still this path, based on human orientation, reflexivity and sensitivity for the excluded, is part of a humanistic postmodernism (Pawar 2003). It allows for a the creation of a meta-conceptual understanding when individuals realise that their perception of reality is only one among many individual perceptions and that their thoughts or ideas should be seen as theories to be researched and tested (Fuller & Soderlund 2002), not burdens to be carried or territories to be defended.

3.5.2 A Social expression of Foresight

That individuals employ foresight is a self-evident fact and the bulk of the literature discussed how that individual capacity can be improved, broadened and deepened. The literature was generally silent on the point as to whether a social or collective form of foresight exists. This is a clear area of need for further examination and the empirical research in this thesis will attempt to make a contribution to knowledge here. It is clear, however, that a social form of foresight needs to emerge.

At a social level a capacity for foresight barely exists, the great institutions—government, education, business continue as if the trajectory of Western culture could continue forever but the old trajectory cannot be maintained (Slaughter 1996*a*, p.761).

One way to begin to understand the emergence of a social form of foresight is to consider the theory of hierarchies. A system is hierarchical when it operates on more than one spatiotemporal scale. Individuals make decisions based upon their individual lifespan whereas society makes less frequent but more significant decisions that, in turn, act to affect individual decisions. Decisions that enforce individuality tend to reduce the stability of the higher level, whereas excessive control from the higher level will endanger the health of lower levels in the hierarchy. A healthy hierarchy has to reach co-existence between the intensities between the horizontal and vertical coupling to avoid destruction of the complexity. The stability of each level depends on the stability of the other levels either higher or lower, in effect, a double asymmetry exists (Giampietro 1994).

The future is not known through the guesswork of the mind, but through social efforts, more or less conscious, to cast ‘jetties’ out from the established order into the uncertainty ahead. The network of reciprocal commitments trap the future and moderate its mobility (de Jouvenel 1967, p.45).

This describes cooperative foresight. What then are the factors that support cooperation? Cleveland suggests these are a consensus of outcomes, no one losing, the pooling of sovereignty, enough fear but a shared image of hope, the actions of people, and local talent not just bureaucracies and experts (Cleveland 1989). How can individual considerations of foresight be cooperative given the dynamics of consciousness and cultural and social learning?

Awareness of ideal values is the first step in the conscious creation of images of the future and therefore in the conscious creation of culture,

for a value by definition is that which guides towards a valued future (Polak 1973, p.13).

To extend 'human understanding and the extension of our concerns beyond the present has the effect of extending the ethical community beyond the here-and-now to our future selves, to our descendants and even to other species' (Slaughter 1990, p.816).

Are there ideas that, if explored and embraced, would support cooperative foresight? One such idea is the consideration of the rights of future generations. While individuals are not wholly responsible for the global problematique, individual and social complicity provide the grounds for taking a more active role in dealing with threats to future generations (Slaughter 1994). The parent has a natural predisposition to be concerned about the future of their child. This is certainly a biological enhancement which is elaborated by custom and social learning. There is also a clear psychological advantage in doing so as well. To live in ways that are clearly harmful for future generations is to diminish one's moral stature and sense of personal integrity. Caring for future generations may well have benefits for those alive now (Slaughter 1994). To promote ideas of stewardship, to encourage a belief that humans ought to behave as if their descendants will live on earth for millions of years, is not to act from an anthropocentric viewpoint but from one that it is decidedly ethical and compassionate to all life forms (Tonn 2002).

Another idea that, if adopted, would promote cooperative foresight is the idea of 'good fortune' and the ethics of sufficiency. Individuals have wants, both innocuous and noxious. Fortune is regarded as good when individuals, through their own actions, meet their physical needs for food, water, shelter and health. Yet good fortune alone cannot confer on individuals those secondary needs such as love, relationships, freedom, safety and education. These considerations cannot be attained by individual actions alone rather they are bestowed by society. 'Good fortune, then, is the enoughness we need for the expression of moral virtue' (Fricker 2002, p.431). Self-interest, then, is seen to operate against good fortune whereas to take an interest in the common good is recognised as a means to satisfying self-interest. A preferred future is a common good from which good fortune is conveyed to both the individual in the present and future generations. Sufficiency is the concept of satisfying a measure of present need in order to provide the capacity for building the common good and hence good fortune.

An allied thought here is the idea of attainment. It is noted that personal motivation tends to evolve towards emotional rather than cognitive needs as individuals mature (MacGregor 2003). Yet a culture that tends to equate wealth with the attainment of wellbeing is in conflict with this underlying psychological development.

A preoccupation with material development can be recognised as a maladaptive response to this internal/external conflict. Individuals feel a lack of attainment despite their material acquisitions, yet the cultural response is to encourage further material acquisition. Unsustainable practices are pointlessly encouraged while a sense of wellbeing remains elusive. If the focus were shifted to the development of consciousness, to the study of cultures that have emphasised consciousness and spirit rather than on the material world then the internal/external conflict would be minimised (MacGregor 2003). Attainment would cease the present conflict over scarce material resources that undermines cooperative thinking about the future. Instead cooperative foresight and attainment could work together to create widespread wellbeing.

The final ideas required for cooperative foresight are vulnerability and inequity. Globalisation of economies around the world turns benefits and risks, or goods and bads, into commodities that can be located anywhere on the globe. While 25 percent of the world is responsible for 80 percent of global consumption that same 25 percent does not bear a proportional share of the environmental risks caused by that consumption (de Souza Porto & de Freitas 2003). The limits of scientific language to grasping the ethical and qualitative aspects of life and social vulnerability make the obvious inequities in this situation invisible to most. Sustainable cooperation in thinking about the future cannot be achieved by making the points of potential conflict invisible. Like the internal/external conflict underpinning attainment, inequity is both felt and seen. Removing the evidence of inequity to assuage the conflict will not make the feeling of inequity go away. This is another of those boundary issues of our sense of ethical community. Social vulnerability in developing countries, and the sense of inequity caused by the same, cannot be reduced without the devising of new social policies, changing socio-political structures, the participation of involved actors and the enforcement of appropriate laws (de Souza Porto & de Freitas 2003). None of that can be done unless cooperative foresight is achieved.

While cooperative foresight will build social efforts there is still the matter that foresight as a capacity declines markedly when we move from individuals to organisations and then to societies. No form of social foresight will be sustainable until the factors behind this are identified and resolved.

Why is this? There are many reasons. One is public skepticism: too many believe that you cannot know anything about the future. Another is that short-term thinking is endemic. Another is avoidance, pure and simple. At one level people don't want to know about tomorrow; today is quite hard enough. Not far from this is fatalism (Slaughter 1996*c*, p.83).

In organisations, individuals have to find a basis to interact and communicate. Each person carries within themselves their own personal appreciative system and they base their actions on this. In part it arises from experience, in part from the appreciative system of the culture the individual is raised in and in part the other individual appreciative systems that the individual comes into contact with (Hadfield & Seaton 1999). Some appreciative systems contain built-in inertia, they cannot or do not wish to evolve or change from the interaction with other appreciative systems. A common reason for organising as a community is the sense of safety in numbers and also the greater instrumental power that comes from the many rather than the few. Internal conflict, disagreement, difference of viewpoint are seen as anathema to organisation. 'We need to get along to get along'. Conflict is suppressed, personal appreciative systems are put on hold when people organise. Individual agency is ceded to the organisational appreciative system. Organisation has a natural tendency to move towards conformity, accepted ways-of-knowing, a sense of certainty, to a single discourse, to the elevation of the rational and the suppression of the emotional or non-rational. In short, organisation is often antithetical to developing foresight along the process explained here.

The role played by education in developing cooperative foresight is of a more fundamental nature. If the education system is seen predominantly as a supplier for organisation, necessary for producing individuals with the types of skills and attitudes that make them 'fit in', then educational systems could exacerbate the conventional and conservative nature of organisations. 'A trend in adult education is to focus on the immediate needs of the learner and the short-term utility of education' (Ball 1999, p.259). At best this is an example of the former concern, producing organisable individuals for organisations, at worst this suggests an unwillingness to address broader fundamental questions facing present and future inhabitants of the planet. The long-term survival of individuals, in part, depends on the organisations that they are members of, their workplaces, communities and nationalities, supporting, developing and utilising futures thought. Incredibly foresightful individuals employed in organisations that are incredibly hindsightful will still result in overshoot and collapse on planet Earth.

Another more subtle factor detracting from cooperative foresight is the aggressiveness of our market-driven culture and its capacity to commercialise anything in order to add to its enormous array of consumer-based products. To some extent aspects of foresight have already been colonised by commercial interests in areas of strategy, marketing, research and planning. While this may be seen as the natural extension of 'pragmatic' foresight, what is of concern is if commercial interests were to become embedded in most forms of foresight. The activity of creating demands

and desires as markets for short-term satiation is explicitly not foresightful. Further, if those demands tend towards the material and external then those demands act to undermine the need for individuals to find satisfaction in an internal and external balance. Thus it seems necessary that non-corporate spaces be maintained in society for societal learning and cognitive praxis that commercial interests are denied entry to (Jamison 2003). Apart from the fact that commercial interests would tend to privilege those with means over those without means, it is self-evident that foresight is an emergent process, drawing from many sources of inspiration, and therefore space and support are needed for it to grow.

The final factor detracting from the emergence of cooperative foresight is the obvious lack of a futures discourse in most organisational situations, schools, communities, workplaces and governments.

Without a futures discourse the future is hidden from people who just don't think about it... futures concepts (sustainability, renewal, future generations, foresight, a wise culture) can be used to create a discourse which then enables an applied futures perspective... methodology can then handle data and extend the intellectual reach of those using them which then take on greater force when embodied in specific social contexts (education, future generations, strategic planning and risk assessment) (Slaughter 1996*a*, p.755-8).

A futures discourse would enable many more individuals to participate in, learn from and then engage in actions taken with an explicit forward view. A widespread conversation between individuals and organisations about the future would then call into question the next, and in some ways, most critical element, the quality of the images of the future. A high quality discourse with low quality images would not be a significant improvement upon the present. High quality images compel individuals and organisations to begin discussing them. One of the greatest attributes of homo sapiens is the ability to find inspiring and hopeful images in even the most adverse circumstances. This may be the single capacity that can do most to improve human prospects.

3.6 Chapter Summary

This chapter has discussed what the knowledgeable experts of the futures field have distinguished as the expression of human consciousness through the practice of foresight.

These experts observed that much of humanity adopted low-quality responses on those occasions when rational certainty failed, and that fear was underpinned those low-quality responses. A range of rational responses can allow higher-quality responses to the failure of certainty—remaining open, using knowledge surrogates, taking action and using dialogue. In addition a range of evolutionary responses can transcend the failure of certainty, namely trusting in hopeful and inspiring futures.

When foresight adopts a predominantly external viewpoint it narrows the range of interests that it can serve, it tends towards immoderate expression and in its extreme expression it can lead to de-futuring. The addition of an internal viewpoint tends to moderate the external expression and expand the range of interests that can be served. The range of interests served by foresight can encompass pragmatic, progressive and civilisational interests; however, each form is nested within the more extensive and inclusive form. Ultimately foresight cannot be about serving prevailing limited interests.

Foresight can act to promote knowledgeability in humans and as such it operates as a ‘higher-order’ language. Truly understanding the present is part of such a knowledgeability. Acknowledging that many of the prior actions of foresight have served the interests of those in power is also part of such a knowledgeability. Not seeing technology as neutral, standing outside the present and asking why we live in this world and not the others that are possible, is also part of such a knowledgeability. Instead of seeking stability, understanding surprise, limits, disturbance and transformation is likewise part of such knowledgeability. Noting the bias of Western institutions against foresight and the complicitness of science in the present situation is also part of this knowledgeability. Realising that discourse both constructs and describes the problem, that the West validates only a few select discourses and that language is not a neutral tool is also part of promoting this knowledgeability.

Finally the individual and the attendant sense of self is central to foresight. Perceptions of dissonance about the external situation leads to dissenting viewpoints and then to a deeper understanding of the self. New psychologies of thought and the use of the whole brain, not merely the abstract processing functions, are needed in order to transcend the self. Concepts such as sufficiency and attainment are manifestations of psychological development and they can arise from a discourse about the future. A socialised expression of foresight can arise from such a discourse provided support and space are granted within which it can flourish.

This chapter’s examination of the discipline’s literature supports the hypothesis that foresight capacity does develop in individuals and that, in theory, a social form of foresight can be developed. The chapter has outlined aspects of foresight that arise with such development; however, it has not specifically mapped the nature

of psychological development that underpins such aspects. The next chapter will examine theories of psychological development, seeking to identify those that can explain this chapter's findings. It will also establish the research methodology that can be tested in later chapters.

Chapter 4

Inside the Foresight Mind

4.1 Introduction

How is it that individuals conceive of the future? What does a survey of relevant psychological theory bring to an understanding of the development of foresight? The future is not something that can be empirically located and quantified. The future cannot be reduced to a mathematical proposition or formula. The future is not a 'received view' but is, instead, a 'constructed view'. To some this would mean that the study of the future is not scientific; that the only knowledge of any significance is that which is derived from the use of objective measures. Yet thinking about the future, in particular the practise of foresight, is not an abstract theory but is a biological and cultural fact. Thus we have an objective process that deals with a subjective construction. How then best to approach research into the practise of foresight? This chapter will consider, first, the understanding of how the consideration of foresight is best placed within research paradigms. It will examine past research and it will identify an appropriate research approach. The significant findings will then be assembled into a hypothetical model of how foresight could develop in individuals. Finally, the chapter will mount theoretical support for this model and present a researchable model.

4.2 Time through the Paradigms of Research

Kuhn (1970) framed the quest for human knowledge as one understood as a series of 'revolutions' in paradigms, or exemplars, of knowledge injunctions. Yet the paradigms themselves did not eventuate outside the knowledge quest but were brought forth specifically by the actions of deciding that a particular problem should be solved. Particularly:

[S]ince no paradigm ever solves all the problems it defines and since no two paradigms leave the same problems unsolved, paradigm debates always involve the question: Which problems is it more significant to have solved? Like the issue of competing standards, that question of values can be answered only in terms of the criteria that lie outside of normal science altogether, and it is that recourse to external criteria that makes paradigm debates revolutionary (Kuhn 1970, p.14).

How then to progress an understanding of how foresight might develop in individuals? Which of the prevailing paradigms of research will best assist in that inquiry? Is there a competition between paradigms in researching this question? What external criteria can be employed to resolve any competition?

4.2.1 Scientific Inquiry

Guba and Lincoln (1994) viewed research paradigms as a set of metaphysics that defined, for the individual who holds the paradigm, the nature of the world, an individual's place in it and the range of possible relationships to that world and its parts (p.107). Scientific inquiry has traditionally regarded the most useful propositions are those that are quantifiable and can be expressed in mathematical formulae which describe the functional relationships. 'Formulaic precision has enormous utility when the aim of science is the prediction and control of natural phenomena' (Guba & Lincoln 1994, p.106). In addition to the aims of prediction and control, scientific enquiry contains the very appealing idea of personal freedom, especially the idea of mastery of the natural world. The achievements of mathematics and physics have enabled humans to turn the tables on nature and gain a sense of control over it (Christians 2000). The scientific approach also became synonymous with the Enlightenment belief in social progress (Schwandt 1996). To be against the scientific method was, in effect, to be against social progress. Arguing for the consideration of things, other than empirical facts, smacked of theological repression and harked back to the days that preceded the Enlightenment. Other claimed advantageous properties of scientific inquiry were that it brought clarity to understanding and that it enabled actions to be taken with confidence. Philosophical critique without a positivist disposition tended 'to stress the arduous difficulty awaiting those who sought the truth' (Wolin 1972, p.23). Positivism separated philosophy from methodological inquiry and it advantaged the latter in preference to the former. Lincoln and Guba (2000) argued that the philosophical dimension might have been 'defined out' of scientific inquiry because of its association with 'religion' (p.174) which would support the view that scientific inquiry was as one with the secular notion of personal

freedom. Ultimately this took ethics down the path of utilitarianism.

In the utilitarian perspective, one validated an ethical position by hard evidence. You count the consequences for human happiness of one or another course, and you go with the one with the highest favourable total. What counts as human happiness was thought to be something conceptually unproblematic, a scientifically established domain of facts. One could abandon all metaphysical or theological factors which made ethical questions scientifically undecidable (Taylor 1982, p.138).

Yet does scientific research really support personal freedom? Could metaphysical and ethical considerations become unnecessary in social research?

The view that disinterested social research operated free of values and treats all things neutrally has been widely criticised. Foucault regards social science as a regime of 'power' that helps maintain social order by placing subjects into the chosen categories of the existing political authorities (Foucault 1979, pp. 170). Such research ignores the 'situatedness of power relations concerned with gender, sexual orientation, class, ethnicity, race and nationality' (Denzin & Lincoln 2000, p.272). It is hierarchical and biased towards patriarchy. It ignores how the researcher is implicated and embedded in the 'apparatus of the society' (Denzin & Lincoln 2000, p.272). Proponents of critical and constructivist approaches reject the notion that positivist research criteria are neutral. 'They see these criteria as irrelevant to their work and contend that such criteria reproduce only a certain kind of science, a science that silences too many voices' (Denzin & Lincoln 2000, p.10). In addition to challenging the ontological and philosophical assumptions that underlie positive and post-positive research, the usefulness and relevance of the findings are also questioned. Quantitative research methods can remove contextual variables in order to increase rigour but in doing so the relevance of the findings is reduced. Another problem faced by users of the positivist and post-positivist paradigm is that it cannot acknowledge the paradigm from which its viewpoint comes. 'It confuses the given cosmos with the worldview it has generated to shape the given' (Heron & Reason 1997, p.274). It is therefore implicitly blind to the way of its own seeing.

4.2.2 Relativistic Inquiry

Criticisms such as these have supported the adoption of research paradigms that move from ontological realism to ontological relativism, from positivism towards constructivism. The constructivist paradigm adopts the stance that the nature of 'reality' is relative and is apprehensible in multiple, mental constructions that

are both locally and socially based (Guba & Lincoln 1994). Knowledge from such a paradigmatic stance is both transactional and interpretative and it arises from the interaction of researcher and respondent. Another theme emerging from these criticisms was that the aims of social research could no longer be solely the neutral promotion of knowledge but that it should also encompass a better understanding of praxis (Schwandt 1996). The paradigm 'blindness' suffered by positivist research was to be overcome by social researchers reflecting on their own forms of social practise. 'Social inquiry seeks to examine a dialogical encounter dialogically' (Schwandt 1996, p.62).

Despite the stated 'improvements' arising from the adoption of critical and constructivist research approaches there were still points of concern. The most extreme criticism of positivism is found in Derrida (1981) deconstruction which holds that there are no transcendental grounds for truth. The problem with this, for critical and constructivist research, is that no ground can be said to have validity because there is always another ground beyond it. 'It thinks because no ground is final, no ground has any claim to truth' (Heron & Reason 1997, p.275). Accepting that criticism, then the researcher is left with a difficulty. 'Are these findings sufficiently authentic (isomorphic to some reality, trustworthy, related to the way others construct their social world) that I may trust myself in acting on their implications' (Lincoln & Guba 2000, 178). Without the capacity to determine validity then how can the claims of delivering social praxis be sustained? Isn't relativistic research without a ground of interpretational validity just as lacking in applicability and practicality as the 'received view' is? Relativism is not 'anything goes' (Smith & Deemer 2000, p.878). If constructivist social researchers wish to uncover a knowing which is 'instrumentally valuable as a means to social emancipation, which as an end in itself, is intrinsically valuable' (Lincoln & Guba 2000, p.172) then the challenge to its validity has to be answered.

4.2.3 The Systems of Time

Given the foregoing, are either of the two broad paradigms of research more appropriate to the question of how individuals conceive of the future? To address that question it is necessary to visit the philosophy of time. To venture very far into this area without appropriate guy ropes and a means of escape is to run the very real risk of disappearing without trace. To prevent this, only enough philosophical 'scaffolding' will be sought so as to give the paradigm question a basis in logic.

J. T. Fraser, who founded the International Society for the Study of Time and who is acknowledged as 'the world's foremost authority on the interdisciplinary study

of time' explained the individual's philosophical understanding of the conception of time in his 1982 book *The Genesis and Evolution of Time*.

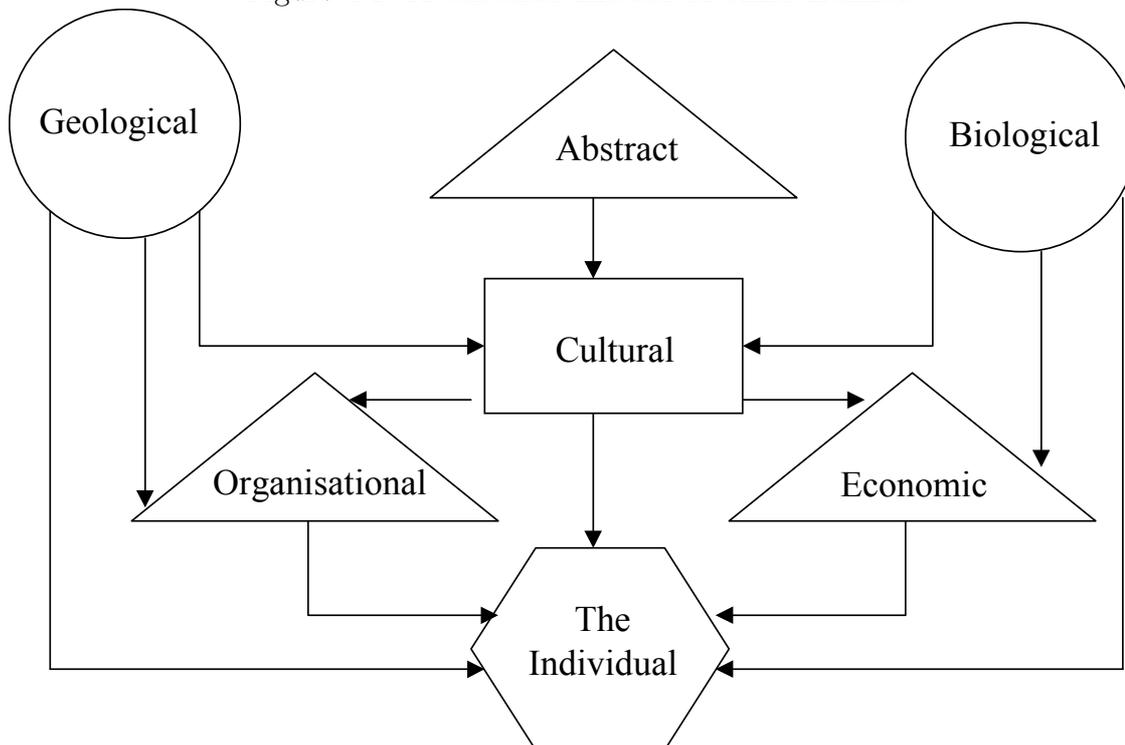
We begin by imagining a well-defined arrow: head, shaft and feather. The picture stands for the temporal umwelt [subjective universe] unique to the human mind. It is a time informed of sharp division between future and past, of long-term expectation and memory, and of a *mental present* with continuously changing boundaries. These are the hallmarks of the nootemporal umwelt. The term is coined from the Greek 'noos', which means mind or thought. The noetic umwelt is created by our capacity to produce symbolic transformations of experience and then manipulate them as part and parcel of reality. . . In the biotemporal world the mental present of the noetic umwelt reduces to the *living* or *physiological present*. In its highest reaches this is the category of the perceptual and cognitive set but without the mental content. The mental present of the noetic and physiological present of the biotemporal umwelt are two forms of nowness. It is with respect to nowness, or presentness, that future and past acquire meaning. . . The functional basis of the physiological or living present is the necessary internal temporal coordination of living organisms. The physiological present is the phenomenological witness to the *similtaneities of need* which must be maintained if the autonomy of a living organism is to be assured (Fraser 1982, p.29-30).

An organism experiences the present 'without time'. It successfully satisfies its physiological needs in this present or it does not maintain continuing autonomous existence. Homo sapiens shares this organic experience of the present. Through the human capacity for higher-order consciousness, however, a phenomenological experience of different 'systems of time' eventuates as well. These 'systems of time', with or without their attendant ideas of past, present and future, are successfully and coherently satisfied, or not, and via this process homo sapiens maintains an autonomous existence.

We have to reconcile the duality of an objective system that can be consensually validated and a subjective experience that is unique for each of us. The objective system that we share with others gives us a feeling of order, reason, and well-being in the world. But it can also predominate over our personal sense of time. . . some may look to the future with gloom, seeing it as a loss of youth and trying to deny the aging process. Others may see it as a time to prepare for by saving and

planning. Others may have a feeling of weakness, or lack of power and control over what will happen (Friedman 1982, p.162).

Figure 4.1: A cascade model of time frames



(McGrath & Kelly 1986, p.55)

Figure 4.1 shows a model of these ‘systems of time’. There is an *abstract* or *mathematical* time system that follows the Newtonian concept of time as a divisible, homogeneous series of instants that are both reversible and linear in their passage and are also abstract and exist independently of objects and events. In this system the future only differs from present and past in its temporality; apart from this it is contiguous with past and present. This system of time is compatible with the positivist research paradigm. While not being ‘real’ it is nevertheless apprehensible to the empirical mind. It can be experimented upon, can be verified by hypothesis and is typically examined through quantitative methods. This is also the dominant conception of time in Western culture.

There is also the *geological* time system that governs the physical universe. It differs from the abstract time system in that it is concrete, irreversible, unidirectional and has a real effect on objects. Under this system the future is a singular and largely predestined outcome of past and current processes. Like the abstract time system it is compatible with the positivist research paradigm. This time system has physical

reality, however, there are significant limits on the extent to which it is possible to manipulate experimentally all aspects of the physical universe. Unlike the abstract time system, the geological time system operates over time spans that dwarf human lifetimes. In some respects the geological time system, when framed through the individual human's time system, can seem 'timeless'. Through its immediacy and physicality it lends a sense of permanence to the individual positivist conceptions of time although this idea of permanence is fanciful considering the geological history of the earth.

There is the *biological* time system that governs the development of living organisms. It is very different to the abstract time system. It is irreversible but epigenetic in its development and is both relational and experiential. For relatively simple organic life forms, the research is still largely consistent with the positivist paradigm. The biological object can still be experimentally manipulated and hypotheses verified via quantitative methods. The positivist paradigm seems less appropriate once the organic subject becomes as complex as the researcher. The history of the study of human psychology, when viewed through these research paradigms, can be interpreted as the struggle between the positivist (behaviourism) and post-positivist (phenomenological) approaches. Psychology at its extremities has, on occasions, moved into the realms of the constructivist paradigm. The biological time system also provides a significant challenge to the individual's assimilation of time. The abstract, mathematical and geological time systems influence the individual assimilation of biological time towards a positivist resolution. This point will be elaborated later. Significantly, the future in this time system is both the attractive place of growth and also the fearful place of extinction. Biological future time appears as an existential counterpoint to geological time where the future is more a place of stability (within human time scales) and perpetuity.

Any culture must provide a value orientation schema that somehow 'embraces' and makes sense of both the universe as a physical system and the universe as an ecology of living systems as well. Furthermore, it must do so in a way that permits its members to carry out both its technological or instrumental requirements and its social or interpersonal requirements. But a culture can do that in various ways and can provide a more or less integrated schema. Our own culture does not offer its members a fully integrated set of value orientations. Some apply to its technological structures and some to its social structures, and these two subsets contain differing temporal conceptions (McGrath & Kelly 1986, p.54).

Thus each individual will also exist within a *culturally* ‘constructed’ system of time. That time system is propagated through processes such as social customs, religion, education, language, and institutions. It is not intended to explore the nature of this time system any further. It is sufficient to say that the different cultures have constructed different time systems throughout human history. The future, if conceived of at all, differs in each. At this juncture of human history the Western Enlightenment cultural worldview of time is dominant. The Enlightenment cultural worldview would claim to have evolved beyond the mythical worldviews that existed before it. Predominantly drawn from the discourses of mathematic, geological, and biological time systems it is, at its base, positivist with the prior moderating effect of powerful mythical religious worldviews. Two of its most widespread expressions in contemporary Western culture are the organisational and economic time systems.

In Western culture the *organisational* time system is dominant. In this system, time is unidirectional, homogeneous but it also follows cycles and is hence developmental. The organisational time system has a symbiotic relationship with the cultural time system. The seven day week arose from the Judeo-Christian biblical creation cycle but through the use of it in organisational settings the seven days encompassed the periods of time to be at work (workdays) and non-work (weekends). Likewise the movement of workers from rural employment to employment in factories saw the time cycle shift from climatic/seasonal to time clock and workshift. The future in the organisational time system here is singular, less an endpoint than a cycle, but also much less predestined than the geologic or mathematical future. Also, organisational time systems draw from biologic time systems concepts of birth, growth, decline and even death. Organisational time was traditionally researched from the post-positivist paradigm, especially in the ‘scientific’ study of organisations as in Frederick Taylor’s *The Principles of Scientific Management* (1911). In more recent times the research of organisational time systems has drawn from the constructivist through to the participatory paradigms. It is notable that most individuals in Western culture would have difficulty in conceiving of a cultural time system that did not mirror organisational time, such has been the dominance of that time system. Doubtless the power of the organisational time system has been redoubled through the impact of another, more recent, development in time systems.

This other, dominant, time system arising from, and also reshaping, Western culture is *economic*. Time is unidirectional and quantifiable. An economic ‘value’ is given to time which leads to time in this system being seen as precious, helpful, valuable and hence something to be allocated wisely. Importantly, the future under this time system is commonly valued through investment methods with the result that the future is ‘discounted’ in comparison to the present which is un-discounted.

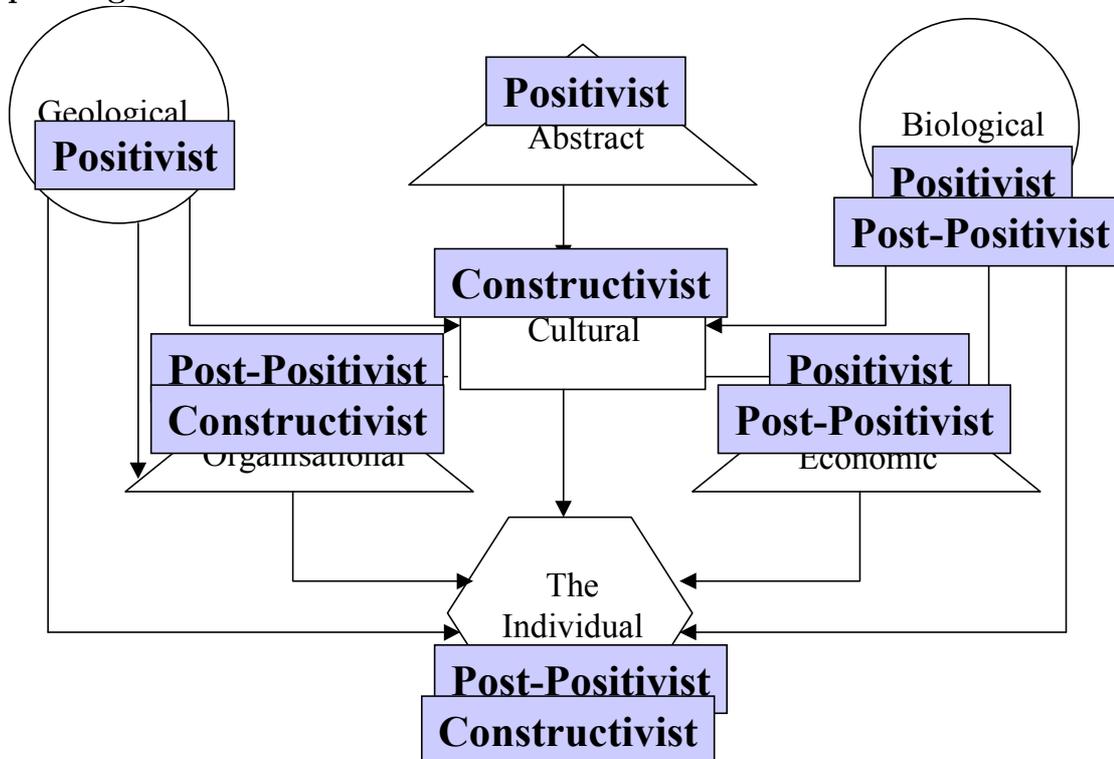
Economic time is predominantly researched from a positivist paradigm. Despite the fact that all economic value is based upon constructions and suspended assumptions, the methods employed in its research are strongly experimental, manipulative and positivist. While the positivist paradigm is maintained in many quarters, the constructed and assumptive base of economic time is becoming acknowledged. 'Economics is not a science but a grab bag of unverifiable and unrefutable propositions parading as principles' (Henderson 1996, p.70). As a result the post-positivist paradigm is accepted as a way of determining imperfect and probabilistic findings of economic 'truth'.

The organism is thus faced with five or six embedding systems, each with its own temporal conception, some of them sharply differing from one another. The individual must somehow deal with (we are tempted to say cope with) all of these conceptions with respect to each instant of time (or perhaps more accurately, with respect to the time referents of every event) (McGrath & Kelly 1986, p.55).

Figure 4.2 illustrates that the individual conception of time is a synthetic construction of these differing time systems and their attendant research paradigms. The time 'meaning' that an event has for an individual is largely dependent upon the time system associated with it. 'It is possible to change the meaning of events by changing the time conception with which those events are associated' (McGrath & Kelly 1986, p.63). The future, likewise, is conceived of differently depending on the associated time conception and its meaning too can be changed by altering the time system. Figure 4.2 represents a range of differing time systems that the individual can adopt in the conception of the future. The individual's choice, however, is circumscribed by the imposition of cultural norms as well as the individual's ability to reflect on their own conceptual structures.

The foregoing will form the basis for the following review of past inquiry into futures thought. Time arises from the mind's symbolic transformation of organic experience and then its manipulation as a meaning-making exercise. Successful organic autonomy is maintained when the coordination of experience and meaning is integrated. Certain time systems stand outside human experience and yet they still shape the mind's synthesis. Geological time is the time system of matter, as interpreted by the mind. Its symbolic significance is how the concepts of the geological time system, pre-human in event and beyond human in time scale, shape human interpretation. Abstract time is a 'perfect' conception of time that cannot be directly experienced by any human. Biological time is time experienced as both growth and decline. The other time systems are entirely human constructions. The

Figure 4.2: A modified cascade model of time frame and relevant research paradigms



concept of a 'future' or 'futures' is one such construction. Experiential meaning is 'time system' dependent. Change the time system and the meaning changes as well. Any specific conception of the future is an outcome of the particular time system adopted. The future 'meaning' of an individual future can be more or less predetermined, developmental, valuable or fearful depending on the particular time system the future is conceived through. An individual may be more or less able to exert agency over the time system through which particular experience is interpreted. All inquiry of future thought has occurred through time systems. Given that, how then has psychology understood future thought?

4.3 The psychological understanding of foresight

Psychology has not researched the individual capacity of foresight but it has researched the broader psychological concept of futures thought. Futures thought is the broad capacity to conceptualise an idea of the future and foresight would be a specific capacity arising from it. The psychological study of futures thought provides useful theoretical understandings from which a researchable hypothesis of how

foresight develops in the individual can be developed.

Psychology has commonly woven individual future thought with ideas of individual motivation.

The ability to foresee and anticipate, to make plans for and to organize future possibilities represents one of the most outstanding traits of man. This orientation ahead is more than an expression of the continuous effort towards a better adaptation between man and the world. The restless striving is just more than a drive for competence and display. . . Man's unique ability to conceptualize time enables him to anticipate and organize future possibilities and thereby to bring effects of future time into the psychological present (Gjesme 1983*a*, p.347).

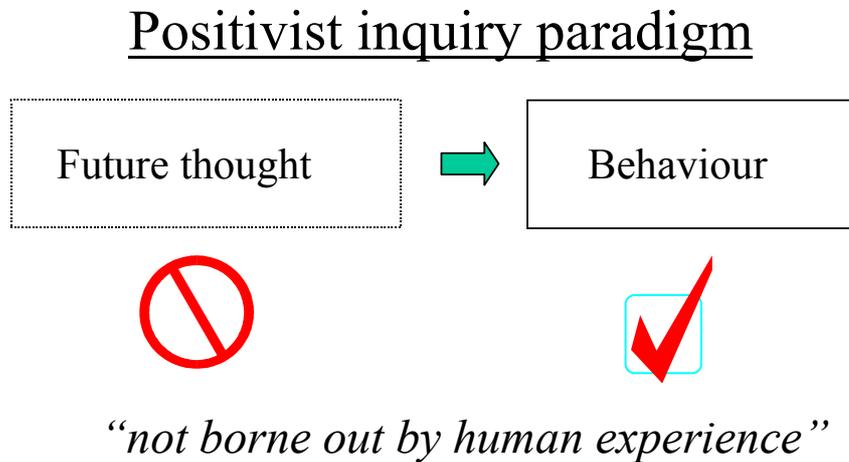
The taking of action can be seen to contain an element of future thought. 'On the behavioral level the object needed is something to strive for or achieve and this constitutes the behavioral future. . . the future is primarily motivation space' (Gjesme 1983*b*, p.446). Thus to study why individuals act, how they are motivated, is also to study how individuals think about the future. Much of the early psychological theory about individual action was founded upon the view that human behaviour was shaped and controlled automatically and mechanically by environmental stimuli (Bandura 2001, p.2). This theory's two key assumptions were that:

- only material events could be causal, and
- only entities that were directly, externally perceivable could be admitted into the realm of science.

Motivational psychologists kept to these assumptions by externalising or materialising their key concepts. Skinner externalised motivation by attributing it to reinforcers while drive-reduction theorists, like Hull, kept motivation inside the organism but attributed it to strictly physiological mechanisms (Locke 1996). This was the application of the positivist research paradigm to futures thought as shown in Figure 4.3 where the study of material behaviour would lead to understanding of future thought. Yet this type of theorising led to a research dead end as it had to ignore time as a concept. 'Behavioural research was hard put to include time as a variable, in that it is closely linked to the phenomenal aspects of our experience of time and is not a physiological factor' (Fraise 1984, p.3).

Beginning in the late 1960s the positivist paradigm in psychology began to fall apart for a number of reasons. First it had lost support in philosophy. Second the materialist approach did not work. Human action

Figure 4.3: The positivist paradigm to future thought



cannot, in fact, be understood by looking at man only from the outside or only at his internal physiology. The recognition of these facts ushered in the ‘cognitive revolution’ in psychology (Locke 1996, p.117).

Instead of studying motivation as if it were impersonal, instinctual and even unconscious, psychologists began to focus on self-relevant thoughts as behavioural mediators in order to personalise motivation (Leonardi, Syngollitou & Kiosseoglou 1998). The centrality of consciousness to both motivation generally, and future thought specifically, was admitted. ‘Without a phenomenal and functional consciousness people are essentially higher-level automatons undergoing actions devoid of any subjectivity or conscious control’ (Bandura 2001, p.3). This was a revolution in the study of future thought, the type of revolution described by Kuhn. The positivist paradigm was answering a different research question, one that was not useful for understanding human thought. The admission of human consciousness, in some manner, to futures thought brought forth the post-positivist and constructivist research paradigms and their inquiry questions. On reflection, without this change occurring, it is inconceivable that the conception of future time in individual thought could be usefully researched at all. It is the uniquely human capacity for contrasting present reality with possible futures that establishes a behavioural commitment to act (Oettingen 2000). ‘Forethoughtful, generative and reflective capabilities are, therefore, vital ones for survival and human progress’ (Bandura 2001, p.3). Cognitive psychology provided the post-positivist theoretical basis upon which the understanding of how future thought occurs in individuals could be studied.

4.3.1 Cognitivism and Future Time Perspective

What is specific for human beings is that we have, with cognitive means, increased the range and the precision of usable natural rules so much that we can extend our inferences into the distant past or distant future (Toda 1983, p.353).

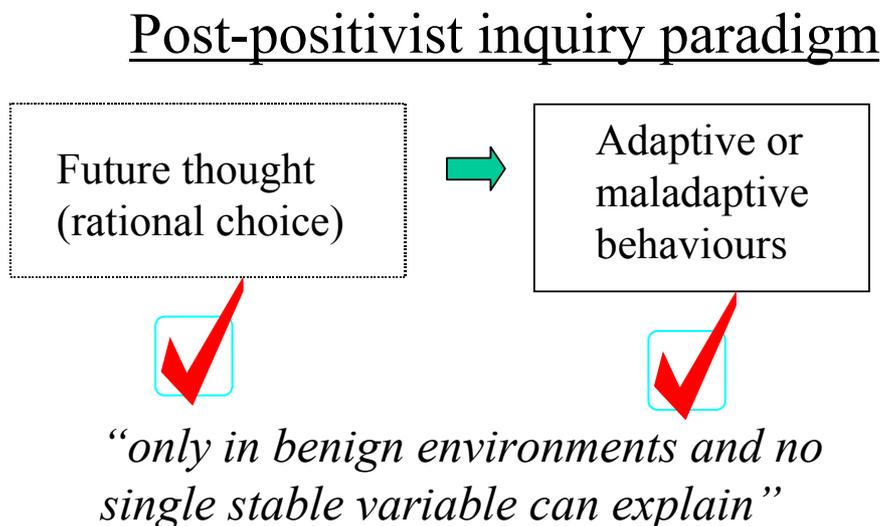
The essence of cognitivism is flexibility and adaptation. The mind must be able to depict stable internal representations of the environments in which it operates. It is the representation of order and predictability that gives much of the confidence needed to act. Such representation is an example of an integrative operation between meaning and experience that is necessary to maintain organic autonomy. Conversely to guide behaviour in a truly flexible manner, the mind must also be able to respond to the presence of the unexpected. Macrae & Bodenhausen (2000) argue that an adaptive mind is one that enables its owner to override automated action plans and produce novel behavioural outputs as and when those responses are required.

What was new in the cognitive system operation was that it went beyond building object representations and started to build a world representation. Once such a world representation is obtained, it aids the cognitive system operations by providing a reliable context for planning one's future behaviour (Toda 1983, p.361).

Cognitivism believed that the mind placed objects into an environmental context which permitted both a sense of balanced autonomy and also flexibility in behaviours. 'The ability to bring anticipated outcomes to bear on current activities promotes foresightful behaviours. It enables people to transcend the dictates of their immediate environment and shape and regulate the present to fit a desired future' (Bandura 2001, p.7). Behaviourism, coming from the positivist paradigm, gives no consideration to cognitive processes. Cognitivism, coming from the post-positivist paradigm, placed the mind in the process in order to acknowledge human will. That representation of human cognitive functioning, however, was regarded as 'cold cognition' since it assumed that the mind operated from 'rational choice'; Figure 4.4 depicts the idea of the mind in total control of the emotions. 'Decision makers are supposed to rationally calculate for all possible courses of actions the utility of each possible outcome, and weigh the utilities with the probability that each outcome will occur' (Zeelenberg 1999, p.2).

Yet such a model of cognition flies in the face of the fact that thoughts can be felt as, more or less, positive or threatening, as well as the finding that emotions do effect decisions made. One study found affect to have a greater influence on

Figure 4.4: The post-positivist paradigm of future thought



judgements, in direct correlation with the elaboration of the thinking used. It was theorised that affect has less influence when situations are more familiar and so less elaborate thinking is needed (Ciarrochi, Forgas & Mayer 2001). In those situations habitual thinking is activated and affective influence is minimised; whereas, when the situation is abnormal and the thinking is elaborated then affective influence is maximised. As futures thinking tends to be practised in non-habitual situations, and hence its approach is likely to employ elaborated thinking, then it follows that the affective influence on futures thought may be significant. Affect could colour and even override cognition of the future. Removing affect as a variable was not the answer. To do so was to weaken any methodological basis of research. The central point was not whether affect was a dimension of future orientation, it was, but whether affect could be consciously shaped by individual cognition. Could an individual, affect notwithstanding, make decisions that led towards healthy outcomes? Did future thought play a role in those decisions?

4.3.2 The clinical interest in futures thinking

There is a body of research into future orientation in individuals that has a strong clinical interest.

Most if not all, research on future time perspective has been guided by clinical interest, following the general assumption that an extended future time perspective leads to a well-adapted and psychologically healthy

personality. To bring the future into the present, the individual has to have, or develop, the capacity to plan his or her activities. Planning is facilitated by developing proximate goals that intervene between one's present state and the desired ultimate, distant goal (Seijts 1998, p.2).

On the first reading this research 'gives the impression that a well-structured and extended future orientation is a characteristic of a well-adapted personality... and allows for activities that are highly valued in our culture' (Trommsdorff 1983, p.381). The underlying logic beneath this impression is that futures thinking leads to goal setting which leads to plans which leads to positive outcomes and healthy personality (Figure 4.5).

Figure 4.5: **The Logic of the Clinical Interest in Futures Thinking**

Future thinking → Goal setting → Planning → Positive outcomes → Healthy personality

The research into extrinsic and intrinsic goals supports this logic. Intrinsic goals are orientated towards growth relevant, inherently satisfying activities, whereas extrinsic goals are more focused on the attainment of external rewards and praise (Husman & Lens 1999).

As predicted, the extent to which strivings to bring about intrinsic futures was correlated with more positive well-being outcomes than was the extent to which strivings to bring about extrinsic futures. In addition, participants whose strivings helped bring about intrinsic futures were more likely to be autonomously orientated and to engage in meaningful activities, whereas participants whose strivings helped extrinsic futures were more likely to be control orientated and to engage in distracting activities (Sheldon & Kasser 1995, p.540).

This type of research demonstrated a strong correlation between life conditions that supported 'intrinsic futures thinking' and a healthy personality. Other research, however, failed to find the same strong correlation.

Other clinical interest research sought to determine the significant correlates between other personal variables and future thought. The relation between variables such as anxiety, dogmatism, internal control, achievement motivation, schizophrenia, delay of gratification, consuming behaviour and future thought were all studied. 'In some of these studies, such relations are significant in the expected direction, in other studies, relations between future orientation and behaviour are mediated

by other variables, or do not emerge at all' (Trommsdorff 1983, p.385). In short: 'investigations in this field can form almost any conclusion you prefer to draw. The inconclusiveness of empirical findings is almost complete' (Gjesme 1983*b*, p.445). The inability of the clinical research to clearly determine the individual personality correlates saw the conclusion reached that future thought is:

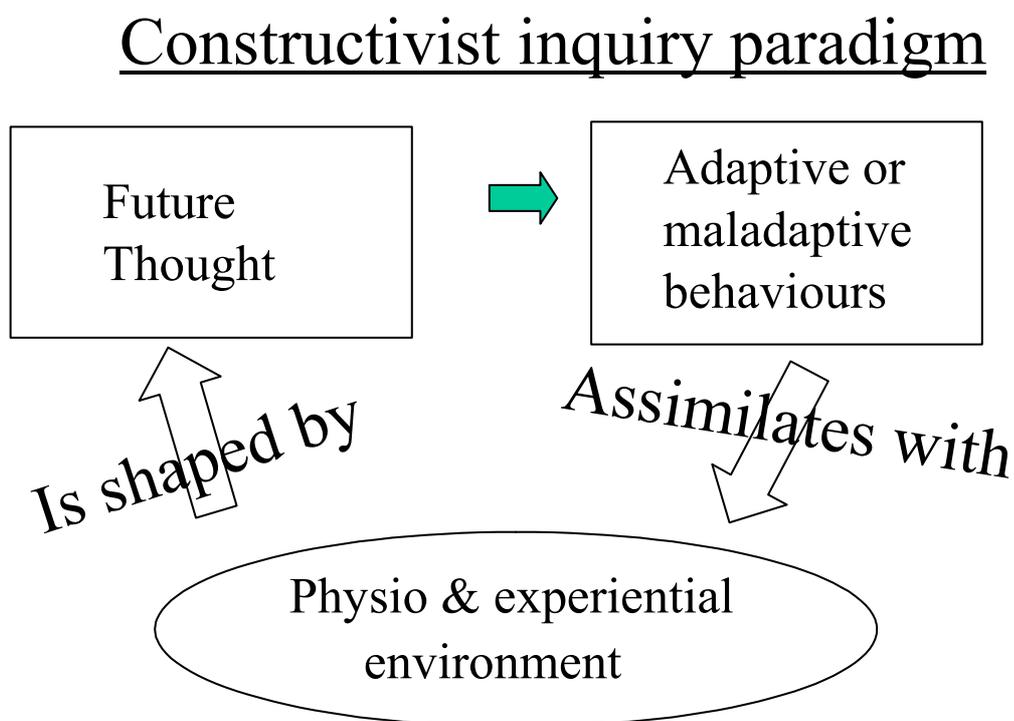
a multi-dimensional cognitive-motivational construct: cognitive schemata on the subjective future may be differentiated according to their temporal and causal structure and underlying subjective judgements of future events as more or less probable; the motivational and affective quality of the subjective future may be differentiated according to the affective quality of the future (as more or less positive or threatening) and its specific thematic content (goals)... The nature of systemic relations between future orientation and other personal variables is very unclear (Trommsdorff 1983, p.384).

The clinical research that sought to demonstrate the assumed relationship between future thought and 'highly valued actions' was largely inconclusive. No single personality factor could account for future thought in individuals. Research that studied future thought, however, through environmental and social factors uncovered a different hypothesis.

Klineberg (1967) found that an extended future orientation did not necessarily indicate a well-adapted personality. Well-adjusted adolescents had a shorter but more realistic future time perspective than maladjusted adolescents who were more influenced by wishful-thinking. Other research demonstrated that delinquents realistically structured their future more through fear than hope. This made sense given that in the life conditions of a delinquent most of the problems to be coped with will be found in the near future while the distant future can not be expected to be a positive one (Trommsdorff 1983). That socially disadvantaged groups would realistically avoid anticipations of the future, as they most probably are associated with pessimistic outcomes, was also supported by Shannon (1975). While Anglo-American adolescents developed a more extended future orientation, Indian and Mexican Americans did not develop such an extension (Shannon 1975). The similar conclusion drawn was that these minority groups had learned about the future difficulties that they would face in attaining the same goals as the majority group. Another study found that high and prolonged deprivation shortened individual's future time orientation. Importantly this study found that the deprivation of physio-economic comforts did not have a significant effect while the deprivation of the experiential dimension significantly and adversely affected future orientation. 'The

present findings show that in spite of highly deprived physio-economic conditions, one can learn to be future orientated and plan for future opportunities provided one receives adequate parenting, emotional, motivational and educational experiences' (Agarwal, Tripathi & Srivastava 1983, p.377). In summary, the clinically orientated research found that environment and experience significantly shaped future thought. These findings, and their underlying logics, are consistent with the constructivist research paradigm as is shown in Figure 4.6. Future thought is shaped by the environment while the behaviours that arise from that mode of futures thought seek environmental assimilation.

Figure 4.6: The constructivist paradigm of future thought



“What is shaped and what assimilates?”

Deprivation in the experiential, rather than physio-economic, domain was most significant in the development of future thought. Given benign environmental and experiential conditions then aspects of personality did play a role, however, no single personality factor could reliably explain future time development in individuals. The conclusion drawn was that future orientation was a multi-dimensional cognitive construct but the nature of how that construct operated was not clear. Beyond these findings, further understanding can be drawn from ideas of how this interac-

tion between environment, experience and future thought occurs. The theories of developmental psychology are useful here.

4.3.3 Developmental Psychology and Futures Thinking

Empirical evidence suggests that future time perspective is a cognitive structure rather than a stable disposition. First the capacity to experience time, and estimate it, has been found to be a gradually developing characteristic. The ability to extend the idea of time into both the past and the future continues to develop with age (Seijts 1998, p.3).

What is the dynamic of this developmental process? What is it that is developing? The clinical studies were observing the behavioural manifestations of futures thought. Was thinking past, present or future focused? If future focused, how far did it extend into the future? How coherent and organised was the future thought? While development in those behavioural manifestations can be observed, that does not reveal why or how the future thought developmental dynamic occurs. That question can be usefully addressed through a closer examination of the process of how environment and experience affect cognition.

To know is to assimilate reality into systems of transformations. To know is to transform reality in order to understand how a certain state is brought about... Knowing reality means constructing systems of transformations that correspond, more or less adequately, to reality. The transformational nature of which knowledge consists are not copies of the transformations in reality; they are simply possible isomorphic models among which experience can enable us to choose. Knowledge, then, is a system of transformations that become progressively adequate (Piaget 1970, p.15).

It was Jean Piaget's study of the development of cognition in children that uncovered the essential point that thinking is a self-created structure which seeks to assimilate reality. This is the symbolic transformation of organic experience that the philosophy of time theorised about. Cognition does not develop from deficient forms to efficient forms but rather each structure of cognition provides an adequate assimilation of reality at that moment. Each structure of thought maintains the coordination of experience and environment that is necessary to ensure psychological autonomy. Subsequent structures of thought assimilate a greater range of experiences and environments and thereby become more adequate. Piaget showed that

the developmental patterning of these structures in children was isomorphic. The children were not copying the thinking of others. Instead they were developing their own assimilative structures and the nature of these patterns of thinking uncovered an underlying developmental structure in individual cognition. Considering future thought from within developmental psychology provides a ‘more adequate’ understanding of the dynamic of the process.

Concepts of time develop in a way similar to concepts of space, volume or matter; e.g. the child derives concepts of time from relationships among more simple concepts such as work and power. Accordingly one has to assume that formal operational intelligence enables the child to anticipate consequences and to think in terms of future possibilities instead of simple prolongation of actions or operations. . . [Klineberg] shows that, under normal conditions of cognitive development, older children (between 14 and 16 years) are able to anticipate future developments and extend their future time perspective realistically. Unsuccessful persons fail to develop an extended future orientation since—from a realistic point of view—the future will bring them undesired developments. Klineberg’s study supports Piaget’s cognitive theory on the development of time perspective; furthermore it shows very clearly that besides endogenous factors, such as cognitive maturation, the development of future orientation is influenced by situational factors such as social and economic conditions (Trommsdorff 1983, p.389-90).

Here again the centrality of environment and experience on future thought is restated. Given benign life conditions then future thought should develop as cognition matures. If the life conditions allow, then structures of thought can increase the adequacy of environmental and experience assimilation. This is now close to a researchable hypothesis of how foresight develops in individuals. Still missing, however, is an understanding of what does the ‘assimilating’. The idea of a cognising ‘self’ is relevant here.

4.3.4 The Self and Futures Thought

What is meant by the term ‘self’?

The self regulates behaviour, sets goals and expectations, motivates performance to meet these goals, monitors performance on different tasks and evaluates whether performance fulfilled the goals. Motivation, in the light of this theory, is seen not as a generalised disposition or a set of

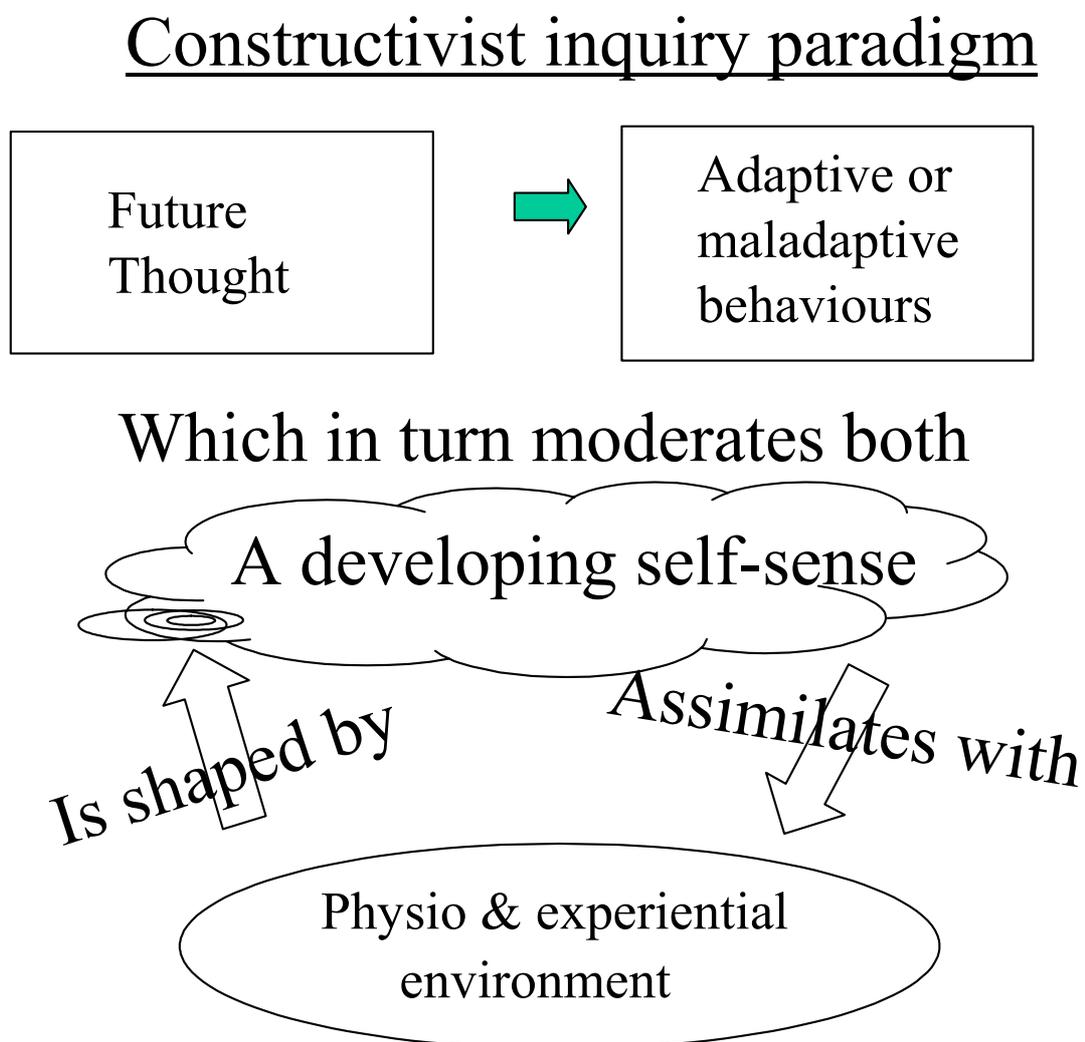
specific goals but as a reflection on what individuals hope to accomplish with their life and the kind of people they would like to become. Possible selves are defined as conceptions of the self in future states. They are thought to derive from representations of the self in the past and to include representations of the self in the future. They are considered different and separable from the now of current selves but intimately connected to them. They are regarded as the cognitive manifestations of enduring aspirations and motives (Leonardi et al. 1998, p.154).

This journey along the pathway of futures has now travelled a considerable distance from the deterministic presumptions that underpinned behaviourism. The clinical research into future thought concentrated upon the study of behaviour, particularly maladaptive behaviours, as that interest was directed towards the encouragement of what was healthy and the discouragement of what was harmful. While laudable, adopting a positivist research paradigm towards the study of futures thought ignores the point that the future can only be subjectively understood. The future is a symbolic construction of the individual mind. While these constructions do manifest in observable behaviours that does not change the essential subjective ground and nature of the thinking. Furthermore, while futures thought can be seen as an operation of cognition it does not arise solely from cognition. Rather, the idea of a conative and agentic self that co-creates the concept of 'future' in order to find adequate assimilation of their experiences and environment is fundamental to its understanding (see Figure 4.7). Now a sense of self develops through environment interaction and, in turn, this moderates futures thought and futures behaviours.

Although the dominant paradigm in psychology is skewed towards a deterministic perspective, there is a rich history and strong support for a phenomenological perspective. For example, the work of James (1890) was largely based on this perspective, from which he identified a number of 'I' processes, including awareness of one's (a) personal continuity over time, (b) distinctiveness, (c) agency over life events, and (d) volition (McCombs & Marzano 1990, p.53).

The individual assimilation of experience and environment is aided by the development of a healthy 'ego' or self-sense. One attribute of a healthy ego or self-sense is the belief in an internal-external control dynamic. Without an individual sense of internal control, 'events are essentially unpredictable because they depend on external forces, whereas in the case of internal control they are predictable for they

Figure 4.7: The 'self' moderated constructivist paradigm of future thought



depend on what the person believes is his own initiative. This involves a certain confidence in planning and visualizing the future' (Rabin 1978, p.299). The individual sense of their potential agency over environment and experience arises here. 'The individual's awareness of the self as an agent is a key factor in motivating behaviour' (Leonardi et al. 1998, p.153). Without the sense of the 'I' who acts, individual behaviour is reduced to the mere reflex or reaction to stimulus or drive of the kind promulgated by behaviourism. The self involves not only an 'I' but also an 'ego'.

Defining the ego is difficult in the same way that defining life is. Air and water are not living beings. When one drinks water or breathes air, at

what point does it become part of a living object?... If we think of life as being a process of interchange with the environment, the question loses point. There is no problem... Piaget uses the term mobile equilibrium—the more mobile, the more stable. The striving to master, to integrate, to make sense of experience is not one ego function among many but the essence of ego (Loevinger 1976, p.58-9).

The future, therefore, is the motivational space of the ego or the cognising self. It is the place where the self, as agent, anticipates the outcomes of its present-based behaviours. As foresight is both the capacity to bring a consideration of the future into the present, and also a range of actions based upon that consideration, then the idea of a cognisant self draws the psychological research into futures thought close to the research aims of this thesis. Such a motivational space, however, is not necessarily a consciously accessible space. The future only fully becomes an accessible space for thinking ‘about’ through the advent of metacognition.

4.3.5 Metacognition and its role in creating agentic futures thought

Metacognition is the capacity of the individual to understand their thinking, ‘as an operation itself’, and thus to see themselves as not only having agency over their behaviours but also agency over the thinking that precedes behaviour.

People are not only agents of action but also self-examiners of their own functioning. The metacognitive capability to reflect upon oneself and the adequacy of one’s thoughts and actions is another distinctly core human feature of agency. Through reflective self-consciousness, people evaluate their motivation, values and meaning of their life pursuits... Among the mechanisms of personal agency none is more central or pervasive than people’s belief in their capability to exercise some measure of control over their own functioning and over environmental events. Efficacy beliefs are the foundation of human agency (Bandura 2001, p.10).

Metacognition, in effect, allows for the assimilation of not only consciousness, but also self-consciousness with experience and environment. The operations of metacognition can also be reflected upon ‘metacognitively’, thereby dynamically accelerating the assimilative process.

Thus metacognitive understanding is not a process of intellectually constructing a schema that includes the role of self, but is an ongoing process

of progressively deeper insights or realizations that, in turn, lead to an awareness, or conscious understanding of self as agent. . . the metacognitive, cognitive, and affective systems are more accurately described as subsystems operating in support of the self. They reside functionally under the control of the self as agent—under the control of the ‘I’—the experience of being and volitional agency (McCombs & Marzano 1990, p.54).

Metacognition can be described as the cognitive process of the ‘self-as-agent’. The ability to bring a level of understanding above the operations of instinct, emotion and thought create the possibility of consciously ‘regulating the use of these knowledge structures in support of personal goals, intentions and choices. A realization of self as agent automatically leads to self-determined purposefulness’ (McCombs & Marzano 1990, p.55). It is hypothesised that metacognition could play a major role in the development of individual foresight. The self as conscious agent has been studied by a number of psychologists and at least three of these have developed reliable instruments that measure specific aspects of the ‘self-as-agent’. Inquiry into the nature and development of future thought has not employed the theories of these ‘self-as-agent’ psychologists. This research will seek to prove the applicability of those theories to the study of foresight.

4.4 The Hypothetical Model to be tested in the Empirical Research

Research into psychological development by a great number of researchers has found that individual psychology tends to evolve in a sequential, hierarchical fashion. Higher stages tend to build upon or incorporate the earlier ones and no stage can be skipped (Wilber 2000*b*). The nature of this development has become increasingly differentiated over time and many ‘different’ developmental ‘lines’ have been researched. This hypothetical model of how foresight emerges in the individual will focus on four of these ‘lines’: cognitive, self-sense, moral-sense and values. These ‘lines’ have a strong correlation with the way an individual would conceive of and employ foresight.

The work of four researchers will be examined in detail: Jean Piaget’s identification of the stages of intellectual development, Jane Loevinger’s ego development, Lawrence Kohlberg’s moralisation of judgement and Clare Graves’ waves of development. Also the work of Ken Wilber in synthesising the work of these researchers, and many others, will be examined.

4.4.1 Piaget and the Stages of Intellectual Development

Jean Piaget studied the language and thoughts of pre-school and early school age children. His research suggested that a child went through a series of hierarchical stages of development as shown in Table 4.1. Piaget did not study whether children's conceptions of morality conformed to adult thinking. Instead he studied how moral judgement developed in the child, unhindered by adult judgement.

4.4.1.1 Piaget's Stages

The first stage was called *sensorimotor* (birth to 2 years). Here the actions of the child begin as reflex and then progressively develop to assimilate and accommodate new objects into their activities. Knowledge arises from action orientated schemas interacting with the environment, effectively knowledge is knowing what to do.

Following the sensorimotor period, the child enters the *preoperational* stage, between 2 to 7 years. The preoperational child's thoughts are egocentric and fasten onto a single, concrete, external feature of an object or situation as an explanation of whatever is questioned. The action-schemas of the sensorimotor stage become internalised and can be represented in thought, but thinking here is moment-to-moment, a present without past or future.

It is a useful and only slightly misleading generalization about the preoperational child that he has no stable, enduring and internally consistent cognitive organization, no system-in-equilibrium, with which to order, relate, and make coherent, the world around him. His cognitive life, like his affective life, tends to be an unstable, discontinuous, moment-to-moment one (Flavell 1963, p.158).

Next comes the *concrete operational* stage, at 7 to 11 years where the child's reasoning is more or less correct but only with respect to concrete and perceptible things. The difference here is that the child can organise and manipulate the world around him. (if A is older than B and C is younger than B, then a child at the concrete operational stage will determine that A is older than C). The child progressively masters conservation: volume, weight and mass. The thinking is based in the actual only and areas of thought in different domains remain unrelated. The thinking extrapolates from the existing to the potential. Future thought, if it occurs, would be predominantly projections of concrete reality into the future. Possible futures could only include points that have actually been concretely experienced.

The structures of concrete operations are. . . rather like parking lots whose individual spaces are now occupied, now empty; the spaces themselves

endure, however (as they would not in the preoperational child), and lead their owner to look beyond the cars actually present to the potential future occupants of the vacant and vacant-to-be spaces (Flavell 1963, p.203).

Finally, in the *formal operational* stage, at age 11 years and older, the person reasons essentially correctly, even for hypothetical possibilities. Piaget described this type of reasoning as reversible operations or operations on operations. He did not state that all adults reach the stage of formal operational thought although he did regard that this stage ‘can be conceived of as final in the sense that it is not modified during the lifespan of the individual (although it may be integrated into larger systems)’ (Inhelder & Piaget 1958, p.332). This thinking reverses the concrete orientation of actual to potential and reasons from potential to actual. What is real is just one point of what was possible. The thinker can imagine beyond the proximate reality and can also think about actions removed in space and time. ‘Through a consideration of prior causes and consequent effects of current activity, past and future are constructed’ (Rosenberg, Ward & Chilton 1988, p.106).

4.4.1.2 Piaget and subject-object equilibrium

To highlight the assimilation process undertaken by the ‘self’ and its environment Piaget’s developmental structure is usefully examined through the process of mapping the ‘subject-object’ equilibrium (Kegan 1982, p.39). At any given stage there is an equilibrium between the subject and the object of its cognition. As the individual’s cognition ‘develops’, what actually occurs is that they become aware of their own subject[-ive] nature. They begin to see this subjective nature as a potential object of their attention; they notice this subjectivity in other objects. In order to regain equilibrium the individual adopts a new subject, or self, stance to the newly cognised object. In short, the subject develops in the manner shown in Table 4.1.

Table 4.1: **Piaget and the Stages of Intellectual Development**

Stage	Subject	Object
Sensorimotor	Action and Sensation	(None)
Preoperational	Perceptions	Actions and Sensations
Concrete Operational	Actualities	Perceptions
Formal Operational	Possibilities	Actualities

(Kegan 1982)

At the sensorimotor stage the subject is operating with an undifferentiated structure of thought. What passes for thought is actions and sensation. The ‘self’ of the

subject is not different to the objects of the self's environment. Without any delineation of self there is no object. There is a subject-object equilibrium, of a kind, because the two are fused together.

The development of preoperational thought begins when the subject perceives that 'it' does these actions and 'it' has these sensations. An awareness of others acting would be perceived too. An object now exists. The form of subjective thought is 'perception' and the object of those thoughts are 'actions and sensation'. A new subject-object equilibrium is reached.

The next stage of intellectual development, the concrete operational stage, begins when the subject becomes aware of its perceptions. Not, 'I am' my perceptions, but, 'I have' these perceptions. Perceptions become the object and the subject stance adopted is a focus on the actual. This is the stage of quantification and measurement. What Piaget called 'reversibles',

$$\text{if } A > B \text{ and } B > C \text{ then } A > C$$

True hypothetical thinking has not yet emerged at this stage. Importance, at this stage, is a function of what objectively happens; a judgement of objective responsibility.

Finally, in the formal operational stage, the subject becomes aware of the actualities, these now become the object. The subjective stance adopted is the possibility of the actuality: in effect hypothetical thought. The actual is no longer the only instance, the possible becomes another instance. Piaget referred to this as the 'operations on operations'. Importance is now a function of intention not actuality, a judgement of subjective responsibility.

Thus individual intellectual development occurs through the self's structure of thought moving from fusion to perceptions to actualities and finally possibilities. Piaget named the stage of self that underlies each of those structures of thought the *ego* and each of the intellectual stages also correlate with a stage of *egocentrism* or ego-centeredness.

4.4.1.3 Piaget and egocentrism

Piaget's research had broader application than just the development of thinking in children. Of particular relevance to adults generally, and foresight specifically, is the concept of egocentrism which underlies the stages of intellectual development. For Piaget the ego was the unifier of the stages. It was the subject examining the environmental object. It was the point of equilibrium that sensed disequilibrium and then regained equilibrium with the next stage of development. 'The concept of

intellectual development as a movement from structured disequilibrium to structural equilibrium, repeating itself at ever higher levels of functioning, is a central concept for Piaget' (Flavell 1963, p.21).

While many definitions of egocentrism exist two particular ways of defining it are useful for this research. For Piaget 'egocentrism signifies the absence of both self-perception and objectivity' (Piaget 1977, p.xiii).

The concept of egocentrism is a most important one in Piaget's thinking... It denotes a cognitive state in which the cognizer sees the world from a single point of view only—his own—but without knowledge of the existence of (other) viewpoints or perspectives and, a fortiori, without awareness that he is a prisoner of his own (Flavell 1963, p.60).

The second definition signifies the focus of attention brought by the subject. 'Egocentrism begins by focusing on the periphery and only gradually moves to the center' (Rosenberg et al. 1988, p.51). The egocentric perspective focuses on the immediately observable and perceptible. It neglects what is internal and subjective. It attends to effect and not the cause. It focuses on the surface at the expense of the underlying process. Each of Piaget's stages of intellectual development are characterised by a lessening of egocentrism. In each stage self-perception and objectivity grow while the focus of attention moves from the periphery to the centre.

We have seen how these successive constructions always involve a decentering of the initial egocentric point of view in order to place it in an ever-broader coordination of relations and concepts, so that each new terminal grouping further integrates the subject's activity by adapting it to an ever widening reality (Piaget 1977, p.69).

It is this decentering process that foreshadows how Piaget's structures of children's intellectual development translates to adult development and this, specifically, is why it is a useful theory for the study of foresight. When Piaget referred to the formal operational stage as final he was referring to the logic of the intellectual schemata. A child who has developed formal operational thinking has the mechanism for hypothetical reasoning. However the child does not have complete awareness of the social environments in which that reasoning is employed in social roles.

The maturation of the nervous system can do no more than determine the totality of possibilities and impossibilities at a given stage. A particular social environment remains indispensable for the realization of these possibilities. It follows that their realization can be accelerated or

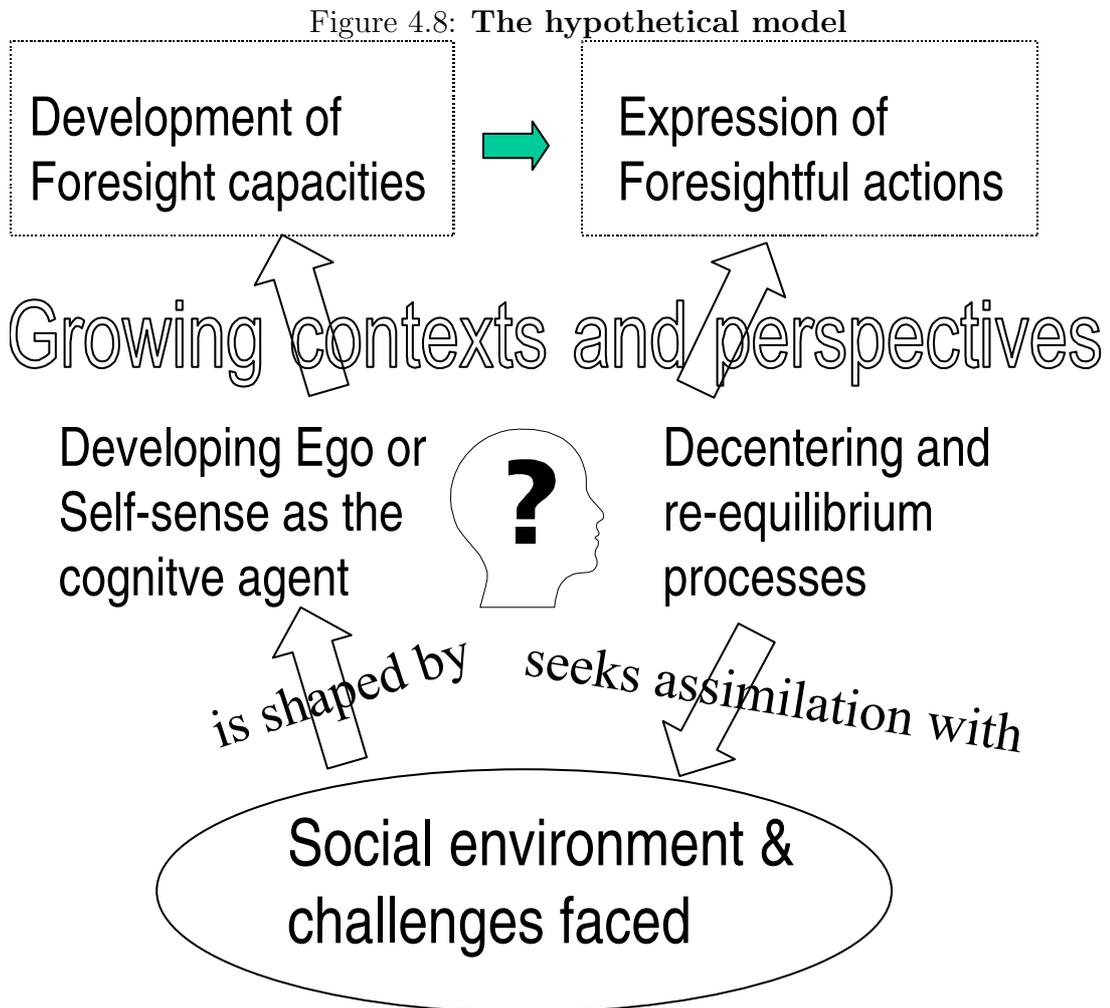
retarded as a function of cultural and educational conditions. This is why the growth of formal thinking as well as the age at which adolescence itself occurs—i.e., the age at which the individual starts to assume adult roles—remain dependent on social as much as and more than neurological factors (Inhelder & Piaget 1958, p.337).

Specifically, Piaget said that the pre-adolescent has no powers of reflection, no second-order thoughts (meta-cognition), which deal critically with his/her own thoughts. The adolescent, by comparison, can analyse their own thinking and thereby ‘begin to think about the future—i.e., of [their] present or future work in society... Further, in most cases in our societies, the adolescent is the individual who, in attempting to plan [their] present or future work in adult society also has the idea of changing this society’ (Inhelder & Piaget 1958, p.339). While adolescent decentering can be expressed in a ‘Messianic’ form of egocentricism, it is still a demonstration of the same mechanism by which formal operational thinking can become completely differentiated and perspectival. Piaget also noted that feelings and thoughts about ideals are ‘practically nonexistent in the child’.

There is no operation available at this level which would make it possible for the child to elaborate an ideal which goes beyond the empirical given. This is only one amongst many examples. The notions of humanity, social justice (in contrast to interindividual justice which is so deeply experienced at the concrete level), freedom of conscience, civic or intellectual courage are ideals which profoundly influence the adolescent’s affective life; but with the child’s mentality, except for individual glimpses, they can be neither understood or felt (Inhelder & Piaget 1958, p.349).

Future thought arises from the elaboration, at least, of formal operations through the individual assimilation of the social environment. As the self is progressively decentered, as each stage’s egocentricism is transcended, then ever larger contexts and perspectives emerge. From these perspectives and concepts conjoined notions of future and ideals can take root in individual thinking. This is the fundamental logic upon which this research is founded. Figure 4.8 shows the hypothetical model that this research will examine.

At the centre of this model is the cognising self. The ego or sense of self is shaped by and, in turn, seeks assimilation with the social environment and the challenges faced there, through the developmental processes of decentering and re-equilibrium. The developing self-sense, in turn, finds growing contexts and perspectives within



which foresight capacities are developed and a range of foresightful actions are expressed. If the development of the self is sufficient for the challenges being faced then adequate foresight capacities will emerge and pathways to preferable futures can be found.

The next three psychologists each explored aspects of self-development. Their research elaborates Piaget's foundational work. It is their work that provides the actual methodology for this research. Jane Loevinger's theory of ego development examines the changes in complexity as the ego passes through stages of personality development. As the foregoing has shown, the development of the 'self' is the primary enabler of individual foresight. Lawrence Kohlberg's theory examines the individual development of the roles that 'selves' adopt in order to assimilate various justice concepts: reciprocity, equality, corrective, distributive, and commutative. Those concepts and their elaboration are relevant to the consideration of the creation of social foresight. Clare Graves' theory examined what the self 'values' at different

stages of development through its interaction with its environmental 'life conditions' and as such is relevant to the emergence of individual and social foresight.

4.4.2 Loevinger and the Self line of development

Studying the 'self' is notoriously difficult. Phenomenology attempted this. However, its commonly perceived lack of reliable data collection and analytic frameworks limited its widespread academic usage. Jane Loevinger's research into ego or self development and the design and validating of a research instrument is central here. It was her work that produced both a developmental framework, a data collection method and an interpretative procedure for assessing an individual stage of self development. Her importance to this field of research is widely acknowledged.

Loevinger's stage model of ego development represents a rich and complex theoretical conception that has been empirically validated and refined over the past 30 years. Her theory postulates a sequence of qualitatively distinct stages of ego functioning. Ego functioning refers to the particular way in which individuals interpret their experience and make sense of the world, each stage represents a qualitatively distinct way of doing so. The evolution of Loevinger's theory has been inseparable from the development of the Washington University Sentence Completion Test (SCT). The SCT is a projective measure in which individuals complete a series of sentence stems. The individual's subjective way of construing experience is thought to emerge in this open-ended method of assessment and can be reliably coded for ego development according to extensive and detailed coding manuals (John, Pals & Westenberg 1998, p.1095).

4.4.2.1 Loevinger's stages

Loevinger identified nine stages of self development. Seven of these stages are more relevant to this thesis than others.

Loevinger's stage model (Table 4.2) was originally based upon the levels of an earlier theory of personal maturity (?). Loevinger added code numbers for these stages (I-level). Over time her research found transitional stages between these initial stages and these were coded to show which stages the transition stage was found between. Loevinger did not renumber the stages when she found transition stages. 'One reason why is that some comparison with other investigators is preserved by

Table 4.2: Loevinger's Stage Model

Stage name	Preoccupation	Cognitive Style	Code
Presocial	Self vs. non-self		I-1
Impulsive	Bodily feelings	Stereotype	I-2
Self-protective	Self-protection	Stereotype	I-2/3
Conformist	Social acceptability	Conceptual simplicity	I-3
Self Aware	Appropriateness	Patterning	I-3/4
Conscientious	Achievements	Conceptual complexity	I-4
Individualistic	Constructability	Patterned complexity	I-4/5
Autonomous	Self-fulfillment	Ambiguity	I-5
Integrated	Add: identity	Integration	I-6

(Loevinger, Wessler & Redmore 1970b)

keeping similar designations. A more profound reason is that any numbering system is doomed to become obsolete as the construct evolves' (Loevinger et al. 1970b, p.16).

The first three stages do not suggest the development of foresight capacities. It would be difficult, if not impossible, to describe an individual as practising foresight at any of the first three stages Loevinger identified. This is because an individual in these stages lacks the cognitive capacity to undertake the sensing, interpreting and acting elements of foresight. However, outlining the aspects of each of the stages will make the developmental process clearer.

In the first stage, **Presocial (I-1)**, the individual develops their first sense of self. This is done by differentiating the self from their surroundings and by this process the individual establishes a stable world of objects. This differentiation is thought to occur through the mother/child or *symbiotic* interrelationship. As a symbiotic relationship cannot truly be considered one which depends solely upon language for communication, Loevinger found that it is not a stage that can be accessible by language in later life. No social sense has yet developed in the individual as none is needed. The sensing at this stage is outwardly directed only and is only conscious of the environment as an object. This is the developmental starting point of the self.

At the next stage (preschool child) the individual is thought to be governed by **Impulsive (I-2)** actions. The self is receiving bodily feelings from its environment and from these feelings the sense of self is affirmed. The environment is also seen as a source of impulse controls (punishments) and rewards. Punishment is thought to be retaliatory as logical causality is not yet developed. The sensing process is still outwardly directed. Emotions are being detected at this stage but they tend to be physiological rather than psychological. This is the first social stage and the stance adopted sees 'others' as sources of reward or punishment. As we have our first social stage, then language is established but it is banal in its range of description.

The mind-space is also very simple at this stage. The orientation is towards the present rather than to the past or future. Causation is simplistic and only focused on actions. Magical ideas of causality do exist however. There is a simple range of actions available, stay or leave: trouble is a situational issue, not behavioural, so run away if things are bad.

The next stage is the first transitional stage found by Loevinger, occurring between the Impulsive (I-2) and Conformist (I-3) stages. This stage observes the development of self-control of the individual's impulses. Individual actions are now seen as being **Self-Protective (I-2/3)** Impulses are now 'objectified'. The controls that the individual establishes are fragile and so the individual is on guard at all times. The notion of blame emerges but the causation is still external and behavioural. One gets into trouble for being in the 'wrong' place or with 'bad' people. Self-responsibility is not apparent yet. The sensing is still externally focused. The social stage is defined by others as sources of control or manipulation. Social rules are recognised now but there is really only one rule, don't get caught. Interiority is still under-developed and so is the mind-space. An adult who stays at this stage would be into opportunistic hedonism, the avoidance of work and getting lots of pleasurable things and money. Adults at this stage can be classed as psychopathic personalities but they can also find a successful niche in society and may even be successful, 'given good luck, good looks, intellectual brilliance or inherited wealth' (Loevinger, Cohn, Bonneville, Redmore, Streich & Sargent 1985, p.227).

The next stage of development is the first conception of self that suggests the development of foresight capacities. At this stage the individual sees themselves as associated with an external group. For the younger child this group is often the family and for an older child this group is the peer group. The individual places importance on being **Conformist (I-3)**. The Conformist obeys the rules because the group with which they wish to associate sanctions those rules and approves of those who conform to those rules. Through conformity with these socially approved rules the individual gains a sense of belonging, of social desirability. The power of social desirability makes the Conformist self sensitive to shame and disapproval which arises when the rules are not followed. This does evidence a development in individual interiority.

The sensing of the environment is mediated by the group rules in effect creating a culturally shared sense of the world. Because there is a group that the individual associates with, then there are also other groups with whom the individual does not seek association. This creates a simple stereotyping, often based upon external characteristics. 'I am conformist and I wish the desirability of other conformists. Those I do not desire to be with, therefore, must be non-conformists.' To be thought

a non-conformist is to be treated as socially undesirable. The range of actions available to the individual at this stage is mediated by the group rules. A foresight capacity now exists, albeit, in a very simplistic and naive fashion. There is a self-sense, a mind-space which reflects the shared cultural rules, a range of socially defined acceptable actions and the beginnings of an individual interiority. While still heavily in the present, a hopeful future sense of continuing social desirability would emerge. Here we could speak of good or bad futures, a future of continuing conformity or a future of exclusion as another group sets the rules.

Loevinger described the next stage as another point of transition. While the individual continues to operate from a conformist standpoint, the individual also becomes **Self-Aware (I-3/4)**. The individual now begins to appreciate multiple possibilities in situations and the movement towards conceptual complexity is underway. A conflict between those multiple possibilities and the rigidity of group rules is felt. At the same time as multiple perspectives are considered in the external world the interiority of the individual begins a process of self-examination. There arises a 'feeling' that one does not live up to the standards or rules of the group. As measuring up to group rules is the path to social desirability then it should not be surprising that the description of the 'feelings' the individual at this stage include being lonely and self-conscious. Loevinger (1976) initially found that this stage was probably the modal level for adults in American society and her later research (1987) confirmed this. This is the stage of self-sense which employs a cognitive style of simplicity and stereotypes. It is still a Conformist perspective where the individual wants to comply with its group's social rules. The individual wishes to be socially desirable. Conceptual complexity is starting and interior depth is beginning to take shape but this is an ego state not far removed from late adolescence in mental age. Foresight can be sustained at this stage but only in a rudimentary form. To retain internal stability and coherence then foresight would have to be directed towards conformist outcomes, otherwise the individual would still reject it.

The next stage is called **Conscientious (I-4)** as the individual displays a heightened sense of self and inner feelings. It can be said that the individual displays a conscience although something like a conscience has also been operating at the previous stages. At the Impulsive stage the individual does little more than describe people as good or bad. There is no moral dimension here. The Self-Protective stage evidences blame but does not have a corresponding sense of personal responsibility. The Conformist feels guilt for breaking the rules and so this is a beginning of adult conscience. The Conscientious stage adds self-evaluation, self-criticism and self-responsibility so conscience can be said to be fully developed.

Along with these heightened inner processes, the Conscientious individual is

confident enough to make individual choices around which group rules or norms will be complied with. The individual is now more confident of their ability to shape their destiny rather than just accepting it. A focus on achievement is strong and with it comes long-term, self evaluated goals and ideals (Loevinger 1976). The 'right-thinking' mind has arisen. Conceptual thought now includes nuances and distinctions. No longer merely binary and opposites, thought allows for distinctions between the important and trivial, the private and public, the inner and outer. Individual interiority is now well developed and feelings and actions are correlated. The individual also has the ability to take another person's perspective and this expands the mutual social space. An ability emerges to look at things from a broad social perspective, on some occasions, rather than only from the individual perspective as in the previous stages.

From the development of foresight capacities this seems to be the stage that would bring a confidence and certainty to the process. That confidence would shape both the ambition and subject of foresight. Here can be imagined the undertaking of large scale social projects and confidence in forecasting and trend extrapolation. There is a lack of doubt at this stage, conflicts do arise and tend to be seen as problems or issues to be solved or fixed. This stage is really the starting point of this research. It is also consistent with a localised and externalised foresight capacity that may, or may not, be sufficient to respond to emerging challenges. The literature in the previous chapter acknowledged that this stage is useful but limited in its scope. That literature does suggest that foresight capacities can be expanded from this point. From this stage onwards Loevinger's stages of self-sense become post-conventional. Those stages will be examined in greater detail later in this chapter. To complete this overview of Loevinger's model the description of those stages will merely highlight broad developmental changes that they exhibit.

The next stage, **Individualistic (I-4/5)**, another transition stage, marks the emergence of a felt sense of individuality and an awareness of the paradox of the same person being somehow 'different' if they changed their social role. Psychological development becomes an area of interest to the person and this too leads to the paradox that what is felt as 'self' would be different if the psychological causes of the person, or their parents, were somehow different. There emerges here a sense of the constructedness of the felt sense of self.

Transition to the **Autonomous (I-5)** stage is marked by a heightened sense of individuality and a concern for emotional dependence. The problem of dependence and independence recurs throughout ego development. The moralism of the earlier stages is replaced with an awareness of inner conflict. Autonomy in individuals is recognised, as is the often excessive striving and ambition of the Conscientious stage.

The autonomous person accepts that all problems are not solvable. The Autonomous person is concerned with social problems beyond their immediate experience. The **Integrated (I-6)** stage transcends conflicts and reconciles polarities. Individuality is cherished. Identity becomes the conscious preoccupation.

4.4.2.2 Loevinger and subject-object balance

The dynamic process that underlies Loevinger's developmental schema can also be understood by considering the individual sense of self as the 'subject' and what the sense of self 'senses' in the environment as the 'object'. At each stage the subject and object are congruent. If congruence is lost then the impetus towards further development is created. Table 4.3 shows the dynamic process of self development.

Table 4.3: **Loevinger—Nine Stages of Self Development**

Stage (I-level)	Subject	Object
Presocial (I-1)	Outward self-feelings	External world
Impulsive (I-2)	Outward self-action	World as good/bad feelings
Self-protective (I-2/3)	Outward self-protect	World as good/bad actions
Conformist (I-3)	Outward self-desirability	World of safe/unsafe groups
Self Aware (I-3/4)	Transition Out/In	World of desirable groups
Conscientious (I-4)	In/Out choices	Others with perspectives
Individualistic (I-4/5)	Constructability	World of social roles
Autonomous (I-5)	Interdependence	World of constructions
Integrated (I-6)	Identity	Interdependence

(Kegan 1982)

In Loevinger's stages the progression from Presocial (I-1) to Conformist (I-3) demonstrates how the self progressively finds assimilation through an expanding external focus. Through each of those stages the intellectual capacity of the self-sense develops and this growth is manifested in an expanded external focus. The self develops from egocentric self-protective behaviour to a socialised ego seeking security in cultural conformity. The Conformist stage correlates to concrete operational thinking as it still focused on the actualities. There is a foresight capacity at the the Conformist stage although its scope is limited since it is based upon elaborating from the actual to the possible.

While the stages after Conformist continue the expansion of self-sense, the Self-Aware (I-3/4) stage is the point at which the manifestation of this growth turns inward rather than continues its outward elaboration. This inward turn creates feelings of doubt and self-consciousness in the individual but it also signals the emergence of meta-cognition through which the individual begins to operate directly on the content of their thinking.

At the Conscientious (I-4) stage the individual sees a world of perspectives and thus has the realisation that they can choose to be a member of that world by adopting a range of social roles (eg. daughter, mother, friend). The Individualistic (I-4/5) stage then sees a world of chosen roles but the self is additionally aware of the constructedness of those roles. The final stages sees a world of constructions and the self begins the search for permanence in constructedness by finding interdependency (Autonomous (I-5)) and then identity (Integrated (I-6)).

These final stages, from Individualistic (I-4/5) to Integrated (I-6), exhibit the elaboration of individual meta-cognition and these stages appear the most propitious for the development of foresight capacities.

A distinctive mark of the Autonomous stage is the capacity to acknowledge and to cope with inner conflict, that is, conflicting needs, conflicting duties, and the conflict between needs and duties. Probably the Autonomous person does not have more conflict than others; rather he [sic] has the courage (and whatever qualities it takes) to acknowledge and deal with conflict rather than ignoring it or projecting it onto the environment. Where the Conscientious person tends to construe the world in terms of polar opposites, the Autonomous person partly transcends those polarities, seeing reality as complex and multifaceted. He [sic] is able to unite and integrate ideas that appear incompatible alternatives to those at lower stages; there is a high toleration for ambiguity. Conceptual complexity is an outstanding sign of both the Autonomous and Integrated stages (Loevinger 1976, p.23).

There is much surface correlation between the capacities of foresight and the Individualistic, Autonomous and Integrated stages of self-development. Chapter Three particularly highlighted the inner conflicts that are raised when the future is seriously considered as well as the need to transcend certainty and deal with ambiguity. That chapter also highlighted the need for the individual to sometimes adopt a dissenting, rather than conforming, stance.

4.4.2.3 Developmental distributions and dynamic of the self line

What have the studies of self stages in adult populations discovered? Table 4.4 shows the data from studies of by Browning (1987), Westenberg and Block (1993) and Bursik (1991) of self stages amongst US adults.

Browning's (1987) study of 22—25-year-old college and non-college adults produced a distribution much like the 'typical' Loevinger distribution. The clear majority of these adults were rated as within the stages regarded as 'conventional' (Con-

Table 4.4: Distribution of stages across three studies

	Browning	Westenberg & Block	Bursik	
Study Published	1987	1993	1991	1991
Population type	College & non-college adults 22-25	Population of 23yo adults	Recently divorced women	Same group 1 year later
IMPULSIVE	3%	0%	0%	0%
SELF-PROTECTIVE	4%	6%	6%	4%
CONFORMIST	26%	12%	15%	11%
SELF-AWARE	41%	41%	55%	53%
CONSCIENTIOUS	19%	32%	18%	28%
INDIVIDUALISTIC +	7%	9%	6%	4%
<i>n</i>	261	98	104	96

Source:(Browning 1987)(Westenberg & Block 1993)(Bursik 1991)

formist, Self-Aware and Conscientious). At those stages an adult has developed a measure of impulse control, coping skills, self-appraisal and social norm assimilation such that they would be considered to be functional members of society. The stages before these are regarded as ‘pre-conventional’, in that such an adult would not be able to function easily as a member of society. The modal stage of that overall distribution, Self-Aware, accords with Loevinger’s own studies, that this is the modal stage level in the United States (Loevinger 1987). ‘Most adults without a college education are at this stage [Self-Aware] or a lower one; most adults with a college education are at that stage or a higher one’ (Loevinger 1987, p.231).

Loevinger found that while self development can theoretically continue through a person’s life span, the majority of people stabilise their self development some time in late adolescence or early adult life (Loevinger et al. 1985). Thus the ‘typical’ stage distribution has the majority of adults located in the conventional stages, usually with the modal number located at the Self-Aware stage, and smaller grouping at the pre- and post-conventional stages should remain fairly stable over time.

The Westenberg and Block (1993) study, shown in Table 4.4, found a slightly different distribution to that of Browning. In the Westenberg study, more of those within the conventional stages were in the Conscientious stage than in Browning’s study but the modal stage was still Self-Aware (Westenberg & Block 1993). The pre- and post-conventional distributions are roughly equivalent in the two studies.

However, the different spread of conventional stages suggests that more developed distributions are possible.

Bursik (1991) conducted a twelve-month longitudinal study of recently divorced women. The comparison of the two distributions of that study shows a developmental dynamic in the self stages of this population. The first distribution is much like Browning's study and the second distribution is more like Westenberg's study. Bursik's research shows that under certain circumstances self stages can change where life events or experience change 'one's orientation towards the self and the external environment' (Bursik 1991, p.304). Once again, the pre- and post- conventional distributions are equivalent.

Loevinger drew on the work of Jean Piaget to explain the cause of stage development, specifically the ideas of *assimilation* and *accommodation*. At any stage of cognitive development an individual holds an internal schema or representation of how their environment operates and hence how they should operate in that environment. In early stages of development this schema is an inaccessible part of the individual's consciousness, at later stages the schema becomes accessible to the individual consciousness. If experience or phenomena conform to the schema then the stage is maintained. If experience or phenomena do not conform to the schema, but the schema can be assimilated to fit the aberrant experience or phenomena, then such an assimilation occurs. This is not a new stage of development but is rather an extension or modification of the existing schema. If experience or phenomena, however, cannot be assimilated then a new schema is developed which accommodates the aberrant experience or phenomena. This process of accommodation is the basis of cognitive development.

When a person can, [they] chooses stimulus objects of a level of complexity that matches [their] own. . . While [their] own capacity determines the level of complexity [they] seeks, a person tends to sample stimulus objects above and below [their] ideal level. Indeed the modal amount of time goes to stimuli just a little more complex than the person's ideal. These objects are called pacers. As the person maintains contact with and thus masters a new pacer, [their] own level of complexity grows and [they are] ready for a new, more complex pacer (Loevinger 1976, p.309).

While Piaget found that the majority of adults develop cognitively to the stage of formal operative thought, Loevinger found that the majority of adults stabilised at a stage level (Self-Aware) that was below the maximum compatible with their intellectual development. She concluded that the individual sense of self does not necessarily continue to develop:

[N]atural phenomena act as a pacer for cognitive development, constantly disconfirming expectations based on false hypotheses. Hence maximal equilibration requires attainment of formal operations. The ego is a structure of expectations not about natural phenomena but primarily about interpersonal ones. As long as a child is operating in an environment that does not conform to his expectations and that disconfirms them in a way to pace his growth, he has the potential for further growth. When the child's view of his interpersonal surroundings conforms to what really exists, when his expectations match the conduct of those around him, equilibration is achieved and the likelihood for change is small (Loevinger 1976, p.311).

In summary the expected elements of self stage distribution and the developmental dynamic of self stages are:

- most adult ego stages are located around the Self-Aware stage;
- the spread of conventional stages in a population can have a greater or lesser tendency towards early or later conventional development;
- pre- and post-conventional stages are in the minority of adult self stage distributions; and
- life events or experience can promote a change in self stage if they sufficiently disconfirm current expectations and promote accommodation.

The stages of development that appear most propitious to the development of foresight capacities are those from the Self-Aware stage and onwards. The research into those self stages will now be elaborated.

Self-Aware Stage Research found that the modal development point for adults was the Self-Aware level. 'The modal adult reaches an early plateau at the Self-Aware level. . . Such modal adults tend to perceive the world in stereotyped ways but with some awareness of discrepancies between conventions and their own behaviour' (Helson & Roberts 1994, p.911). The Self-Aware stage is also the point at which an individual's 'sense of comfort and congeniality in meeting the expectations of society is likely to be maximal' (Helson & Wink 1987, p.540). The modal adult at this stage has likely found a social and vocational niche that permits high congruence between expectation and experience. Other attributes of this stage would include compliance or adherence to tradition, authoritarian attitudes, traditional gender roles, a concern for standards or social norms and a focus on 'others' by way of

approval, their needs or their feelings (John et al. 1998, p.1098). The individual appreciates multiple possibilities in situations and the movement towards conceptual complexity is underway. At the same time that multiple perspectives are considered in the external world the interiority of the individual begins its self-examination. There arises a 'feeling' that one's self does not live up to the standards or rules of the group. As measuring up to group rules is the path to social desirability then it should not be surprising that the description of the 'feelings' felt by the individual at this stage include being lonely and self-conscious.

Conscientious Stage 'The distinctive mark of the Conscientious Stage is having self evaluated standards' (Loevinger 1987, p.228). This enables the person to act upon the basis of personally held, rather than group or society derived, standards. That does not necessarily mean that the individual's self-evaluated standards are different to those held by the group or society. The important point is that the locus of control of a person's actions is seen as within the person themselves:

[The Conscientious person] is aware of individual differences in many traits and has a richly differentiated vocabulary for traits and for inner feelings. Blanket approval and disapproval of people declines; people are seen as complex, with good and bad characteristics. Achievement is valued not just for its competitive advantage, as a Self-Protective person might do, not just for social recognition, as a Conformist might do; finally they judge achievement by their own standards. They have long-term purposes, goals and ideals. They think in broad terms and see everyday events in their social context rather than solely in terms of personal impact (Loevinger 1987, p.229).

While the Conscientious stage recognises complexity in the world that recognition does not resolve the individual sense of conflict. Problems interpreted from the Conscientious stage are now much richer and difficult than those that are interpreted from a stage like Self-Aware. This is because problems can now have an internal as well as external dimension. In the same way individual actions can now also be interpreted as an expression of social processes. Hence the name given to this stage where an individual's sense of self is predominantly defined by the operation of individual *conscience*. Individuals at this stage can display excessive moralism (Loevinger 1976, p.22) or they can feel excessive responsibility for others (Loevinger 1987). The implicit sense of individual conflict at the Conscientious stage is what can provide impetus for self development.

Individualistic Stage The Individualistic stage, between Conscientious and Autonomous, is one of growing tolerance of self and others. A key attribute of this stage is the ‘increased ability to tolerate paradox and contradiction... awareness of the discrepancies between inner reality and outward appearance... between process and outcome’ (Loevinger 1976, p.22). Another attribute that emerges at this stage is ‘an interest in psychological development’ (Loevinger 1987, p.229) which is a notion that does not occur below the Conscientious stage (Loevinger 1976). The tendency of the Conscientious stage towards excessive moralising and feelings of responsibility for others is somewhat resolved at these later stages. The felt conflict of conscience about the inner versus the outer or the individual and the society is now seen as something to be dealt with or lived with, not necessarily resolved.

Where the Conscientious person tends to construe the world in terms of polar opposites, the Autonomous person partly transcends those polarities, seeing reality as complex and multifaceted. [The Autonomous person] is able to unite and integrate ideas that appear as incompatible alternatives to those at lower stages; there is a high toleration for ambiguity. Conceptual complexity is an outstanding sign of both the Autonomous and Integrated stages (Loevinger 1976, p.23).

Loevinger’s research has been continued by Susan Cook-Greuter. Her research has identified a marked difference between the thinking that operated at the stages up to Conscientious and the stages from Individualistic onwards. Cook-Greuter theorises that the stages up to Conscientious represent ‘*conventional development*’—the construction of a permanent separate self. The stages beyond Conscientious represent ‘*postconventional development*’—the stepwise deconstruction of the permanent self. It is the Individualistic stage that acts as the transition point between the conventional and postconventional self-sense.

At the first postconventional level people come to realize that the meaning of things depends on one’s relative position in regard to them, that is, on one’s personal perspective and interpretation of them. Although the objects themselves are seen as permanent, their meaning is seen as constructed... This view of reality is called the systems view because it allows individuals to look at systems of thought or organizations with distance. At the Individualistic stage, context enters as a crucial element in thinking and understanding. A main concern of postconventional adults is to lay bare underlying assumptions and frameworks (Cooke-Greuter 2002, p.20).

In addition to being a different way of seeing reality, the Individualistic stage can be a troubling place for the person concerned. ‘The Individualistic action-logic is not a destination, but is a path that somersaults reflectively through one’s previous history and through the growing recognition of alternative action-logics’ (Torbert & Associates 2004, p.92). Stage regressions can occur around the Individualistic stage and these can be interpreted as ‘somersaulting’, as the person becomes progressively aware of the frameworks and assumptions that their earlier perceptions of reality were based upon. When the person becomes aware of the ‘constructedness’ of reality then what was initially felt as ‘real’ and stable can by a form of solipsism, regress to a felt unreality or instability. That process can be repeated until stability is found notwithstanding the idea that all reality is ultimately the construction of a framework.

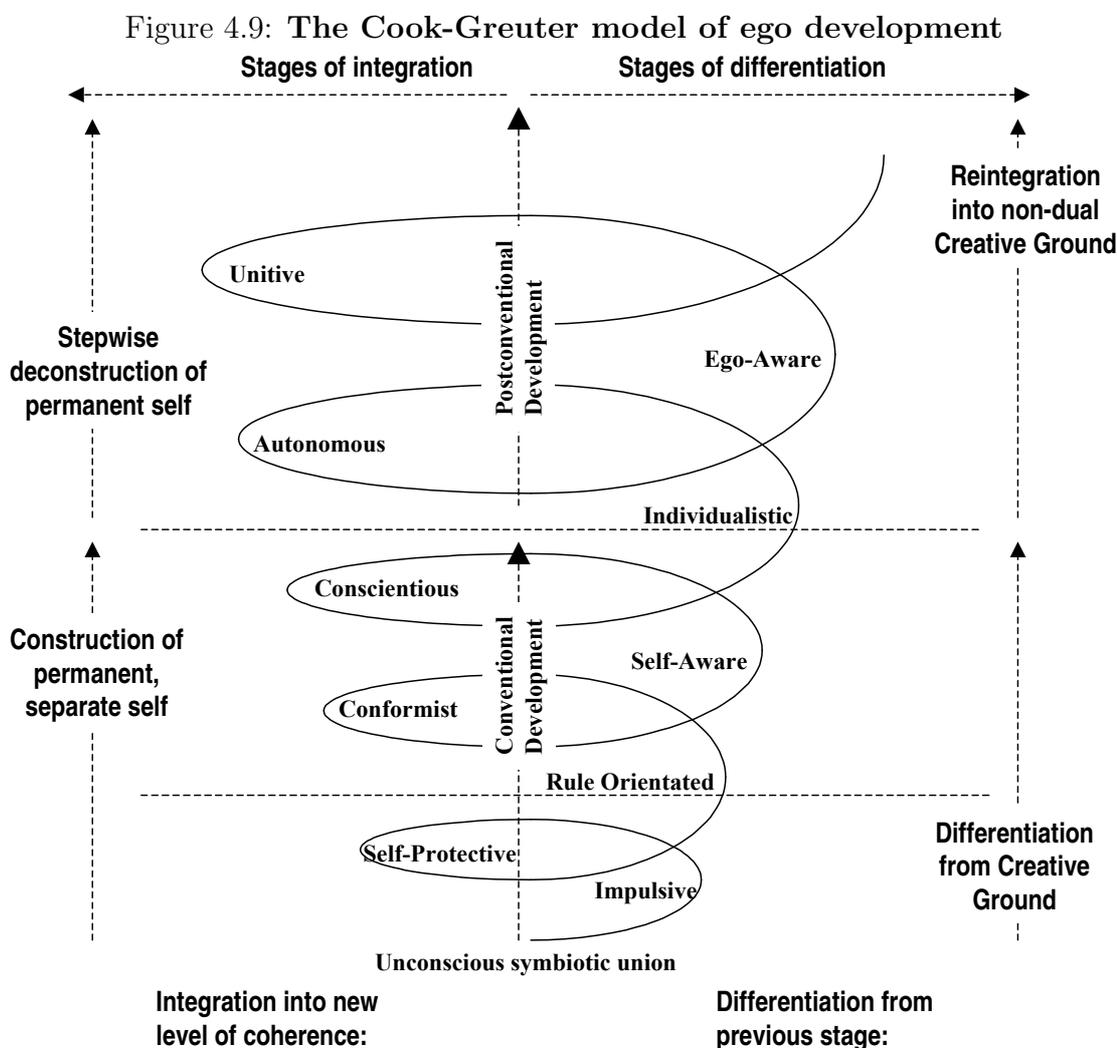
The dawning of postconventional understanding may be a confusing time for us. The Individualistic’s dark side includes troubled feelings of something unravelling or needing resolving, along with a sense of paralysis about how to move, because we have not yet developed postrelativistic principles. Yet this is also likely to be a time of renewed freshness of each fully tasted experience, of dramatic new insight into the uniqueness of ourself and others, of forging new relationships that reach new levels of intimacy, and of perusing new interests in the world. Excitement alternates with doubt in unfamiliar ways. . . The Individualist is a bridge between new worlds. One is the preconstituted, relatively stable and hierarchical understandings we grow into as children, as we learn to function as members of a preconstituted culture. The other is emergent, relatively fluid and mutual understandings that highlight the power of responsible adults to lead their children, their subordinates, and their peers in transforming change (Torbert & Associates 2004, p.102).

Cook-Greuter’s research focused on building a more comprehensive understanding of the postconventional stages (Individualistic and beyond). As the development of foresight capacities could be an expression of postconventional development then it is appropriate to explain Cook-Greuter’s theory of self development.

4.4.2.4 Postconventional self development

The foundational work of Jean Piaget enabled the emergence of the field of developmental child research and, to a lesser extent, the field of adult mental growth. Almost all developmental stage theories are based on or derivative of Piaget’s research. Much of the research of adult mental growth has specifically examined

personality processes in broad populations and, due to the developmental spread of stages that is typically found, the clear majority of respondents fall into the ‘conventional’ stages or earlier. Hence most data is collected and most is known about those stages that closely correlate to Piaget’s mature adult cognitive mode, formal operations. Obversely very little research has examined the stages that might follow those considered conventional. Cook-Greuter undertook her doctoral research into this territory. She sought ‘a model of adult ego development consistent with late 20th century conceptions of advanced cognitive growth and integration’ (Cooke-Greuter 1999, p.3). Figure 4.9 shows Cook-Greuter’s restructured model of ego development.



Source:(Cooke-Greuter 1999, p.42)

Cook-Greuter’s model is a more explicit hypothesis of the nature of development and is consistent with Loevinger’s research; it also elaborates the understanding of

the postconventional stages and the dynamic of how they occur. Figure 4.9 shows a developmental dynamic that alternates between an individual finding coherent meaning with a stage emphasising integration (homonomy, participation, relatedness, connection) and an individual finding coherent meaning with a stage emphasising differentiation (autonomy, separation, mastery, independence). Cook-Greuter called this dynamic the ‘double trend’.

The pattern of the alternating stages of differentiation and integration can be summarized as follows. Individuals at the earliest two stages in ego development are too undifferentiated for the double trend towards autonomy and homonomy to emerge fully. Beginning with the Self-Protective stage, however, one can distinguish between stages that favour separation and those that emphasize relatedness. The Rule-Orientated, Self-Aware, Individualistic and Ego-Aware stages are *oppositional* stages or stages of differentiation. People at these stages emphasize their differences and uniqueness in relation to the previous stage. In each case, they are beholden to that former way of meaning making by explicitly setting themselves apart from it while they are, at the same time, able to observe it from a new level of perspective. They tend to stress the boundaries, the distinctions, and the differences to the previous way of perceiving themselves and the world. They tend to affirm their independence although, depending on the stage, at different levels of cognitive complexity and abstraction. Because their basic need for relatedness is not fulfilled, they generally express more negative affect and more tension than persons at the other stages. I call the other stages **inclusive** because they emphasize integration at a higher level of complexity both in terms of people’s expanding time frame and relational space (holding environment) [See Figure 4.10]. Individuals at the inclusive stages make a new social context in their mental home base. As the experience of power at the Self-Protective stage, of shared bonds at the Conformist stage, of rationality at the Conscientious stage, of commitment at the Autonomous stage, and of complete openness and interconnectedness at the Unitive stage become integrated, a person’s relationship to himself, to others and all life is altered. The inclusive stages beyond the Self-Protective stage tend to express more positive affect because of a growing sense of balance between one’s separateness and one’s sustaining connection with others (Cooke-Greuter 1999, p.41).

In addition to that double trend towards differentiation and integration Cook-

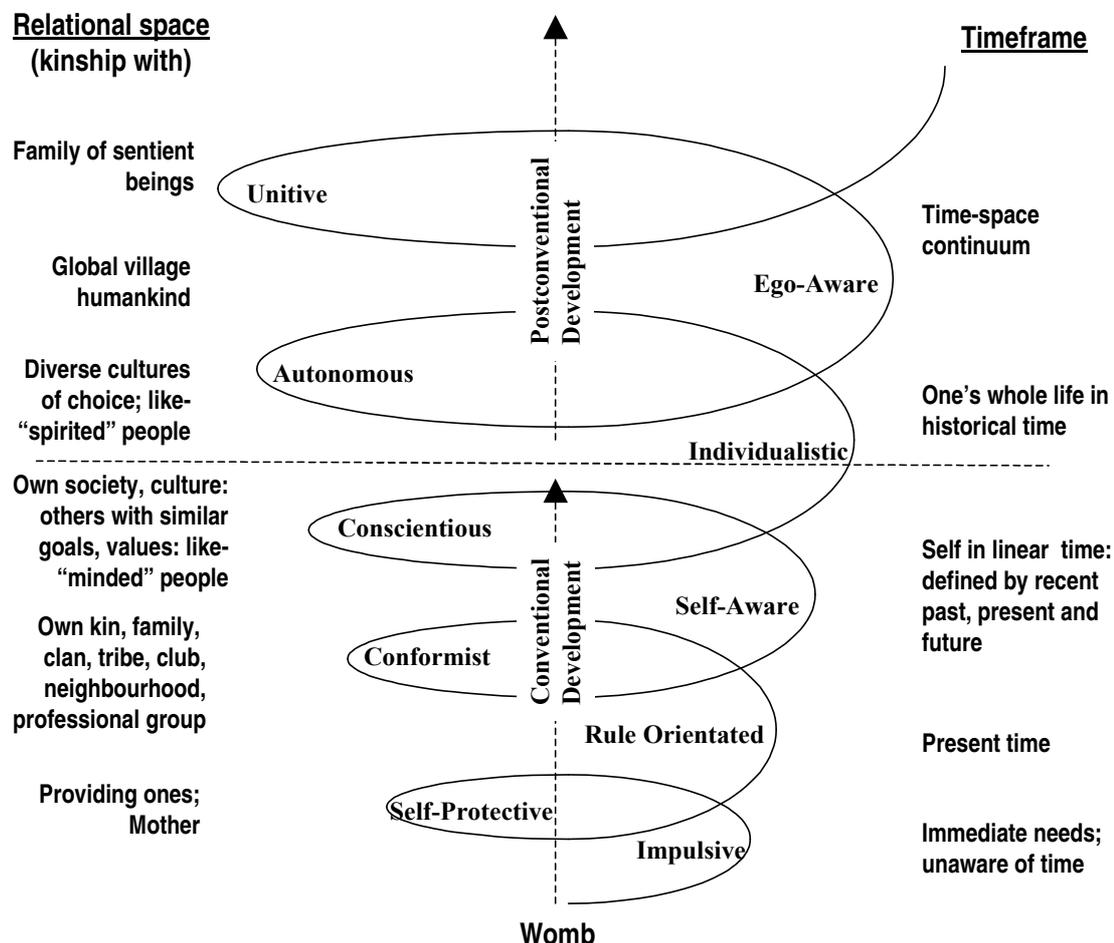
Greuter identified two other developmental dynamics in the postconventional stages. The first was an increase in cognitive complexity through the emergence of a 'systems view' where the interdependence of the parts within a system and the interdependence of the system and the context it exists within were noticed. 'A systems view allows people to recognize their own cultural conditioning and participation in interpreting reality' (Cooke-Greuter 1999, p.68). Such a perspective can be 'objective' but the observer is still recognised as a participant in what is observed. Such a systems view can also be accompanied with dialectical or heuristic examination rather than just relying on an extension of conventional scientific approaches. The second dynamic is a stepwise deconstruction of object permanence. This 'second dynamic looks at meaning making itself from a metaperspective and thus it can account for the awakening wisdom in relation to cognitive complexity' (Cooke-Greuter 1999, p.68).

Cook-Greuter's depiction of self development suggests how foresight could operate as a developmental pacer. Figure 4.10 shows how the cognition of time is extended through each stage. The mature adult conception of the 'future' emerges at the highest level of conventional ego development which understands the self in linear time. Such a perspective is consistent with Piaget's formal operations.

The worldview of formal operations is referred to as Newtonian, as scientific and, with positivist overtones, as a progressive or 'modern' stance. On one hand, symbol use and abstract thought have freed human beings from direct experience of what is, and thus allow for hypothetical reasoning and independent manipulation of mental objects. By reifying and objectifying experience, humans exert a measure of control over the environment. On the other hand, formal operational thought is often perceived as inappropriately detached from feelings, overly abstract or 'too much in the head'. By only granting reality to rational, waking consciousness, it demotes whole realms of human experience to a lesser status (Cooke-Greuter 1999, p.14).

Foresight begins from this rational and linear idea of time and then deconstructs the temporal frame in order to emancipate other un-reified notions of potential futures and relational spaces to come forth. In doing so postconventional ideas of cultural time, generational time, a global village, the time-space continuum and the future of all sentient beings can potentially emerge. As Figure 4.9 shows this step across conventionality is bootstrapped upon the deconstruction of a permanent self. Cook-Greuter's findings that thinking is freed up as the self develops beyond object permanence and that new relational spaces can emerge is supported by other

Figure 4.10: The Cook-Greuter model of expanding relational space



Source: (Cooke-Greuter 1999, p.141)

research.

4.4.2.5 Emergent capacities of self development

Helson and Roberts (1994) found that tolerance, defined as being nonjudgemental towards the beliefs and values held by others, was associated with high ego development. In contrast, Browning (1987) found that having authoritarian attitudes, not being open about beliefs and values, was associated with the Self-Protective and Conformist stages. Openness to the beliefs of others is a necessary step in the expansion of an individual's zone of compassionate concern and is an identified aspect of the elaboration of foresight noted in the discipline's literature.

Westenberg and Block (1993) found that adherence to convention and the uncritical adoption of beliefs and values dictated by a group or external standard was

found to be most pronounced at the Conformist stage. By contrast, being open and unconventional about beliefs and values was linearly and positively related to ego development (Westenberg, Blasi & Cohn 1998). The individual's capacity to see what their society offers as cultural reification is another necessary condition for individuals to develop foresight capacities.

Individuals at the highest ego levels tend to be open to unfamiliar ways of thinking, have the capacity to process information in new and complex ways, and generate new ideas. Helson and Roberts (1994) showed that women in high ego level were open to thinking about different life experiences in new ways and able to construct new schemas, thus accommodating rather than assimilating life experiences. This finding is consistent with the Piagetean idea of the progressive decentring of the ego creating even larger cognitive operating spaces. Helson and Roberts (1994) also found this linking of development and creativity amongst women who were nominated for their creativity who also tended to achieve high ego levels in middle adulthood.

Westenberg and Block (1993) showed that psychological mindedness, introspectiveness, self-knowledge, and a general awareness and examination of motives in self and others increased with ego level. Helson and Roberts (1994) showed that achieving the Individualistic level or higher by midlife was associated with an increase in psychological mindedness from early to middle adulthood. Helson and Wink (1987) showed that the amount of change recognised in oneself during college predicted ego level in middle adulthood, suggesting that being aware of self-development is associated with ego development. Metacognitive capacities where the self can examine 'itself' is an emergent attribute of self development and a necessary condition for the development of foresight capacities.

Loevinger's hypothesis was that development occurs when interpersonal environments disconfirm expectations that are characteristic of a specific stage (Loevinger 1976) with a general pattern of self stages developing during adolescence and then stabilising by early adulthood. Adult stability is probable as adults have more freedom to pick and choose their interpersonal worlds and hence are more likely to seek out environments that reinforce their own orientation and beliefs, whereas childhood and adolescence typically expose teenagers to interpersonal environments that challenge pre-Conformist expectations and preoccupations (Westenberg et al. 1998). Education has been proposed as a developmental pacer to the extent that schooling exposes students to different views and thereby encourages perspective taking. Environments that encourage perspective taking and reflectiveness are likely to facilitate movement away from the Conformist stage to the Self-Aware and, possibly, the Conscientious stages (Westenberg et al. 1998).

In the subsequent levels there is further internalisation of rules of social intercourse, a growth in cognitive complexity, impulse control increasingly based on self-chosen, long-term motives and an increased respect for individual autonomy and mutuality in interpersonal relations. . . Loevinger emphasized a sense of responsibility for self and others, aspirations towards achievement according to ones own standards, complexity and understanding the motives of self and other, understanding and appreciation of the perspectives of others and mutuality in autonomy (Helson & Roberts 1994, p.911).

This review has not identified any pacers that facilitate development beyond the Self-Aware or Conscientious stages. Growth beyond the Self-Aware stage is characterised by a unique set of changes that entail the emergence of self-evaluated standards, psychological insight, role conception, tolerance and recognition of inner conflict. Loevinger saw development as a growth in cognitive complexity, tolerance of ambiguity, and objectivity. Cognitive complexity and high ego levels have been found in future plans and in complex reasoning employed in social dilemmas (Westenberg & Block 1993).

People generally assimilate if they can. However, when experience challenges their adaptive strategies, they may accommodate, that is, make changes in their existing adaptive structures and schemas. Developmentally, adaptation to such challenges requires a move from egocentricity to a wider more flexible perspective (Helson & Roberts 1994, p.912).

Notwithstanding the lack of research into developmental pacers beyond the Conscientious stage, such individual development has been observed. Cook-Greuter reported research that the stages of self development differed between UK and USA managers and supervisors (Table 4.5).

Table 4.5: Stage of Self Development amongst UK and USA managers and supervisors by percentage

Stage	UK	USA
Self-Protective	1	2
Conformist	2	8
Self-Aware	21	48
Conscientious	34	35
Individualistic	23	5
Autonomous	14	2
Integrated	5	0

Source:(Cooke-Greuter 2002, p.4)

Table 4.5 shows that the UK managers stage distribution has a greater percentage of managers and supervisors in stages beyond the Conscientious stage than is the case amongst the USA managers and supervisors. Almost a quarter of the UK managers and supervisors were rated at the transitional stage, Individualistic, that acts as the boundary between the conventional and postconventional stages. The modal stage for the UK managers and supervisors was Conscientious whereas the modal stage for USA managers and supervisors was Self-Aware. Loevinger found that the modal stage amongst adult populations was Self-Aware (Loevinger et al. 1985). The UK distribution does suggest that a more post-conventional distribution of self stages can be achieved in some adult populations. This is an important finding for this thesis as the foregoing has suggested that foresight capacities may develop and be elaborated as the individual sense of self develops. The gender differences that research has observed in self development is relevant here too.

4.4.2.6 Gender and self development

Research has observed that girls at the end of high school tend to be higher in self development than boys (Loevinger et al. 1985). In part because males tended to commence college at lower stage levels than females, males were found to develop more during college than females (Browning 1987). Research into this gender difference suggested that a women's adherence, or not, with gender roles affected their stage of self development.

John et al. (1998) found that women who scored in the middle of the ego development continuum tended to adhere to the traditional gender roles for women whereas adherence to traditional gender roles was transcended at the highest levels. Indeed, adults at the highest ego levels, especially women, were shown to behave in ways that do not conform to traditional sex roles. Helson & Roberts (1994) showed that women who had reached the Individualistic stage by age 43 had increased in achievement via independence since their early 20s. Helson & Wink (1987) showed that those who took the more progressive path in life also tended to achieve high levels of ego development. Against that women at the highest ego levels often had marital and emotional problems and it was concluded that this 'may be attributed to a strong urge to self-actualize that does not fit easily into the social system' (Helson & Wink 1987, p.540).

Cook-Greuter described the process of moving beyond the Conscientious stage as 'a stepwise deconstruction of the previously unconsciously constructed permanent object world' (Cooke-Greuter 1999, p.67) and through this the individual 'becomes aware of how we automatically acquire our different cultural programs for interpret-

ing reality' (Cooke-Greuter 1999, p.69). Gilligan (1993, p.xxi) makes exactly the same point from her research into female reasoning.

Girl's initiation or passage into adulthood in a world psychologically rooted and historically anchored in the experiences of powerful men marks the beginning of self-doubt and the dawning of the realization, no matter how fleeting, that womanhood will require a dissociative split between experience and what is generally taken to be reality.

Gilligan's findings do suggest that the higher stage rating for self development noted in women could be an outcome of their becoming aware of the 'constructed-ness' of their gender and by doing so they began the 'stepwise deconstruction' of their sense of self. For many women the stepping outside of a conventional gender role is tantamount to stepping into a post-conventional sense of self and this step brings forth certain advantages and disadvantages.

At a pre-conventional level, adolescent women focus on caring for themselves to ensure that their needs are met. By the conventional level women have internalised an ethic of caring that equates goodness with caring for others and selfishness with caring for oneself. These true female representatives of Kohlberg's conventional level evidence a conventional view of femininity that denies that women should care for their own needs, believing that in giving unselfishly to others, they will in turn be cared for by those who love them. When, however, this 'dollhouse' view of the world breaks down, women are confronted with the truth that giving unselfishly to others cannot replace the need to take responsibility for one's own actions. Faced often with a crisis situation in which doing good, conventionally defined, has not led to being taken care of, women at this point have the opportunity to develop beyond conventional moral definitions towards a post-conventional level at which relationships are defined not in terms of mutual dependence, but mutual interdependence, and personal goodness is defined not in terms of giving to others, but balancing what is given to others and what is left for the self. Women's transition to a post-conventional level, Gilligan claims, may sound quite different from the parallel transition in men. Women do not leave behind the language of interpersonal concerns, of taking responsibility and caring for self and others, and do not speak in terms of abstract moral principles or consider when individual rights should logically precede the claims of law (Reimer, Paolitto & Hersh 1983, p.107).

Gilligan's analysis does suggest that males do not necessarily have to lose and then reconstruct their sense of self in order to progress from preconventionality to conventionality and then to post-conventionality. The male sense of self can be successively abstracted but that does not necessarily conclude in the 'deconstruction of their cultural programs'. Thus men may not necessarily inhabit the higher stages of development that women have been found to occupy. The point that male stages of development do catchup to those of women could suggest that females could operate as developmental pacers for males or that in learning about the constructedness of the female gender that men too discover that they too are subject to the same cultural programs. Women may well teach some men how to take action and recreate themselves into more authentic forms.

4.4.2.7 Loevinger Summary

There is much in the research into the higher stages of self development that suggests that the development of foresight capacities, at the more elaborated forms outlined in the previous chapter, could be an attribute of post-conventional stages of self development. Ideas of foresight as a 'higher-order language', one that can 'truly understand the present', that can 'embrace complexity' and ultimately 'transcend the self' do resonate with post-conventional self expression. If that is the case then the distributions of self stages normally found in adult populations would not be conducive for the widespread expression of those elaborated forms of foresight, a point that was also noted in the literature. That adult distributions have been found that represent a higher proportion of post-conventional self stages, however, is a point for optimism for those suggesting that a more widespread practise of foresight is required to sustain humanity. Education was found to encourage self development but not necessarily to the post-conventional levels that might be needed. Traditional education could fail to promote sufficient self-reflexivity or encourage the adoption of meta-perspectives that seem to promote later stages of development. The example of women in first deconstructing their gender roles in order to re-discover themselves, however, does suggest that it is within the reach of any individual to go beyond the boundaries of what their culture may prescribe. Self development does seem pertinent to answering the first research question, 'what is individual foresight and how does it develop in individuals'? The remainder of this chapter will examine the developmental theories of Lawrence Kohlberg and Clare Graves to give additional insight into the first research question or to draw out findings relevant to the second question, 'how does a social form of foresight develop'?

4.4.3 Kohlberg and the Moralising of Judgement

The development of an individual's sense of self, to the extent that they can deconstruct themselves and the social world they inhabit, would appear to be a precursor capacity for the exercise of the foresight capacities that the experts in the discipline are calling for. Another necessary capacity would appear to be the individual's range and scope of moral judgement. An attribute of applying foresight is to see the future as comprising possible alternatives, what is possible, probable and preferred (Amara 1974). Bell (2004) goes further than this and adds 'the additional claim that people can only act responsibly if they also know what is preferable' (Bell 2004, pxiii). Such responsibility arises from the necessary link between judgement and the future. In judging the consequences of an action then the future is invoked as this is where the consequence will eventuate. Judgements on the 'good' on which decisions are based rest upon these future anticipations (Bell 2004). The responsibility of the futurist, according to Bell, is to not merely point out the values that underly a future image but to demonstrate that those moral judgements and value assertions are logically sound. 'Futurists, of course, have no choice but to incorporate human values and goals and their evaluation into their discourse... [to] deal with moral evaluation since they aim their work towards social betterment' (Bell 2004, p.69). This moral requirement, would seem to be one that came with our 'modern' condition.

In attempting to blueprint his own future, man has been forced to deal with the concepts of value, means and ends. As long as the prophet propitiator was acting only as a transmitter of messages from on high, man accepted his ethics ready-made. In a later stage man staggered under the double load of having to construct his own future and to create the values that will determine its design... This attempt can be seen as a twofold process: the development of ideas concerning the ideal future as it should be, and the unfolding of a real future in history, partly as a result of man's purposeful intervention. Awareness of ideal values is the first step in the conscious creation of images of the future and therefore the conscious creation of culture, for value is by definition that which guides towards a 'valued' future (Polak 1973, p.10).

Thus the development of the individual's capacity for moral reasoning would appear another necessary condition, if not for the practise of individual foresight, then for the practise of foresight in the social realm. It is here that the work of Lawrence Kohlberg is relevant.

Like Jean Piaget, Lawrence Kohlberg studied children, however, his research group included adolescents. What he was examining was not how they saw themselves in relation to the physical environment, but instead how they saw themselves in relation to society. What was right and wrong, fair and unfair. His method was to interview the children and raise specific dilemmas. e.g. Should someone steal drugs from the chemist (do a bad/wrong thing) to help someone close to them who is sick (do a good/right thing)?

Rather than assume values and morals as relative and individual undertakings, Kohlberg found culturally universal stages of moral development. He believed that a philosophic concept of morality and moral development is required, that moral development passes through invariant qualitative stages, and that moral development is stimulated by promoting thinking and problem-solving (Rich & DeVitis 1985). Kohlberg believed that making individual's aware of their own and other's moral thought would increase the awareness of moral reasoning in the self and others (Reimer et al. 1983).

4.4.3.1 Kohlberg's stages

Kohlberg discovered three foundational levels of moral development. The pre-conventional, characterised by a concrete individual perspective. The conventional, characterised by a member-of-society perspective. The postconventional, characterised by prior-to-society perspective. Each of these levels comprise two stages. Each stage demonstrated a changed perspective on what determines 'rightness' and also a changed social perspective of the individual in relation to society.

Level 1—**PRECONVENTIONAL** (Stage 1 *Heteronomous Morality*) has an orientation towards the avoidance of punishment, the equating of physical damage with severity and the acceptance that authority reflects the power to punish. Thus it is right if you are not caught, nothing is damaged or the other party affected cannot harm you. It is wrong if you are be caught AND punished, if the consequence of the act is significant damage or the other party is more powerful than you. In Piagetian terms this conception of moral structure emerges at the conop stage. Thus the equating of logical equality and physical actuality. The individual to society perspective is egocentric. It is only the self's interests that matter or those actions involving the self. The only actions that matter are actual rather than intentional. Authority is not an 'other' of significance but rather another aspect of the self, an 'other' who does/doesn't do something to the self.

Level 1—**PRECONVENTIONAL** (Stage 2 *Instrumental Individualism*) has a naive, instrumental or expediently hedonistic orientation. Reward and personal

benefit dominate the thinking around determining what is right. Rules are adhered to, or broken, in order to serve short-term needs and desires. The actions of others are understood in the same way. The self does not react to guilt and is very pragmatic towards punishment. In Piagetian terms this is still conop thinking focussing on actualities and equal exchange. It elaborates conop thinking by seeing that a greater social role is now encompassed by the self. The individual to society perspective now grants 'others' with having their own interest but from conop thinking those interests and actions mirror those of the self. This is be described as concrete relativism. 'I should do it because if I don't someone else will'.

Level 2—**CONVENTIONAL** (Stage 3 *Mutual Expectations*) moral judgement is based upon maintaining good relations with others. Young children seek the approval or parents and older siblings. Older children seek the approval of their friends. Actions are based on the anticipation of approval or disapproval from highly regarded 'others'. Subjective criteria, guilt or shame, are now more influential than the actuality of pain or punishment. The Piagetian formop stage is now being employed in a preliminary form. Intentionality and subjectivity arise in the thought process, however, a generalised system perspective is not present. The individual to society perspective recognises shared feelings and mutuality which take precedence over individuality. This stage employs 'the Golden Rule' or 'put yourself in the other person's shoes' as a framework of understanding just actions.

Level 2—**CONVENTIONAL** (Stage 4 *Social System*) recognises the existence of societal norms. Instead on conceiving of the norms in smaller social groupings (family, friends) the norms are now recognised at the level of the society lived in. Hence this is a law-and-order orientation. Respect for authority at this stage is less a personalised emotion as a principled emotion. The authorities too must be seen to obey the law, as opposed to the pre-conventional stages where the authorities can be regarded as being above the law. Only the society that the individual lives in is regarded as the valid authority. Formop thought can now see a 'bigger picture'. Individuality, if excessive, can be seen as a possible threat to the system, 'if everyone did it, then what'? The individual to society perspective now adopts the point of view of the system. Individual identity and role is predominantly prescribed by the system.

Level 3—**POSTCONVENTIONAL** (Stage 5 *Social Contract and Individual Rights*) finds a sense of shared rights and duties being grounded in an implied social contract. Individuals do hold their own views, usually drawn from a smaller social grouping. These individual views are upheld in the interest of impartiality but do not necessarily form part of the social contract. Laws should be rational and provide 'the greatest good for the greatest number'. In the Piagetian scheme this stage is late

formop thought. It is still based in logical thought but is now fully elaborated formal operations thinking with the construction of all possible combination of relations. Piaget's theory went no further than this stage. Kohlberg described the individual to society perspective as 'prior-to-society'. That is the rational individual who tries to integrate rights and values through impartial mechanisms of agreement, contract and due process. When moral and legal points are in conflict then integration of individual and social rights can pose difficulties. From this point Kohlberg differentiated a stage that can be seen as a development from Piaget's formop thought. Postconventionality is not un-conventionality or non-conventionality. In the late 1960's a group of 'hippies' were studied through the Kohlberg structures of moral judgement. The finding was that most were at Stage 3 and few were at Stage 5. The Stage 3 respondents were 'rigid' in their unconventionality which placed their moral judgement stage more around group norms than the struggle with individual rights within a system of broad social norms (Loevinger 1976). The form of moral judgement practised at the Postconventional stages operates with a flexibility from social norms but at the same time sees broader orientating justice schemas that can maintain coherence between individuals and groups. Conventional schemas are shared schemas that tend to circumscribe the individual capacity to choose their own moral points in order to maintain the sense of the group.

Level 3—**POSTCONVENTIONAL** (Stage 6 *Universal Ethics*) departs from Stage 5 in that the orientation comes from a self-chosen principle of conscience rather than automatic adoption of society's rules. Laws and agreements are valid because they are based upon certain universal principles, not because a group or the majority decide them. Good motives do not make an action right. Moral motives following a moral principle override the motive of obeying a law. The principles of this rational individual concern justice: the equality of human rights and the dignity of the individual. The individual to society perspective transcends the society lived in to a point where an individual is now associating with a larger community.

These stages are based on ways of thinking about moral matters and the moral stages are structures of moral judgement as opposed to the content of moral judgement (Rich & DeVitis 1985). Stages 1 and 2 are characteristic of young children; whereas Stages 3 and 4 are ones at which most of the adult population operates. No more than 20 to 25 percent of the adult population have reached the last two stages, with only about 5 to 10 percent at Stage 6 (Rich & DeVitis 1985, p.89). The stages are hierarchical insofar as thinking at a higher stage comprehends within itself thinking at lower stages. Higher stages can more adequately organise the multiplicity of data, interests, and possibilities open to each person. Thus the higher stages are not only more social adaptive but are philosophically superior because they move

the individual closer to basing decisions upon a concept of universal principles of justice (Rich & DeVitis 1985).

4.4.3.2 Kohlberg and subject-object balance

The subject-object balancing process is used again to explain how the self to environment development emerges under Kohlberg's schema (Refer Table 4.6, from Kegan (1982)). The stage sequence demonstrates the development of the ego state of the individual. The preconventional levels are egocentric, the conventional levels are socio- or ethnocentric, the postconventional levels are tending towards worldcentric. The stages demonstrate how the dynamic interplay of environment (society) and individual sense of self produces higher levels of assimilation. There is a mutual bootstrapping effect whereby individual development promotes societal development which in turn promotes further individual development.

Table 4.6: Kohlberg Stages of Moral Development shown through subject-object balance

Stage	Subject	Object
Heteronomous Morality	Social perceptions	Reflexes, sensations
Instrumental Individuality	Simple role-taking	Social perceptions
Mutual Expectations	Reciprocal role-taking	Simple role-taking
Social System	Institutional society	Reciprocal role-taking
Individual Rights	Socialised individuality	Institutional society
Universal Ethics	Community of the whole	Socialised individuality

The heteronomous stage is that of naive moral realism. The subject perceives that 'it' does these actions and that the 'others' can either be authority sources of punishment for doing wrong or of rewards for being obedient. The subject perceives a social system, of a kind, where the self is at the centre and all others act in accordance to the actualities of the self's actions. The self and others share a single perspective of society and also share the morally appropriate response to situations.

The next stage, instrumental orientation, begins when the subject becomes aware of these social perceptions in others. Not, 'I am my perceptions', but, 'I and others have these perceptions'. Social perceptions become the object and the subject stance adopted is simple role-taking. In this society the 'others' perceive as I do and so

will act as I do, therefore, I should do what suits my needs otherwise an 'other' will do it anyway. This is now pragmatic moral realism where the self and other will act in order to satisfy their own needs. This represents relatively high egocentricism and concrete thinking. Foresight in that schema is realism and largely projective of the present into a singular future. The society promoted by such thought is pragmatic, accepting of existing authority and power dynamics. Foresight here is anticipatory, preventive and protective. The external world is dangerous, hostile and reckless actions should be avoided. Individual instrumentality applies so foresight is an individual practise with the individual in mind with the outcome of improved instrumental exchange; get more, keep more, avoid more. This stage will struggle to find a means of resolving competing claims or setting priorities.

The first conventional stage arises from individual cognition encompassing a third person perspective and the need for affective exchanges of trust and approval. At the mutual expectations stage the subject becomes aware of the simple role-taking behaviour of others within a societal system, the idea of mutual expectations. The subjective stance adopted is the wish for reciprocal role-taking. The self will adopt the role it is assigned and follow the dictates of the social group in order to retain societal acceptance. The self concedes agency to the social system in order to achieve societal communion. The norms of this stage are integrations of separate perspectives, rather than the single perspective of stage one. This stage coordinates reciprocal and inverse operations, but, within the simple notions of obligation and debt. The thinking is only preliminary formop, at this stage. Trusting people 'like me' is central to this stage. The incipient need to cooperate brings forth sharing and reciprocity behaviours and a reduction in egotism. As the self is somewhat decentered then foresight would encompass collective outcomes and shared futures. Without fully elaborated formop thinking operating what is shared is likely prescriptive rather than constructive. The temporal scale of foresight is not extensive as the object of the thought, the social group, is still a concrete object. Still past and future count for these social groups. The ancestors and the future generations would be conceptual elements in the shared social thoughts. This stage will find it difficult to extend the scope of the norms and roles to people not actually known or who are 'different'.

The next conventional stage is consistent with the use of fully elaborated formop thinking. At the social system stage, institutional society becomes the subjective stance and reciprocal role-taking the object. What is informal at the previous stage are now systematised in order to maintain impartiality. Particularly, the society will have rules and processes for resolving conflicts and promoting the 'societal good'. The social grouping is extended from the physical to the conceptual. Likewise the

moral basis of the society moves from the actualities of acceptance and equity to the concepts of justice and legality. Often superordinate rules, e.g. religious or national, are codified and institutionalised. This is the stage of grand social groupings, e.g. religions, and nationalities, that transcend the individual reality but also provide metaphysical communion around concepts of ethnicity or salvation. Individual conscience is equated with these societal codes. The institutions also prescribe what individual role-taking is acceptable and also what is moral. The individual concedes even greater agency in order to achieve more extensive communion. The individual is not just accepted by society but also is given function and purpose by that society. The individual is institutionalised and the institution is the subject. All societal groupings, which include the individual, are the object of the institution. In this stage the rights of the majority are protected, the rights of any minority are less so. Here foresight can be eschatological and the temporal frame can include all time. The future is important here as a way of ensuring that the social system continues. Foresight is about conservation, continuity, projection and colonisation.

The first of the post-conventional stages can be seen as a reaction to the possible excesses of social system thinking. The individual begins to regain agency from society but not in a way that threatens communion. The agency of the individual is asserted within a moral society, not in any way against it. At the individual rights stage, individual beliefs are considered possible but are subject to the social circumstances. The individual is now a rational moral agent. The subject is now the socialised individual, distinguished from the collective but still bound by the collective sense of good. Its object is institutional society which has to reflect these new-found individual rights. The belief in simultaneous agency and communion can tend towards paradox but this is tempered by the confidence of discovering the 'greater good for the greatest number'. Here is the sense of a 'social contract' that the individual freely enters into that both preserves individual rights and protects the welfare of all members. This is 'society-creating' more than 'society-maintaining'. Foresight is less about the eschatological dimensions of the 'afterlife', instead it has a more prosaic interest in improving the present for the greatest possible number. This would bring foresight back to a more human scale. One possibility here is the idea of 'future generations' being possible society 'members'. Society still retains certain inviolable points so the future interests of society would not disappear, and in this stage the protection of minority rights is a concern. The issue that this throws up is determining relativities amongst these rights.

Upon reaching Kohlberg's sixth stage, universal ethics, the potential paradox at the previous level is solved by transcending to a superordinate subjective stance of the community of the whole. Not individual and communal but inter-individuality.

The socialised individual as object retains its agency but now within the boundaries of a true 'greater good'. Kohlberg said that this stage raises 'dialogue to a principle, a principle of procedure' (Modgil & Modgil 1985, p.497). The moral principles and justice operations of this stage are explicitly and deliberately used in resolving moral dilemmas. Whatever rights that are agreed to exist are extended to all 'others' even if they are unknown to the individual concerned. 'At Stage 6 the notion of trust and community become the precondition for dialogue, human rights, and so on' (Modgil & Modgil 1985, p.497). Foresight at this stage is likewise more about the dialogue and less about the outcomes. The idea of the rights of future generations, or even species, here might be an example of a superordinate ethical position that can be employed to resolve dilemmas.

4.4.3.3 Kohlberg Summary

An individual's image of a preferred future has at its base that individual's sense of moral correctness. That sense of correctness is the basis of the individual sense that this future 'ought' or 'should' eventuate. For that individual's image to become a shared image of the future, a cultural future image, then others must share its moral basis in order to share the sense of 'ought-ness'. As self reflexivity is increased through Loevinger's developmental schema, to the point that the self can be deconstructed, then the moral reflexivity appears to emerge in Kohlberg's schema. The postconventional moral stages depend on this capacity to understand the 'constructedness' of previous stages and by doing so they allow stages that integrate the moral propositions of individual and groups. That similarity between self sense and moral judgement does suggest that postconventional moral judgement thinking could require a postconventional sense of self. Self development could be a lead factor in the development of postconventional moral judgement. It does not follow, however, that a postconventional sense of self would lead to the development of postconventional moral judgement. An individual that was operating from a constructed sense of self could still value the moral judgements that reflect a code of moral membership.

There is much in Kohlberg's later stages of moral development, the phases where inter-individuality becomes apparent, that resonates with the writers in Chapter Three calling for qualitatively different thinking about the future. The later moral judgement stages are broader, handle more complexity, reflect more perspectives and solve more problems. While an aspect of foresight is relevant to problem-solving, anticipating consequences that require prevention or preparation actions, another significant aspect of foresight is 'problem-finding'. Seeking to 'truly understand the present' and why this 'possible present' eventuated and the other 'possible presents'

did not is to search for knowledge of the problems and challenges that are with us now but are unnoticed, ignored or repressed. The creation of future images that address those unknown challenges will possibly require new schemas of moral judgement in order for the image to gain cultural relevance. That is why Kohlberg's study of this line of self-development is relevant to the study of the development of foresight capacity and especially with regards to the questions about social expressions of foresight.

4.4.4 Graves and the theory of values

The research of Clare Graves, upon which Spiral Dynamics © is based, found that the cognitive capacity of individuals evolved in accord with the life conditions they faced. Graves explicitly examined the process of the individual self and environment assimilation. For him the individual 'capacities within' are a direct result of the life 'conditions without'. The mechanism that his research uncovered was the theory of values.

The psychology of the mature human being is an unfolding or emergent process marked by the progressive subordination or older behavioral systems to newer, higher order behavior systems. The mature man tends normally to change his psychology as the conditions of his existence change. Each successive stage or level is a state of equilibrium through which people pass on their way to other points of equilibrium. When a person is in one of the states of equilibrium, he has a psychology which is particular to that state. His acts, feelings, motivations, ethics and values, thoughts and preferences are all appropriate to that state. If he were in another state, he would act, feel, think, judge and be motivated in a different manner (Graves 1970, p.134).

Graves studied university students for over thirty years and he developed his theory from his own research data and not by seeking to extend or apply the theories of other researchers. What he found was an underlying developmental schema of expanding conceptual complexity driven by the existential problems that an individual faces in their environment. He found that the behavioural freedom of individuals increased as they moved up through the levels because more choices were available (Lee 2002). In addition certain psychological attributes were found to be positively correlated to upward movement through the levels. Autonomy, self-causality, and creating novelty were positively related to the level of development while dogmatism, authoritarianism, rigidity and deference were inversely related to the level of

development. Temperament and intelligence were not related to the level of development (Lee 2002). Those attributes do suggest a growth in the flexibility of thinking through the levels.

While Graves concluded that the capacities for broadening cognitive capacity and becoming more flexible in thought already exist for a psychologically healthy adult what was key in the actual developmental process was cognitive dissonance.

Cognitive dissonance must come: noise must come in from the field. Some knowledge must come into the field. Something must come in and stir this thing up when it is a nice state of equilibrium. My data indicated that this still did not produce the change. What it caused was that person to go back and try out his old solutions. He did not go forward. He went in search for some other way, something that had worked before and might work again. He didn't find it. Then the student would get an idea. 'Ah ha! I'm starting to see this a little different. There is something here that I didn't see before.' In other words the student got insight (Lee 2002, p.58).

It is this insight that can arise from the process of disturbing existing modes of thought that Graves theory offers to the study of foresight. An equilibrium state where the problem solving capacities of a mind equate to the existential challenges that are eventuating is not a state that would facilitate foresight. Instead foresight would seek to deliberately step outside that equilibrium state and 'problem-find' those existential challenges that the current level of conceptual complexity that are unnoticed. This is consistent with Diamond (2005) finding that a society's initial capacity to respond to challenges depends upon those challenges being perceived in a timely fashion.

This pairing of existential challenges of existence and its equated level of cognitive complexity caused Graves to describe the levels as letter pairs with the first letter describing the nature of the existential challenge and the second letter pair describe the mode of thinking evoked by those conditions. The values and behaviour of the individual would be consistent with that pairing. What follows are descriptions of each of the Graves' level.

4.4.4.1 Graves' levels

The first stage is that of **AN (Automatic Existence)**. The 'A' challenges of existence at this stage are maintaining physiological survival. The 'N' mode of learning/solving that those problems evoke is habituation. This is the 'ever-present' present of primary consciousness. No sense of separate self has emerged. The mind,

body and environment are fused. When the challenge of physiological existence is largely met, the next problem of existence emerges. The achievement of relative safety through numbers.

BO (Tribal Existence) The ‘B’ challenges of existence are still physiological but now they have the element of imperative periodic need that was present previously. They are problems that need to be solved (e.g. shelter) by human intervention. The ‘O’ mode of learning/solving is Pavlovian conditioning. There is now a sense of self that is emerging. It embraces those values that see social groupings form around myth and magic whereby relative control of the environment is obtained via ‘non-explainable, elder administrated, tradition based way of life—a way which continues relatively unchanged until disturbed from within or without’ (Graves 1970, p.139). Equilibrium between an emerging sense of self and still present physiological need is maintained through repetition and ceremony. When the needs of tribal existence are met then the potential exists for the next challenge of existence to emerge, the expression of individual existence.

CP (Egocentric Existence) The ‘C’ challenges of existence are resource scarcity and the egocentric competition for them. The ‘P’ mode of learning/solving is Operant or instrumental conditioning. This is where the first real expression of true individualism emerges. The individual transcends the dictates of tribe and tradition and through the power of egoic expression begins to shape the environment rather than be shaped. Others concede authority to the egocentric leader rather than compete, thus setting up the dynamic of the leader and the led, those who have and those who do not. ‘But when this system solidifies into a stable feudal way of life, it creates a new existential challenge for both the have and have-not. For death still faces the have and the have-not must explain to himself why he must live this miserable existence’ (Graves 1970, p.141).

DQ (Saintly Existence) The ‘D’ challenges of existence are now more psychological than than physiological. These are the classic metaphysical questions such as ‘Why am I alive’? ‘How should I live my life’? ‘What happens when I die’? The questions are not merely philosophical ones, rather, they are felt and visceral anxieties. The ‘Q’ mode of learning/solving that those conditions evoke is Avoidance conditioning. Rules are prescribed about how people should live and through following those rules a more lasting life is granted. The leader and led still exist but now the leader is maintained by moral rather than physical authority. This is the rule of ‘divine kings’ and ‘God’s bishops’. The egocentric individual now concedes agency to the group-rules in order to gain relief from anxiety and guilt. Security is granted to all through obedience to these rules. The future is now alive as the place of reward and salvation for the chosen ones. The physiological challenges that

were manifest in the previous levels are now matched by an equally powerful psychological need for comfort. The equilibrium achieved at this level is powerful and many people continue to solve their existential and metaphysical challenges from this value level. Yet even with such a powerful equilibrium state occurring there is still the potential for a breakout of individualism again. This time the environment is seen as a source of intellectual challenge for a burgeoning sense of individualism.

ER (Materialistic Existence) The 'E' challenges of existence are the need to satisfy material desires and to achieve status in and mastery of the physical world. The 'R' mode of solving/thinking evoked by these problems is Expectancy learning. This is the level where positivist, scientific, and economic methods are employed to material ends in order to tame the external environment. The individual rational mind breaks away from the constraints of the previous level and liberates itself to be all that it can. There are still the leaders and the led but here authority is granted through competence, recognition and material wealth. This is another powerful equilibrium point where the psychological needs for status and individuality can be satisfied by materialism. Once again many people find the challenges of existence can be solved from this value level. This is certainly the dominant level of values that is operating in the Western world. At this value level the future can be either discounted to a lesser value than the present or the future can be a valued opportunity space for more status and success. While material desire can be insatiable and individuals can spend their entire life as consumers there is also the possibility of satiation with material desire and the entry of the challenges of the next existence stage. 'He finds himself master of the objective physical world but a prime neophyte in the subjectivist, humanistic world' (Graves 1970, p.142).

FS (Sociocentric Existence) The 'F' challenges of existence are finding community in individuality. The individual is concerned with findings ways to belong with others. The 'S' mode of solving/learning that is brought forth is the Operational learning process. Acceptance, equality and understanding become the central themes and this is brought about by learning about self and the others. Knowledge of the objective and exterior is now of secondary importance. The group now leads and process stands above outcome. Individual 'consciousness' itself can become a predominant concern of individuals and while this level might sound like it is friendly and sharing Graves own experience was that 'You are going to find that the F-S system is as authoritarian as hell' (Lee 2002, p.93). Graves found that this value level appeared free on the surface, often revelling in its non-conformity, however conformity with the group non-conformity was often rigourously enforced. Nevertheless this is another strong equilibrium point and a refuge for the traditional minorities found in the previous levels but it is a level that is still much less common

that the previous two. Dissonance will disturb this equilibrium point when:

‘people are beginning to say that the one thing that has to go is majority rule because the evidence has now well accumulated that the majority is always wrong and that you have to get away from the idea of equality. It is the revolution against equality in a movement from FS to GT that says there isn’t any evidence in all of science that any two persons were ever born equal and you’d start getting on with it and work on problems within that point of view. (Lee 2002, p.93)

For Graves this next level, however, is not a continuation of the pattern of earlier ones. It is quite different. ‘The bridge from the sixth level to the seventh level is the bridge between getting and giving, taking and contributing, destroying and constructing. It is the bridge between deficiency and deficit motivation and growth and abundance motivation. It is the bridge between similarity to animals and dissimilarity to animals’ (Graves 1970, p.142).

GT (Cognitive Existence) The ‘G’ challenges of existence, which may not even be broadly apparent at present, are how to bring viability to a disordered world. This is the stage that Graves said transcends merely animalistic needs and, instead, is focused on human needs. Instead of being focused upon ‘subsistence’ it is ‘knowing and doing so that all can be and continue to be’ (Graves 1970, p.143). What is the ‘T’ mode of solving/learning and how is it so different to the other levels?

Let’s use my hypothesised explanation of the differences between the GT level and the other levels. . . What I find explains best to me the reason that the people in the G-T level behave so much better quantitatively and qualitatively, time-wise etc., is this—they are simply not afraid. They are not afraid of finding food (AN). They are not afraid that they are not going to find shelter (BO). They are not afraid of predatory man (CP). They are not afraid of God (DQ). They are not afraid of not having status or not making it on their own in the world (ER). They are not afraid of social rejection (FS). You’ve got a human being who isn’t afraid. Now we wouldn’t deny, would we, that fear has got a chemical factor in it? So, if we move the chemical out of the brain; get it out of there. What have we got left? This is what I am saying and it suggests that these basic rules hold all the way through the systems (Lee 2002, p.67).

Graves research found that individuals at this level saw challenges differently and

so found very different solutions and that they produced more solutions to a given set of challenges because they operated without the ‘fear’ of the earlier levels.

Graves also found traces of an eighth stage, what he called **HU (Experientialistic Existence)**. He found very few individuals operating at another level of cognitive complexity. The ‘H’ challenges of existence are almost certainly invisible to most individuals. The ‘U’ mode of solving/learning does appear to be another significant jump from GT. ‘I find that the HU person can turn off other levels of consciousness at will. He can go out of this world and go off into other levels of consciousness and come back at will’ (Lee 2002, p.68) Graves did not regard that level as the end point of his schema, just that it was the limit of what his data found. He did speculate what that level of values could bring.

If ever man leaps to this great beyond, there will be no bowing to suffering, no vassalage, no peonage. There will be no shame in behavior for man will know it is human to behave. There will be no pointing of the finger at other men, no segregation, depredation or degradation in behavior. Man will be driven forth on the subsequent crests of his humanness rather than vacillating and swirling in the turbulence of partially emerged man (Graves 1970, p.143).

4.4.4.2 Graves and subject-object balance

The subject-object balancing process is used again to explain how the self to environment development emerges under Graves’ schema (Refer Table 4.7). The progression of the Graves stages are an oscillation between self-expression and self-sacrifice. The self expression stages, Egotistic, Materialistic and Cognitive, progressively reduce the scope of their influence on the external environment. The scale of self-expression becomes more circumspect as the self becomes more aware. Conversely, the self-sacrifice stages, Tribalistic, Sainly, Sociocentric and Experientialistic, expand the scope of the community that the self is prepared to sacrifice their individual wants for. This is the same pattern of development that Chapter Two outlined in the worldviews of foresight. External hubris is circumscribed by growing self awareness while the scale of communion grows. The self-expression stages also mirror the Piagetian growth in intellectual development through the decentering of ego. Even the stage names of Egocentric through to Cognitive echoes Piaget’s findings. The self-sacrifice stages, likewise echo Kohlberg’s moral stages. Tribalistic is Preconventional, Sainly and Sociocentric are Conventional and Experientialistic is Postconventional.

Time and the sense of the future emerges differently from each of those stages. At the Automatic/AN stage there is only a slight awareness of the passing present

Table 4.7: Graves Stage Developmental process shown through the subject-object balance

Stage	Subject	Object
Automatic (AN)	Locus in Focus out to to survive	Environment
Tribalistic (BO)	Locus out Focus in to be safe	Ritual
Egocentric (CP)	Locus in Focus out to gain power	Competition
Saintly (DQ)	Locus out Focus in to find truth	Observance
Materialistic (ER)	Locus in Focus out to to gain comfort	Competence
Sociocentric (FS)	Locus out Focus in to find peace	Protect the victims
Cognitive (GT)	Locus in Focus out to to gain awareness	Greater knowledge
Experientialistic (HU)	Locus out Focus in to flourish	True humanness

and no awareness of either past or future. The driving force is survival.

At the Tribal/BO the body is differentiated from environment, however mind/body is still fused. Spirits and magic are attributed to the environment. Time is present/past centred. Ritual and seasonal behaviours are common. The past is important because of what it tells about the present. The self/mind is associated with the tribe. Described as a sacrifice-self mode there is self-tribe connection. Everyone 'not-tribe' is an 'other' and is probably not that differentiated from the environment. Future is not clearly understood. Individual is immersed in present/past. The driving force is safety/security. The psychological clock is the cycle of the seasons.

At the Egocentric/CP stage the self separates from the tribe. The first of the express-self modes. Strongly egocentric, impulsive and heroic. Full differentiation of mind/body from environment. Environment is a challenge/threat to be conquered. Present/past is still strong but now there is a sense that the individual can do something to break free from the bonds of the past. The future is destiny/fate but what rules is the immediate now. Present actions count more than past or future. The other is a challenge to be responded to. The driving force is power/action. The psychological clock is the hourglass running out or the candle burning down.

At the Saintly/DQ stage existential challenges start to emerge in the mind. Purpose, peace of mind, obeisance become important. End of life and possible afterlife govern present actions. Monumental thinking at this stage indicates an extended time sense. The history of the past gives authority to the present and a trajectory

into the mono-future. Sacrifice now for future reward. Stable extrapolative and linear view of the mono-future. The other is now someone to save from themselves, to be shown the 'light.' The conceptual space of others now includes everyone who believes in the same authority. The driving force is stability, order, epoch, dynasty. The psychological clock is judgment day.

At the Materialistic/ER stage is the point where the mind begins to be differentiated from the body. Still seeking truth but now it is found by the actions of the 'right thinking mind' rather than a higher authority. Seeks freedom from dogma although dogmatic about scientific approach over all other methods of inquiry. The future is secured by rational competence. Past now becomes 'old' and 'not-new' and is something to be got away from. Foresight defaults to measures of material success (Bigger, faster, farther, more). Time, like the environment, is something to be exploited for personal gain. The psychological clock is the chronometer. Foresight is still linear and extrapolative but now there are multi-futures. The other is a competitor. The conceptual space of others now includes all other rational individuals. The driving force is opportunity and success.

At the Sociocentric/FS stage the existential challenges of the mind are reasserted. Truth is now found through the deconstruction of rationality and then its clarification through consensus building. Foresight is secured by normative processes. There is now a conscious attempt to reintegrate the mind and body and environment. The mind is not overly present focused, time is no longer seen as a scarce resource. The modern past is found to be 'bad' but the pre-modern past is found to be 'good'. The thinking still tends to be linear and extrapolative but now normative futures. The other is everyone who is a victim of the previous differentiated modes of thought. The driving force is harmony/love.

The Cognitive/GT stage seems to leave the existential challenges of the earlier modes and begins to focus on being. Truth is found through knowledge of the system. Happy with non-linear change it can view time through differing temporal systems. The self-sense is comfortable with foresight that is chaotic and emergent. The other is all-life. The driving force is integral niche.

The Experientialistic/HU stage embraces evolutionary foresight. It sees the world as a system of balanced forces and processes, similar to Lovelock's (1979) Gaia 'hypothesis'. The other is global-life.

4.4.4.3 Graves Summary

The Graves stage theory compliments and elaborates much of the theories of Kohlberg and Loevinger. These three developmental lines form the basis of the hypothetical

model that this research will test. It is theorised that the development of foresight capacities in the individual correlates with individual self-sense development.

Precisely because the overall self contains several different streams, the overall self does not show a sequential or stage-like development. However, modern research has consistently shown that at least one aspect of the self does undergo relatively sequential or stage-like development, and that is the proximate self. . . What Loevinger calls ‘ego development’ is quite similar to what I refer to as proximate self-development. And proximate self-development is, in my view, at the very heart of the evolution of consciousness (Wilber 1999*a*, p.466-7).

It was not known whether each of the lines of development are equally sensitive to the development of foresight, or whether some of these lines ‘lead’ development while others might ‘lag’. Wilber makes the point that a ‘person can be highly evolved in some lines, medium in others and low in still others’ (Wilber 1999*a*, p.462) so an evenness in the lines across an individual was not expected. The next chapter will outline the specifics of the method employed to provide insights into those previous questions and the overall research questions.

4.5 Theoretical Research Summary

The hypothesis that this theoretical research examined was that the capacity of foresight was expanded through the development of consciousness. Individual consciousness was said to operate through constructed notions of ‘reality’. Specific constructions were valid if they offered persuasiveness and utility to the individual but no specific construction was ever ‘true’ in the sense of positivist research. Through the development of consciousness the actor gained reflexive awareness of the constructed nature of their thoughts and assumptions. They became ‘consciousness in the midst of actions’ (Torbert 1991, p.221) rather than merely consciousness informing action.

In Chapter Two, Jean Gebser’s research ‘into the forms of consciousness manifest in various epochs of mankind’ (Gebser 1985, p.37) highlighted that individual consciousness was dynamic and developmental. While Gebser’s research did find that a range of structures of consciousness were available to contemporary humanity, the dominant mode of consciousness operating in ‘modernity’ was characteristic of the ‘Mental’ structure. That mode of consciousness was ‘directed towards objects and duality, creating and directing this duality and drawing energy from the individual

ego' (Gebser 1985, p.72). Thus the existing manifestations of foresight were predominantly the expression of Gebser's mental structure of consciousness. The potential for new and more adequate manifestations of foresight were possible although such developmental progress was not predestined.

Four propositions about the development of foresight arose from the study of Gebser's research.

- Foresight was an attribute of the development of individual consciousness. Imagination played a pivotal role in the emergence of foresight as it moderated emotion and instinct and yet imagination appeared to be progressively removed from foresight as the mental structures of consciousness become predominant.
- The expression of foresight was mediated by the historical, cultural and social milieu in which it was practised and what emerged was a 'layering' of foresight. The dynamic of foresight oscillated between the influence of an external and internal focus. The increasing complexification of the external world drove the foresight focus outward, from the observer, while the realisation of the potential for immoderation in that external focus turned the focus inwards, in order to address the immoderation or to re-scale the perspective. Over time the scope of the external focus became more circumspect as complexity caused a reduction in hubris, while the inward reflexivity became more encompassing.
- Education, or the development of 'knowledgeability', was an important aspect of consciousness development. External knowledgeability and education could liberate foresight from an exclusive association with rationality. Internal knowledgeability was central to becoming aware of the limits of knowledge.
- Transcending ego and transcending rationality were critical junctures in the evolution of individual consciousness and hence the development of foresight.

In Chapter Three, those propositions were tested against the literature of the field of Future Studies seeking instances where knowledgeable writers in the domain commented upon the evolution of human consciousness insofar as that evolution could be understood through the expression of foresight. The following were the findings of that investigation in relation to the previous four foresight propositions.

- Foresight as an attribute of individual consciousness was observed. Fear was found to underpin many of the low-quality responses that much of humanity adopted in the light of the failure of rational certainty. A range of responses

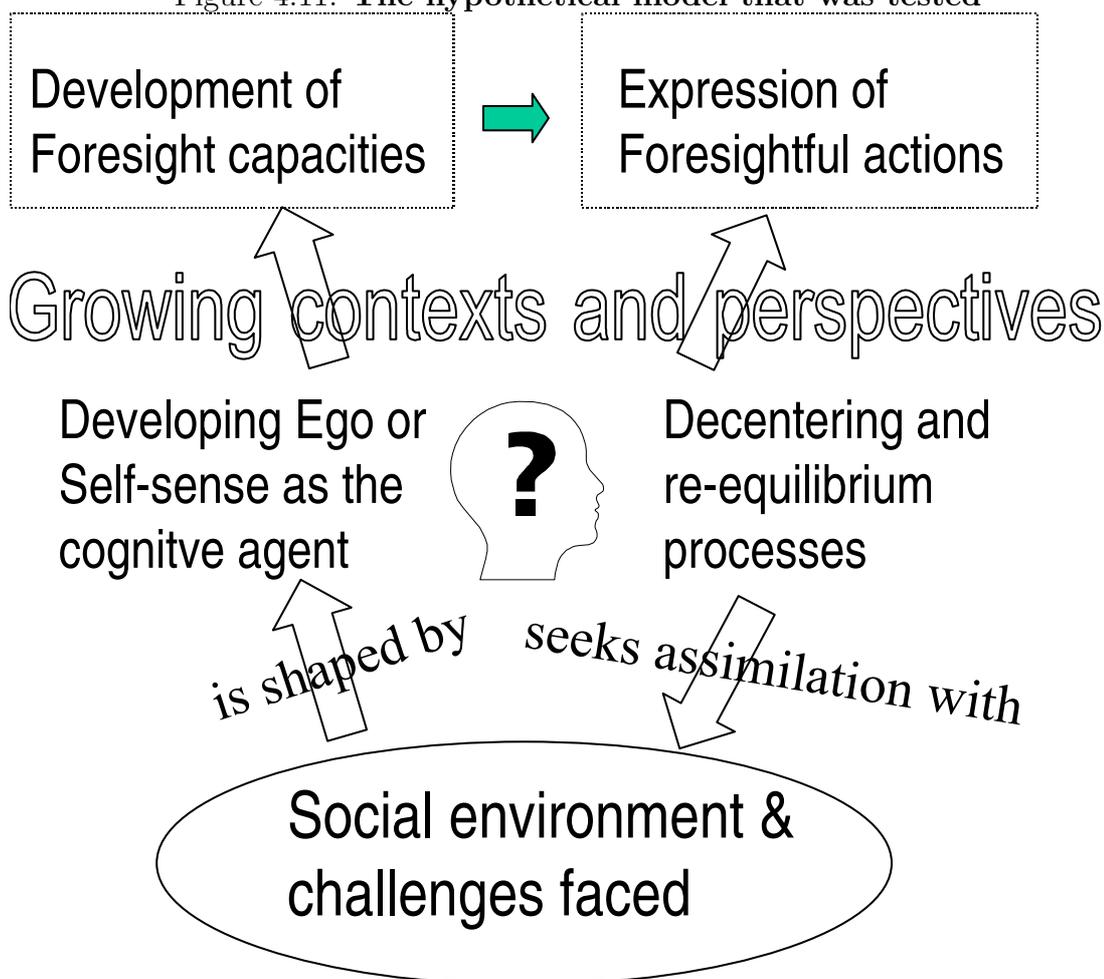
were found that acted to suspend this fear and thereby permit higher-quality responses to the failure of rational certainty; e.g. remaining open, using knowledge surrogates, taking action and employing dialogue. In addition, a range of additional responses acted to transcend the fear arising from the failure of rational certainty; e.g. trusting in hopeful and inspiring futures.

- When foresight adopted a predominantly external viewpoint it tended to narrow the range of interests that it served. It tended towards immoderate expression and in its extreme expression it could lead to de-futuring behaviours and perspectives. The addition of an internal viewpoint tended to moderate the external expression of foresight and also expanded the range of interests that could be served by foresight. The range of interests served by foresight could encompass pragmatic, progressive and civilisational interests, however, the more extensive and inclusive viewpoints operated to give each level its operational context and reduce immoderation.
- Foresight could act to promote knowledgeability in humans and as such it operated as a ‘higher-order’ language. The ability to truly understand the present was part of such a knowledgeability. Acknowledging that many of the prior actions of foresight predominantly served the interests of those in power was also part of such a knowledgeability. Not seeing technology as neutral, standing outside the present and asking “why we live in this world and not the others that are possible” were also part of such a knowledgeability. Instead of seeking stability, learning to understand surprise, limits, disturbance and transformation was likewise part of such a knowledgeability. Noting the bias of Western institutions against foresight and the complicitness of science in the present human situation were also part of such a knowledgeability. Realising that traditional discourse both constructs and limits the appreciation of problems, that the West validates only a narrow range of discourses and that language is not a neutral tool were also part of promoting such a knowledgeability.
- Finally the attendant sense of self was thought central to foresight. Perceptions of dissonance about external situations could lead to dissenting viewpoints and then thereby to a deeper understanding of the self. New psychologies of thought and the use of the entire spectra of consciousness, not merely the abstract processing functions, aided the individual to transcend the ‘self’. Concepts such as ‘enough-ness’ and ‘attainment’ were manifestations of such consciousness development and they could arise from a discourse about the

future. A socialised expression of foresight could arise from such a discourse provided support and space are granted within which it could flourish.

Earlier a hypothetical model of the development of foresight in individuals was proposed (refer figure 4.11). Its central idea was based upon the work of Jean Piaget

Figure 4.11: The hypothetical model that was tested



and of the developing sense of a cognising self that is both shaped by and sought assimilation with its physical and experiential environment. This cognising self observes a growth in the contexts and perspectives within which foresight capacities are developed and enacted. That cognising self can also adopt a ‘metacognitive’ stance that could gain reflexive insight through awareness of its own formative and cognitive processes. This metacognitive capacity was pivotal to the ongoing development of consciousness, specifically with regard to those structures of consciousness that could extend beyond Gebser’s mental structure. Metacognition added an inwardly focused perspective to the external and abstract mental structure and promoted

‘knowledgability’ in the self.

That hypothetical model is the theoretical answer to the first research question; “How does foresight develop in the individual”? In the next part of this thesis this hypothetical model will be examined through a preliminary piece of empirical research to determine if that developmental dynamic could be detected thereby granting additional credence to the theoretical research and placing some preliminary markers into the research territory in order to support subsequent empirical research.

Part II

Empirical Research

Chapter 5

Methodology

5.1 Introduction

This chapter will present the research methodology employed in the empirical part of this thesis. Part I was directed towards generating a theoretical understanding of how an individual develops foresight capacities that enable the recognition of challenges, the consideration of consequences and the envisioning of pathways to preferred futures. That theoretical research proposed that individual foresight capacity, as it is defined in this thesis, was an expression of the developing psychology of the individual sense of self. Existing theories of psychological development were applied to what the field of futures studies regards as the characteristics of individual foresight. Three specific ‘lines’ of psychological development, self sense, moral judgement and values have provided both support to the generation of theory and also provide research methods for testing that theory. The empirical research would then seek to gather data on those developmental lines amongst two adult populations.

5.2 Research design

While this thesis was ultimately seeking ways to create and support social foresight that ambition would depend on the foresight capacity of individuals. Accordingly the level of analysis in this empirical research is individuals. This research examines individuals who were somehow encouraged or motivated to undertake postgraduate study in a relatively new academic discipline, the Masters of Strategic Foresight (MSF), rather than searching for foresight capacities in a general population. The research design was to gather data from an individual at the point formal study of foresight was commenced. The research design sought to determine how these indi-

vidual foresight students presented similarly or differently to another comparative group. The comparable group selected for this research was individuals undertaking study in a well established discipline, the Masters of Business Administration (MBA), in the same institution at the same time. That group was chosen to reduce the number of heterogeneous factors at play. Most MBA and MSF students could be described as 'mid-career' professionals who were either updating their educational qualifications or seeking new career options. As there was no external distinguishing features that could be used to discriminate between either student type then the possibility of determining an internal distinguishing characteristic was enhanced. The final research design point was to collect data from each individual again, this time at the end of their first academic year, thereby allowing the same comparative exercise to be repeated and a point-to-point examination between the two data points to determine what, if any, changes had occurred across the academic year. The need for a test and re-test approach across a number of people made a questionnaire the preferred data collection method.

The research design would have two phases with two different research populations across an academic year. The study was repeated for two years. First, a questionnaire (refer Appendix A) was distributed to the first year students undertaking the MSF during their first class. The purpose of the research was explained to them and they were invited to participate. A stamped self-addressed envelope was provided with the questionnaire and they were asked to complete the questionnaire after the class and to return it when complete. They were also told that a second questionnaire would be sent to them at the end of the year if they did choose to complete the first one.

At the same time that the MSF students were being approached arrangements were also made to present the same questionnaire to a group of first year students who were undertaking the MBA at the same institution. The criteria for choosing the MBA class would be to gain access to new students of that course who were commencing their study at approximately the same time as the MSF students. The coordinator of the MBA chose a suitable class and the questionnaire was distributed to each student in each class of that subject with the same invitation to participate and a return envelope to allow them to complete the questionnaire and to post it back. This completed the first phase.

The second phase of data collection involved posting the second questionnaire to each student in both courses who completed to the first questionnaire. Once again a stamped self addressed envelope was provided to enable the second questionnaire to be easily returned. This completed the second phase.

Both phases were run for two consecutive academic years.

5.3 Research Instrument

Once the decision was made to use a questionnaire to collect data then the design of that instrument began. As much as was possible the intent was to use preexisting and well established research frameworks. As the preceding chapter has shown the research would be examining three lines of psychological development, the self line, the moral judgement line and the values line. The questionnaire would be drawn from the work of the three researchers who examined those three lines of development, Jane Loevinger, Lawrence Kohlberg and Clare Graves.

Jane Loevinger's research was the easiest to adapt to this research as her own data collection method was a questionnaire and her questions and assessment schema were publicly available through a series of books. Loevinger's data collection method was known as the sentence completion test, where a fragment of a sentence is provided and the respondent completes the sentence. Loevinger, Wessler & Redmore (1970*a*) published an extensive scoring manual for rating the fragment completions. A revision to that scoring manual was also published by Hy & Loevinger (1996). Twelve questions were selected from the thirty-six questions that Loevinger's test used. The number of questions strove to balance the time that a respondent would have to take to complete the questionnaire, and the need to get sufficient data to make a rating. Given that the questionnaire would be comprising three researcher's methods, then starting from an initial design of one third of the questionnaire for each research theory had some appeal. Another factor in choosing the twelve questions was the nature of Loevinger's own research. Loevinger developed her questions conducting research of high school, college and prison populations. Many of her questions were aimed at gaining data that can be used to discriminate respondents at some of her early stages of development. Those questions focused on issues such as sexual attitudes and parental/authority relationships. Given the audience and the theory being tested by this research those type of questions were not considered relevant and useful. When those questions were eliminated then twelve questions remained that were considered suitable and relevant for the research aims of this thesis. The twelve questions that were used in this research can be found at questions 6 through 17 of the questionnaire (refer Appendix A)

The scoring protocols that Loevinger employed were based around two sets of ogive rules that were used to assign total stage ratings to the respondent answers (Loevinger et al. 1970*b*). The original ogive rules were based upon thirty-six questions and this research used twelve of those. The stage totals in the original ogive rules were accordingly reduced by two thirds.

Lawrence Kohlberg's research method was an interview, not a questionnaire. He

used a structured interview method that required two years of training to become adept in it. The rating manual for the method alone was over five hundred pages long. Kohlberg's method of data collection was considered by some researchers, Loevinger especially, to be highly subject to interviewer bias. Rest (1999) demonstrated that moral judgement data could be also collected through a questionnaire methodology and this gave support to the idea that Kohlberg's theory could be tested that way. 'The use of stage-prototypic statements assumes (a) that stage characteristics can be specified; (b) that a statement can be written which distinctively exemplifies stage characteristics; and (c) that subjects who are advanced enough in their own development can appropriately recognise stage characteristics in statements' (DePalma & Foley 1075, p.91). In Modgil & Modgil (1985) Kohlberg discussed how his theory of moral judgement related to Aristotle's five dimensions of justice and in that same chapter he showed how his different stages of moral judgement would relate to Aristotle's questions. That chapter provided both the design and analysis elements that could be combined into a questionnaire method. The particular format of question chosen was a 'forced choice' style where the respondent was shown six options to each moral dimension and asked to choose their preferred option(s) by way of allocating weightings to the responses that they most agreed with. The questions used can be found in Appendix A.

The instruction that went with the questions was: *You have a total of fifteen points to distribute amongst the six options to show the relative strength of your agreement with the statement. You may choose to put all fifteen points against a single statement, if that is the only one that you agree with, or you can divide the points up between two or more statements.*

There were two scoring processes with each question. First, a weighted average stage response was calculated for each question and the average of these was given as the overall stage rating for the individual. Second, the response for each question was examined to determine the mode of judgement. Specifically did they reason categorically with a majority of their weighting against a single statement and at least more than twice the weighting given to another response? Each example of a categorical mode of reasoning was counted and the sum of these recorded for a respondent. While it was not necessarily expected that respondents would always prefer a single response only it was anticipated that answers would be centralised around one or two stages. Kohlberg's theory, supported by Wilber, was that moral structures of thought are not permanent, they are transformed by each new stage of thinking achieved. So it was not expected that a person located at a conventional stage of moral development would prefer to use pre-conventional moral thinking in a given circumstance. Once a person is located at a conventional stage of moral

development they would regard preconventional morality as ‘immoral’. The expectation in this research was that respondents would tend towards categorical moral thinking around a likely settled moral stage.

Clare Graves’ research methods were not as well known as were those of Loevinger and Kohlberg. Graves was known to other psychologists but his data and research methods were not exposed to the examination of other researchers (Loevinger 1976). Graves’ theories would have likely disappeared but for them being commercially exploited under the commercial brand, Spiral Dynamics[©] (SD). SD theory and data collection methods are now taught through professionally accredited workshops on a fee for service basis. The appeal for including SD theory in this research was that the researcher was already accredited in using the SD method and that it was another line of development that could be used to increase the range of data collected. The difficulty that was encountered was that the proprietary owners of the SD research instrument would not make it freely available for this research. Rather than abandon a potentially useful line of research the design decision was to generate data using the original Graves inquiry method of asking “This I believe” questions and then interpreting the data provided by the respondent. During the SD accreditation, rating protocols were discussed for these questions and these could be used for data analysis purposes. The questions used in this research can be found at Appendix A.

In addition to using the protocols given during accreditation another SD trained practitioner, who did not have any involvement with the MSF or MBA courses, assisted by giving ‘blind’ interpretations of the respondent data collected. Where the ‘blind’ rating differed from the one scored by the researcher then an accommodation between the two ratings was sought.

Hence the three elements that went into the design of the research instrument for this study were devised: twelve questions from Loevinger’s research method, five questions based upon Kohlberg’s model of moral judgement and seven questions based upon the research of Graves.

5.4 Research population

As the research population were students, then ethical clearance had to be given before the research could commence. Only the data from those students who gave permission was used in this research. Students were advised that participation in this research was not a required element of their academic study and their participation was purely voluntary. Data from the research was not available to teaching staff. Student names were removed from the data and other identifiers were used for all data analysis.

Apart from identifying the particular teaching classes that would be approached, no attempt was made to select the cases that were studied. No claims of statistical significance can be made from this data as no attempt to create stratified samples was made. The students studying foresight were a self-selected group and it is one of the aims of this research to determine what factors may explain that self-selection. The MBA students were selected from a single criterion, they were also commencing a 'new' postgraduate course at the same institution. The MBA students are the initial comparison point for the foresight students but they are not considered indicative of the general population. Where it was available, published research that gave indicative comparisons of these studies in statistically designed samples was also employed for comparative purposes.

5.5 Data collection

The individual questionnaire responses of the MSF and MBA students were interpreted according to the protocols and rating guidelines provided by the original researchers. Age and gender data were also collected for each respondent and these became the main identifier for each respondent in addition to providing another source of data. The primary level of analysis was each individual student. Each year of the MSF and MBA respondents also became a 'cohort' for the individual responses and their reporting. At the end of two years of research the two year cohorts for each of the MSF and MBA were combined and became a third unit of reporting.

5.6 Data analysis

The initial level of analysis was to rate the responses for each individual in accordance with the theory of the researcher whose research underpinned those questions. It took approximately one hour to rate a survey response for an individual. The simplest analysis element were the Kohlberg questions where the form of the survey answer directly gave the stage rating. The Loevinger questions were more complicated to rate. There are two extensive scoring manuals that are available to determine stage ratings from sentence fragments. The initial ratings take longer than the later ones as the rater becomes more familiar with the rating schema. The earlier self stages are also easier to rate as the later ones are more nuanced and need closer examination. The Graves questions were the most difficult to rate as there is no acknowledged scoring manual that can be used. Spiral Dynamics accreditation training does extensively explain the rating protocols and these were extensively

employed in the rating process. Another accredited SD practitioner was used to give a second ‘blind’ rating of the Graves responses and this was used to raise the rating validity. The use of a second rater did add more time to the overall data analysis process.

The individual responses for each cohort under one of the psychological theories were then presented as three distributions, one sorted by age, one sorted by gender and another unsorted. Two data populations for each cohort distribution were used, all the students who filled out the first research instrument and all those students who completed both research instruments.

For each year/course cohort the following comparisons were made—the starting distribution of individuals who completed both instruments, unsorted; the ending distribution of individuals who completed a second instrument, unsorted; and the comparison between the two for patterns over the year. Where a pattern was suggested by the data then the psychologist’s theory was used to give a possible explanation of the pattern. The starting and ending distributions were then sorted by age and gender to determine if any additional patterns emerged. If a new pattern was detected then the psychological theory was examined for a possible explanation. When the analysis of the MBA and MSF cohorts for a single year were completed, comparisons between each of these were made to determine differences, similarities and patterns. Once again the respective psychological theory was sought to find possible explanations. The entire data analysis process was then be repeated for the second year’s data and again for the combined years cohort for both courses. Complete analysis of each year/course cohort was repeated for each of the three psychological theories.

5.7 Validity

This was qualitative research and Maxwell (2002, p.43) gives five categories of validity that concern the qualitative researcher: descriptive validity, interpretative validity, theoretical validity, generalisability and evaluative validity. In order to maintain that this research is valid then these categories of validity must be adequately addressed.

For the experimental/quantitative researcher descriptive validity comes largely from their ability to factually describe or give an account of physical objects or events. For the qualitative researcher validity is relative and not independent of a perspective or interpretation. In this research the respondent data provided is descriptively valid because it is in the words of the respondent themselves. Of course this validity is not itself free of interpretation and theory. The questions

that were asked of the respondents, which themselves arose from theory, to a extent constructed the spectrum of possible responses that a respondent could make. Still there is no dispute that the respondents did answer what they answered.

Interpretation asks what the descriptions that were made ‘mean’ and interpretative validity asks if those ‘meanings’ are acceptable or problematic. The potential of problematic interpretation can never be removed as there is ‘no in-principle access to data that would unequivocally address threats to validity’ (Maxwell 2002, p.49). Rather the recognition that all interpretation is an exercise of perspective does uncover a pathway to acceptable interpretation. In his Four Quadrant Model Wilber (2000a) has located an individual’s interpretation of their own thoughts, ideas, beliefs as an individual/interior process—the perspective taken from the ‘Upper Left-Hand Quadrant’. A methodology for making inquiries of the ‘Upper Left-Hand Quadrant’ interiors is phenomenology but phenomenology can only provide valid interpretations into the interiors of the individual making the inquiry. Phenomenology cannot help an individual interpret the interiors of another person. According to Wilber what can make adequate inquiries into the interiors of other individuals is ‘structuralism’.

Basically, structuralism is phenomenology plus history. That is, it starts with phenomenology—or any first-person realities—but then follows the phenomena over long periods of time and attempts to spot any regularities or patterns that the phenomena follow. Those patterns are, of course, the ‘structures’ within which the phenomena move (Wilber 2002, p.8).

He later makes the additional point that ‘some of the truly brilliant structuralists have included Jean Gebser, James Mark Baldwin, Jean Piaget, Lawrence Kohlberg, Abraham Maslow, Erik Erickson, Clare Graves, Robert Kegan and Jane Loevinger (Wilber 2002, p.9). Interpretational validity is a direct property of the adequacy of the structural framework through which the phenomena are examined. This research has employed structural frameworks that are regarded as exemplary in their knowledge domain thereby granting this research interpretational validity.

‘Theoretical validity refers to an account’s validity as a *theory* of some phenomenon’ (Maxwell 2002, p.51). This aspect of validity is also a property of the structural frameworks through which the phenomena are examined. The validity of theory arising from a framework is also dependent on the purpose of the research. Theory can be concerned with verification and it can be concerned with discovery.

In the former type, theory serves as a framework to guide verification.

In the latter, theory is the ‘jottings in the margins of ongoing research’,

a kind of research in which order is not immediately attained, a messy, puzzling and intriguing kind of research in which the conclusions are not known before the investigations are carried out (Gherardi & Turner 2002, p.90).

This research is of the later kind and so theoretical validity is a property of a framework(s) to produce theory to aid discovery. As this research employed three separate structural frameworks in order to maximise the potential for discovery then it is considered that its theoretical validity is granted.

‘Generalizability is normally based on the assumption that this theory may be useful in making sense of similar persons or situations, rather than on an explicit sampling process and the drawing of conclusions about a specified population through statistical inference’ (Maxwell 2002, p.53). This research certainly makes no claims to be an explicit sampling exercise from which statistical inferences can be drawn. It instead seeks to discover theory that does have utility in making sense in other situations. By locating the research within a school of Higher Education then this can be argued as working against generalizability, yet, in order to discover what is innate and what is cultivated in how individuals practise foresight then would it make sense to design research that did not take place in a situation where there was an excellent chance of discovering useful theory? In any case, the idea of the generalizability of theory that arises from qualitative research is not shared by all academics. ‘It is virtually impossible to imagine any human behaviour that is not mediated heavily by the context in which it occurs. One can easily conclude that generalizations that are intended to be context free will have little that is useful to say about human behavior’ (Guba & Lincoln 1981, p.62).

Finally evaluative validity must be considered. Like generalisability, evaluating the validity of what phenomena are observed is not necessarily an objective of qualitative research (Maxwell 2002). Yet this research does not adopt that stance as its goals are explicitly normative. This research unashamedly believes that foresight is not widely practised and is in critical need. The frameworks employed in this research all have at their basis a belief the potential for human development to higher and higher levels of health and wholeness. Foresight, be it individual or social, is hypothesised to be an outgrowth from such human development. This research has in its design a intention to provide evaluative validity to its findings.

5.8 Chapter Summary

This chapter started out by briefly discussing the purpose of the research and the research questions it set out to address. A discussion and explanation of the research instrument was then presented. The research population was discussed. The data collection and data analysis procedures were outlined. Finally the validity claims of the overall research design were made.

Chapter 6

Analysis of data

6.1 Introduction

This chapter will detail the results of a two year study of students undertaking the Master of Strategic Foresight (MSF) at Swinburne University in 2003 and 2004. In each of those years a research instrument was given to students commencing the first subject of the MSF. That same instrument was also given to a group of students undertaking the first subject in the Master of Business Administration (MBA). At the end of the academic year the research instrument was again given to the MSF and MBA students that had completed the first instrument. The data from each student grouping will be considered a separate annual data cohort and the two students groupings will be combined to create a third data cohort.

6.2 The subjects of the research

The MSF is a postgraduate qualification offered at the Hawthorn campus of Swinburne University. The educational requirement that a student must have an undergraduate qualification in any discipline means that most students are early to mid-career professionals. The same qualification restriction applies to the MBA. At admission to the respective MBA and MSF courses there is no obvious difference in students who undertake either postgraduate course. At information events offered by the university, people making inquiries about the MSF often report that they are “looking to do a post-graduate qualification like an MBA”. The MBA offered by Swinburne University is very highly regarded amongst equivalent postgraduate institutions and clearly many people do enrol in the Swinburne MBA. Still people do choose the MSF over the MBA, notwithstanding the Swinburne MBA’s strong reputation. Anecdotal evidence is that some people deliberately choose the MSF

over the MBA; that there is something “appealing” in the MSF when compared to the MBA. Hence, it was hoped that the of the MBA students as a control group would illuminate the possible differences.

It was emphasised to MSF students that participation in the research was not a mandatory element of their academic course. Most MSF students, nevertheless, did participate in the research. The MBA participation rate was about one third of the MSF rate which necessitated a greater number of instruments to be given to MBA students in order to gain cohort populations of roughly equal size. Fortunately the MBA subject class sizes were about three times those for the MSF.

6.3 The Research Aims

How do foresight capacities develop in individuals? That is the first research sub-question and it is at the heart of what this research was examining. In Chapter Three the experts of the futures field articulated the manner that foresight had to evolve if humanity was to prevent dystopian or humanity-free futures. In order to develop to the necessary extent, foresight had to transcend fear; become part of the social imagination; take an inward focus; recognise and employ hierarchy; better understand the present; embrace complexity; and finally transcend the self. In Chapter Four developmental patterns were identified that bore a strong resemblance to that articulation of the development of foresight. Possibly the development of foresight could occur with or ‘bootstrap’ upon psychological lines of development.

The empirical research was designed to examine if the study of three ‘lines’ of development; the ego or self line, the moral line and the values line, in students studying foresight could illuminate how foresight capacities could develop in the individual. Previous research had hypothesised how these lines develop in individuals. This research would test whether the Foresight and MBA cohorts gave any indication of having undergone development and whether that development occurred in an expected manner or unexpected manner.

Each of the developmental lines employed in this research have been previously applied to a wide variety of different adult populations in previous research. Accordingly there is an available supply of data and analysis that makes it possible to suggest what data outcomes could have been anticipated from the cohorts. The data analysis that follows will present:

- the expected cohort developmental distribution and dynamic for each line;
- the actual developmental distribution and dynamic for each cohort;

- any differences between the cohorts and the expected outcomes;
- any differences between the cohorts themselves.

6.4 Data Analysis for the Self line of development

This research hypothesised that the self line may be sensitive to changes in an individual's subject-object equilibrium. The decentring of self-sense was regarded as being akin to the development of foresight and as such the self line could exhibit some correlation to the students undertaking the MSF.

The student data will be shown by reference to the numeric codes that Loevinger employed to signify the respective stages and not the stage name, e.g. 4 refers to the Conscientious stage. Table 6.1 lists the relevant codes (stages) that will be shown in the data presentations.

Table 6.1: **The Loevinger's stage codes used in data presentations**

Stage name	Code
Conformist	3
Self Aware	3/4
Conscientious	4
Individualistic	4/5
Autonomous	5
Integrated	6

6.4.1 Self development of the 2003 MBA participants

Sixteen 2003 MBA students completed the initial instrument. Table 6.2 shows their self data for both their starting for all 16 and ending ratings (if they completed a second instrument). The range of self stages included in this table encompass the two conventional stages (3—Conformist and 4—Conscientious) as well as the transitional stage between (3/4—Self-Aware) and the two post-conventional stages (5—Autonomous and 6—Integrated) plus the transitional stage between conventional and post-conventional (4/5—Individualistic). The dotted line suggests the demarcation point between a conventional and post-conventional rating. The numbers in each of the cells relates to the frequency of a respondent's answers being assessed at that particular stage. The shaded cell indicates where the respondent's overall self stage rating was assessed by using the rating protocols established by Loevinger. A lighter shaded cell in the second data results indicates if a different stage rating was awarded in the initial survey response. All tables presenting self stage data will follow this format.

Table 6.2: 2003 MBA students - self report scores based on Loevinger self development stages

2003 MBA - START							2003 MBA - END					
Subject	3	3/4	4	4/5	5	6	3	3/4	4	4/5	5	6
Male 42	3	7	2	0	0	0	0	6	6	0	0	0
Male 38	4	2	5	1	0	0	0	3	8	1	0	0
Male 37	5	6	1	0	0	0	2	3	3	3	1	0
Male 35	4	2	6	0	0	0	0	3	9	0	0	0
Female 43	0	0	7	5	0	0	0	0	4	8	0	0
Female 42	1	0	8	3	0	0	1	1	5	3	2	0
Female 41	7	3	2	0	0	0	3	2	3	4	0	0
Female 35	1	1	3	6	1	0	2	3	6	1	0	0
Female 25	2	2	5	3	0	0	1	1	9	1	0	0
Male 60	6	2	3	1	0	0						
Male 32	11	0	0	1	0	0						
Male 22	3	1	3	5	0	0						
Female 43	0	0	1	7	4	0						
Female 38	6	3	3	0	0	0						
Female 28	0	0	3	6	3	0						
Female 23	3	5	4	0	0	0						

The data from the respondents who only completed a single survey is shown in table 6.2 for completeness but those respondents details will not be employed in any of the subsequent analysis to ensure consistency in the data populations. Accordingly nine MBA students comprised the 2003 data population. The average age of these nine students was 37.6 years. The four male students were of an average age of 38 years and the five females were of an average age of 37.2 years.

Start The 2003 MBA cohort ratings ranged between the early conventional (Self Aware—3/4) to early post-conventional (Individualistic—4/5). Five respondents were rated at conventional stages and four were rated at post-conventional stages. In this respect the distribution of the conventional stages is similar to the distribution found in the research of Westenberg & Block (1993) and the second instrument by Bursik (1991). The data distribution is closest to the distribution found by Cooke-Greuter (1999) amongst UK managers. The 2003 MBA distribution is unusual, if compared to the likely distribution amongst a typical adult population, but is within the range of expected results from a professional population drawn from a broadly

similar cultural milieu.

End Those respondents who were originally rated at early conventional stages advanced the most throughout the year with all respondents who were rated earlier than Stage 4 either attaining or exceeding this stage. Two respondents regressed from early postconventional stages to late conventional ones. The proportions of conventional and postconventional stages in the cohort remained the same across the year .

Patterns in the data The MBA cohort exhibited the most significant development amongst those respondents who were initially assessed at the early conventional stages of self. The group that were occupying the postconventional stages appeared to oscillate around Stage 4/5 with one respondent moving up, two moving down and three remaining unchanged. This result is consistent with the finding by Westenberg et al. (1998) that education is a developmental pacer to self development most commonly for respondents who are rated at stages earlier than Stage 4.

Table 6.3 shows the self development data sorted by the age of the respondents to identify if maturity was a factor. The age distribution does show more stage growth in the older respondents and more conventionality or regressions amongst the younger respondents.

Table 6.3: 2003 MBA - self report scores based on Loevinger self development stages sorted by age

Subject	2003 MBA - START						2003 MBA - END					
	3	3/4	4	4/5	5	6	3	3/4	4	4/5	5	6
Female 43	0	0	7	5	0	0	0	0	4	8	0	0
Male 42	3	7	2	0	0	0	0	6	6	0	0	0
Female 42	1	0	8	3	0	0	1	1	5	3	2	0
Female 41	7	3	2	0	0	0	3	2	3	4	0	0
Male 38	4	2	5	1	0	0	0	3	8	1	0	0
Male 37	5	6	1	0	0	0	2	3	3	3	1	0
Male 35	4	2	6	0	0	0	0	3	9	0	0	0
Female 35	1	1	3	6	1	0	2	3	6	1	0	0
Female 25	2	2	5	3	0	0	1	1	9	1	0	0

Table 6.4 shows the self development data sorted by the gender of the respondent to identify if that was a factor. While the original research hypothesis did not suggest any link between gender and the development of foresight the cited studies into self development did find a correlation between gender and self development.

The MBA cohort strongly supported those reported findings. The male and female MBA groupings differed strongly in the conventional and post-conventional stages reached by respondents. Almost every male respondent was rated at conventional stages while the majority of the female respondents were rated at post-conventional stages. The starting male self distribution is much more in line with the expected outcome from an adult population found in Browning (1987) and in the study of US managers in Cooke-Greuter (1999). By the end of the year the difference between the two had narrowed slightly but the distributions of the two groups were still different. The male respondents did exhibit stage growth and became more strongly centred around the late conventional Stage 4. There was more volatility in the female data with stage growth and stage regression. No male respondent regressed their self stage across the year.

Table 6.4: 2003 MBA - self report scores based on Loevinger self development stages sorted by gender

2003 MBA (M) - START							2003 MBA (M) - END					
Subject	3	3/4	4	4/5	5	6	3	3/4	4	4/5	5	6
Male 42	3	7	2	0	0	0	0	6	6	0	0	0
Male 38	4	2	5	1	0	0	0	3	8	1	0	0
Male 37	5	6	1	0	0	0	2	3	3	3	1	0
Male 35	4	2	6	0	0	0	0	3	9	0	0	0
2003 MBA (F) - START							2003 MBA (F) - END					
Subject	3	3/4	4	4/5	5	6	3	3/4	4	4/5	5	6
Female 43	0	0	7	5	0	0	0	0	4	8	0	0
Female 42	1	0	8	3	0	0	1	1	5	3	2	0
Female 41	7	3	2	0	0	0	3	2	3	4	0	0
Female 35	1	1	3	6	1	0	2	3	6	1	0	0
Female 25	2	2	5	3	0	0	1	1	9	1	0	0

6.4.2 Self development of the 2003 MSF participants

Table 6.5 shows the self data received from the 2003 MSF students. It includes single survey responses that were received but once again they will be excluded from the following analysis.

Fourteen students comprised the 2003 MSF data population. Their average age was 40.5 years. The ten male students were of an average age of 40.6 years and the four females were of an average age of 40.3 years. The 2003 MSF cohort was, on average, at least two years older than the 2003 MBA cohort.

Table 6.5: 2003 MSF - self report scores based on Loevinger self development stages

2003 FORESIGHT - START							2003 FORESIGHT - END					
Subject	3	3/4	4	4/5	5	6	3	3/4	4	4/5	5	6
Male 58	0	2	6	4	0	0	3	1	1	4	3	0
Male 47	0	0	3	6	3	0	1	2	4	4	1	0
Male 45	1	0	3	3	5	0	0	1	5	5	1	0
Male 44	1	4	7	0	0	0	0	2	6	4	0	0
Male 43	3	1	5	3	0	0	2	1	3	6	0	0
Male 42	0	0	0	2	7	3	1	0	0	3	7	1
Male 40	0	2	8	2	0	0	0	1	2	7	2	0
Male 36	0	0	2	6	4	0	0	1	3	4	4	0
Male 27	0	1	1	2	8	0	5	1	2	3	1	0
Male 24	0	2	2	7	1	0	0	0	1	7	3	1
Female 42	0	0	2	5	5	0	0	0	1	4	7	0
Female 42	1	2	5	4	0	0	0	0	6	6	0	0
Female 42	1	1	4	6	0	0	0	2	5	5	0	0
Female 35	0	1	8	2	1	0	2	3	2	5	0	0
Male 54	0	2	6	3	1	0						
Male 54	0	1	5	5	1	0						
Male 37	8	2	2	0	0	0						
Female 39	0	1	8	3	0	0						

Start The majority of the respondents were rated at the 4/5 (Individualistic) stage or later. This was a very unusual spread of self stages and while not designed as a representative sample it is nevertheless noteworthy that such a high number were already rated at post-conventional stages. What follows is a closer analysis of the stage groupings.

Half of the respondents were rated at the 4/5 (Individualistic) stage. Loevinger regarded this stage as a transitional point, often where a person's self-sense was unsettled rather than stable. Cook-Greuter said that at this stage an individual tends to think of themselves more by what they know they are not, (ie Stage 4—Conscientious), than what they know they are. Only two respondents were rated at stages earlier than this transition point while a third of total respondents were rated at stages above 4/5.

End All respondents were rated at the 4/5 stage or higher by the year's end. The whole cohort were now rated at post-conventional self stages. Four respondents had raised their rating and three had reduced it. None of the regressions took the respondent back to a conventional self stage.

Patterns in the data The initial ratings of the 2003 MSF cohort were that most had already crossed over from conventional stages of self to postconventional stages of self even before they commenced their postgraduate study of foresight. By year's end all members of the cohort had crossed over to postconventional stages of self. The second instrument also evidenced that some of the respondents regressed to an earlier postconventional stage but not to a conventional stage.

The total numbers of ratings at the post-conventional stages is well above what the MBA cohort presented. The MBA self distribution was unusual, the MSF distribution is remarkable. The MSF distribution is closest to that found by Cooke-Greuter (1999) amongst UK managers but the MSF distribution is still significantly post-conventionally advanced on that distribution.

Table 6.6 shows the self development data sorted by the age of the respondents to identify if maturity was a factor. The lowest and highest ratings fell in the middle of the age spread and there is nothing to suggest in this cohort that age alone is a significant factor in self development.

Table 6.7 shows the self development data sorted by the gender of the respondent to identify if that was a factor. The MBA cohort did suggest a gender correlation and the MSF cohort supported that suggestion as well. There was not such a stark contrast between the male and female groupings as there was in the MBA cohort. A majority of the males were already at postconventional stages of development when they commenced the course unlike the MBA cohort where almost all of the males were at conventional stages. All the MSF males who were initially rated at conventional stages reached postconventional stages by the year end. Some MSF male respondents did regress although they did not regress completely back to conventional stages. Like the MBA female distributions, the MSF female distribution was more post-conventional than the MSF male distribution. Every MSF female was rated at a postconventional stage at the beginning of the year and those stage ratings were maintained by the end of the year. The difference between the male/female distributions of the MSF and MBA was that by the end of the year the MSF male and female MSF distributions were all post-conventional. The data indicated that a conventional or postconventional stage of self development had emerged as a initial discriminator between the MBA and Foresight cohorts and also between male and females in those cohorts.

Table 6.6: 2003 MSF - self report scores based on Loevinger self development stages sorted by age

2003 FORESIGHT - START							2003 FORESIGHT - END					
Subject	3	3/4	4	4/5	5	6	3	3/4	4	4/5	5	6
Male 58	0	2	6	4	0	0	3	1	1	4	3	0
Male 47	0	0	3	6	3	0	1	2	4	4	1	0
Male 45	1	0	3	3	5	0	0	1	5	5	1	0
Male 44	1	4	7	0	0	0	0	2	6	4	0	0
Male 43	3	1	5	3	0	0	2	1	3	6	0	0
Male 42	0	0	0	2	7	3	1	0	0	3	7	1
Female 42	0	0	2	5	5	0	0	0	1	4	7	0
Female 42	1	2	5	4	0	0	0	0	6	6	0	0
Female 42	1	1	4	6	0	0	0	2	5	5	0	0
Male 40	0	2	8	2	0	0	0	1	2	7	2	0
Male 36	0	0	2	6	4	0	0	1	3	4	4	0
Female 35	0	1	8	2	1	0	2	3	2	5	0	0
Male 27	0	1	1	2	8	0	5	1	2	3	1	0
Male 24	0	2	2	7	1	0	0	0	1	7	3	1

6.4.3 Self development of the 2004 MBA participants

Five MBA students completed the both instruments while eight students competed only the first survey and those results are shown at table 6.8. The five students were of an average age of 33.2 years which was over four years younger than the 2003 MBA participant average (37.6 years). The three male students were of an average age of 33.3 years (2003 ave—38 years) and the three females were of an average age of 32.5 years (2003 ave -35.3 years).

Start All the 2004 MBA cohort were rated at conventional stages—ranging between the early conventional (Conformist—3) to late conventional (Conscientious—4). The 2003 MBA cohort had four participants out of nine who rated at post-conventional stages so the 2004 MBA cohort rated as an even more conventional group. Once again the majority of respondents were located at the late conventional Stage, 4 (Conscientious). This self distribution was midway between the distributions found by Cooke-Greuter (1999) amongst USA and UK managers. This was a less unusual distribution than that exhibited by the 2003 MBA group. The 2004 group was some 4 to 5 years younger, on average, than the 2003 cohort and this may have been a factor.

Table 6.7: 2003 MSF - self report scores based on Loevinger self development stages sorted by gender

2003 FORESIGHT (M) - START							2003 FORESIGHT (M) - END					
Subject	3	3/4	4	4/5	5	6	3	3/4	4	4/5	5	6
Male 58	0	2	6	4	0	0	3	1	1	4	3	0
Male 47	0	0	3	6	3	0	1	2	4	4	1	0
Male 45	1	0	3	3	5	0	0	1	5	5	1	0
Male 44	1	4	7	0	0	0	0	2	6	4	0	0
Male 43	3	1	5	3	0	0	2	1	3	6	0	0
Male 42	0	0	0	2	7	3	1	0	0	3	7	1
Male 40	0	2	8	2	0	0	0	1	2	7	2	0
Male 36	0	0	2	6	4	0	0	1	3	4	4	0
Male 27	0	1	1	2	8	0	5	1	2	3	1	0
Male 24	0	2	2	7	1	0	0	0	1	7	3	1
2003 FORESIGHT (F) - START							2003 FORESIGHT (F) - END					
Subject	3	3/4	4	4/5	5	6	3	3/4	4	4/5	5	6
Female 42	0	0	2	5	5	0	0	0	1	4	7	0
Female 42	1	2	5	4	0	0	0	0	6	6	0	0
Female 42	1	1	4	6	0	0	0	2	5	5	0	0
Female 35	0	1	8	2	1	0	2	3	2	5	0	0

End Two respondents progressed and the remaining three maintained their rating. A single respondent crossed to a post-conventional stage rating .

Patterns in the data The 2004 MBA cohort was largely stable with the only development occurring with a respondent with an early conventional stage rating progressing to a mid-conventional stage and a respondent with late conventional stage rating progressing to an early post-conventional stage. Table 6.9 shows the self development data sorted by the age of the respondents to identify whether maturity was a factor. In a very small sample the only noteworthy observation is that the only post-conventional stage occurred at the younger end of the distribution.

Table 6.10 shows the self development data sorted by the gender of the respondent to identify if that was a factor. A pattern of a higher likelihood of post-conventional stage ratings amongst females was noted in the 2003 MBA and MSF cohorts. The earlier finding that the 2004 MBA cohort was more conventional than the 2003 MBA cohort can be explained now as the result of none of the female 2004 MBA members being rated at post-conventional stages. In fact the 2004 MBA cohort appears to have swapped the gender difference noted in the 2003 MBA co-

Table 6.8: 2004 MBA - self report scores based on Loevinger self development stages

2004 MBA - START							2004 MBA - END					
Subject	3	3/4	4	4/5	5	6	3	3/4	4	4/5	5	6
Male 37	3	2	7	0	0	0	3	3	4	1	0	0
Male 32	1	3	9	0	0	0	1	3	9	0	0	0
Male 31	1	1	9	0	1	0	1	1	5	4	1	0
Female 37	8	1	3	0	0	0	6	4	1	1	0	0
Female 28	3	5	4	0	0	0	2	2	7	1	0	0
Male 45	0	0	8	4	0	0						
Male 32	2	5	5	0	0	0						
Male 28	2	1	7	2	0	0						
Male 26	0	2	7	3	0	0						
Female 37	3	3	5	1	0	0						
Female 35	4	5	2	1	0	0						
Female 30	3	8	1	0	0	0						
Unknown	11	0	1	0	0	0						

Table 6.9: 2004 MBA - self report scores based on Loevinger self development stages sorted by age

2004 MBA - START							2004 MBA - END					
Subject	3	3/4	4	4/5	5	6	3	3/4	4	4/5	5	6
Male 37	3	2	7	0	0	0	3	3	4	1	0	0
Female 37	8	1	3	0	0	0	6	4	1	1	0	0
Male 32	1	3	9	0	0	0	1	3	9	0	0	0
Male 31	1	1	9	0	1	0	1	1	5	4	1	0
Female 28	3	5	4	0	0	0	2	2	7	1	0	0

hort. The male members were the only ones to be rated at post-conventional stages and overall they were rated at higher stages than the female members. The 2004 MBA distribution does not accord with the reported findings of gender differences in self ratings. While the overall distribution of ratings for the 2004 MBA cohort was within the boundaries of possible results, the gender split was the reverse of the 2003 MBA data. Volatility in the findings from small data populations is not surprising.

A possible factor in explaining the difference between the 2003 and 2004 MBA

female data could be that both female respondents were international students whereas none of the 2003 MBA female respondents were international students. The Loevinger rating is based upon verbal fluency and perhaps the international respondents ratings were lowered by their english language skills. It was not possible to make any allowance for perceived language difficulties and to still remain faithful to the Loevinger scoring method.

Table 6.10: 2004 MBA - self report scores based on Loevinger self development stages sorted by gender

2004 MBA (M) - START							2004 MBA (M) - END					
Subject	3	3/4	4	4/5	5	6	3	3/4	4	4/5	5	6
Male 37	3	2	7	0	0	0	3	3	4	1	0	0
Male 32	1	3	9	0	0	0	1	3	9	0	0	0
Male 31	1	1	9	0	1	0	1	1	5	4	1	0
2004 MBA (F) - START							2004 MBA (F) - END					
Subject	3	3/4	4	4/5	5	6	3	3/4	4	4/5	5	6
Female 37	8	1	3	0	0	0	6	4	1	1	0	0
Female 28	3	5	4	0	0	0	2	2	7	1	0	0

6.4.4 Self development of the 2004 MSF participants

The results for all MSF students are shown at table 6.11. Twelve MSF students comprised the 2004 MSF data population. The twelve students were of an average age of 41.6 years (2003—40.5 years). The five male students were of an average age of 39.2 years (2003—40.6 years) and the seven females were of an average age of 43.3 years (2003—40.3 years).

Start The 2004 MSF data distribution is very similar to the 2003 MSF distribution. Once again the majority of the respondents were rated at the 4/5 (Individualistic) stage or later before they began the foresight course. The average ages of the 2004 MSF cohort was also very similar to the 2003 MSF cohort.

Half of the respondents were rated at the 4/5 (Individualistic) stage. No respondent was rated lower than the late conventional Stage 4. Two respondents were rated at stages above 4/5.

End Except for a single respondent, the 2003 MSF ending distribution, where all respondents were rated at the 4/5 stage or higher by the years end, was repeated.

Table 6.11: 2004 MSF - self report scores based on Loevinger self development stages

2004 FORESIGHT (M) - START							2004 FORESIGHT - END					
Subject	3	3/4	4	4/5	5	6	3	3/4	4	4/5	5	6
Male 47	0	3	3	4	2	0	1	2	1	4	4	0
Male 43	0	1	8	3	0	0	0	4	5	3	0	0
Male 42	2	2	7	0	1	0	1	0	5	3	3	0
Male 33	0	0	0	4	8	0	0	0	0	2	10	0
Male 31	0	0	9	2	1	0	0	0	0	4	8	0
Female 55	1	3	6	2	0	0	1	0	6	5	0	0
Female 51	1	4	7	0	0	0	0	4	6	2	0	0
Female 46	2	2	5	3	0	0	1	1	4	5	1	0
Female 43	0	3	8	1	0	0	0	3	6	3	0	0
Female 39	0	0	7	5	0	0	0	1	1	9	1	0
Female 36	1	1	6	2	2	0	1	1	4	5	1	0
Female 33	0	0	10	1	1	0	1	3	7	1	0	0
Male 45	0	0	3	2	7	0						
Male 43	0	3	8	1	0	0						
Female 50	1	1	6	4	0	0						
Female 31	0	0	2	5	5	0						
Female 31	0	2	4	5	1	0						

The respondent who differed did have a 'borderline' 4/5 rating at the start. That 4/5 rating was very close to being a 4 rating and perhaps the later apparent regression to rating 4 was, in fact, the maintenance of that stage across the year. Four respondents raised their rating and only the single aforementioned respondent reduced their rating.

Patterns in the data As was the case with the 2003 MSF cohort, the initial ratings of the 2004 MSF cohort showed that most had already crossed over from conventional stages of self to postconventional stages of self even before they commenced their postgraduate study of foresight. The respondents who completed the later instrument evidenced that almost all members of the cohort had crossed over to postconventional stages of self by the end of the year. The total numbers of ratings at the post-conventional stages is well above what the 2004 MBA cohort presented. The MSF distribution is closest to that found by Cooke-Greuter (1999) amongst UK managers but the MSF distribution is still significantly post-conventionally ad-

vanced on that distribution.

Table 6.12 shows the self development data sorted by the age of the respondents to identify whether maturity was a factor. The highest ratings were spread evenly across the age distribution with, perhaps, a tendency to post-conventional stages for respondents under forty years of age.

Table 6.12: 2004 MSF - self report scores based on Loevinger self development stages sorted by age

Subject	2004 FORESIGHT - START						2004 FORESIGHT - END					
	3	3/4	4	4/5	5	6	3	3/4	4	4/5	5	6
Female 55	1	3	6	2	0	0	1	0	6	5	0	0
Female 51	1	4	7	0	0	0	0	4	6	2	0	0
Male 47	0	3	3	4	2	0	1	2	1	4	4	0
Female 46	2	2	5	3	0	0	1	1	4	5	1	0
Male 43	0	1	8	3	0	0	0	4	5	3	0	0
Female 43	0	3	8	1	0	0	0	3	6	3	0	0
Male 42	2	2	7	0	1	0	1	0	5	3	3	0
Female 39	0	0	7	5	0	0	0	1	1	9	1	0
Female 36	1	1	6	2	2	0	1	1	4	5	1	0
Male 33	0	0	0	4	8	0	0	0	0	2	10	0
Female 33	0	0	10	1	1	0	1	3	7	1	0	0
Male 31	0	0	9	2	1	0	0	0	0	4	8	0

Table 6.13 shows the self development data sorted by the gender of the respondent to identify whether that was a factor.

The gender pattern that was observed in the 2003 MSF cohort was not apparent in the 2004 MSF cohort. The males of the MSF cohort presented a slightly more post-conventional distribution than the females and by the year's end all the males had achieved post-conventional ratings. The female respondents in the 2004 MSF cohort initially presented some conventional ratings, unlike the case in the 2003 MSF cohort where all women started at post-conventional stages. Like the male respondents, the women who were initially rated at conventional stages had reached post-conventional stages by the end of the year. The single MSF male who was initially rated at a conventional stage reached a postconventional stage by the year end, as did one of the three MBA males who completed two instruments in 2004. The 2004 MSF female distribution was slightly more post-conventional than the MSF male distribution and far more post-conventional than the 2004 MBA female distribution. The 2004 MSF female distribution was starkly different to the 2004 MBA female distribution; unlike the 2003 MSF and MBA distributions which were

Table 6.13: 2004 MSF - self report scores based on Loevinger self development stages sorted by gender

2004 FORESIGHT (M) - START							2004 FORESIGHT (M) - END					
Subject	3	3/4	4	4/5	5	6	3	3/4	4	4/5	5	6
Male 47	0	3	3	4	2	0	1	2	1	4	4	0
Male 43	0	1	8	3	0	0	0	4	5	3	0	0
Male 42	2	2	7	0	1	0	1	0	5	3	3	0
Male 33	0	0	0	4	8	0	0	0	0	2	10	0
Male 31	0	0	9	2	1	0	0	0	0	4	8	0
2004 FORESIGHT (F) - START							2004 FORESIGHT (F) - END					
Subject	3	3/4	4	4/5	5	6	3	3/4	4	4/5	5	6
Female 55	1	3	6	2	0	0	1	0	6	5	0	0
Female 51	1	4	7	0	0	0	0	4	6	2	0	0
Female 46	2	2	5	3	0	0	1	1	4	5	1	0
Female 43	0	3	8	1	0	0	0	3	6	3	0	0
Female 39	0	0	7	5	0	0	0	1	1	9	1	0
Female 36	1	1	6	2	2	0	1	1	4	5	1	0
Female 33	0	0	10	1	1	0	1	3	7	1	0	0

quite similar. In 2004 the data indicated that a conventional or postconventional stage of self development maintained its status as a initial discriminator between the MBA and MSF cohorts. It no longer operated as a discriminator between males and females in the MSF cohort, however, as a discriminator in the MBA cohort, the correlation was reversed from what it had been in the 2003 MBA cohort.

6.4.5 Self development of the Combined MBA participants

Table 6.14 presents the combined MBA participants totalling fourteen with an even gender split of seven males and females. The average ages were likewise very even with the males averaging 36 years and the females 35.9 years.

Start The total MBA cohort distribution was evenly spread around the late conventional Stage 4. Overall about two thirds of MBA respondents were rated in the conventional stages. Of the remaining third all were rated in the transitional stage 4/5. That overall distribution is quite consistent with the distribution that Cooke-Greuter (2002) found amongst UK managers.

Table 6.14: All years MBA - self report scores based on Loevinger self development stages

Subject	ALL MBA - START						ALL MBA - END					
	3	3/4	4	4/5	5	6	3	3/4	4	4/5	5	6
Male 42	3	7	2	0	0	0	0	6	6	0	0	0
Male 38	4	2	5	1	0	0	0	3	8	1	0	0
Male 37	5	6	1	0	0	0	2	3	3	3	1	0
Male 37	3	2	7	0	0	0	3	3	4	1	0	0
Male 35	4	2	6	0	0	0	0	3	9	0	0	0
Male 32	1	3	9	0	0	0	1	3	9	0	0	0
Male 31	1	1	9	0	1	0	1	1	5	4	1	0
Female 43	0	0	7	5	0	0	0	0	4	8	0	0
Female 42	1	0	8	3	0	0	1	1	5	3	2	0
Female 41	7	3	2	0	0	0	3	2	3	4	0	0
Female 37	8	1	3	0	0	0	6	4	1	1	0	0
Female 35	1	1	3	6	1	0	2	3	6	1	0	0
Female 28	3	5	4	0	0	0	2	2	7	1	0	0
Female 25	2	2	5	3	0	0	1	1	9	1	0	0

End The distribution of year end ratings showed that the MBA group had progressed to a more late conventional group. The numbers of respondents at the early (3) and transitional (3/4) conventional stages had significantly reduced and over half of all respondents were now rated at the late conventional Stage 4. The ratio of post-conventional ratings remained the same for the start and end distributions. This is consistent with the finding by Westenberg et al. (1998, p.142) that education does operate as a developmental pacer ‘away from the Conformist stage [3] to the Self-Aware stage [3/4] and possibly, Conscientious stage [4]’.

Patterns in the data The combined MBA data distribution supported the conclusion that the MBA group developed into a group that exhibited a self stage profile that was somewhat atypical when compared to the distribution likely to be found amongst an adult population but within the expected distribution range of an educated group of business professionals.

Table 6.15 shows the self development data sorted by the age of the respondents to identify if maturity was a factor. The highest ratings did appear to be bunched towards the later age distribution suggesting that age could be a discriminating factor, at least amongst the MBA cohorts.

Table 6.16 shows the self development data sorted by the gender of the respon-

Table 6.15: All years MBA - self report scores based on Loevinger self development stages sorted by age

Subject	ALL MBA - START						ALL MBA - END					
	3	3/4	4	4/5	5	6	3	3/4	4	4/5	5	6
Female 43	0	0	7	5	0	0	0	0	4	8	0	0
Male 42	3	7	2	0	0	0	0	6	6	0	0	0
Female 42	1	0	8	3	0	0	1	1	5	3	2	0
Female 41	7	3	2	0	0	0	3	2	3	4	0	0
Male 38	4	2	5	1	0	0	0	3	8	1	0	0
Male 37	5	6	1	0	0	0	2	3	3	3	1	0
Male 37	3	2	7	0	0	0	3	3	4	1	0	0
Female 37	8	1	3	0	0	0	6	4	1	1	0	0
Male 35	4	2	6	0	0	0	0	3	9	0	0	0
Female 35	1	1	3	6	1	0	2	3	6	1	0	0
Male 32	1	3	9	0	0	0	1	3	9	0	0	0
Male 31	1	1	9	0	1	0	1	1	5	4	1	0
Female 28	3	5	4	0	0	0	2	2	7	1	0	0
Female 25	2	2	5	3	0	0	1	1	9	1	0	0

dents to identify if that was a factor. Combining the two cohorts reduced the gender difference. All male MBA respondents began the year at no later stage than late conventional Stage 4. Any male respondent who was initially rated at a stage lower than 4 had reached Stage 4 by the end of the year. Some MBA males were exhibiting post-conventional stage ratings by the end of the year, however, they were in the minority. The ratings for the female MBA respondents at the start, exhibited a larger number of individuals rating in the early conventional stages. By the year's end, this had largely disappeared as was the pattern with the males. Some female respondents did receive lower ratings on their second instrument, whereas no male received a lower rating on a second instrument. Both the female respondents who received lower ratings were initially rated at the post-conventional 4/5 stage. This finding is consistent with Loevinger et al. (1985, p.960) who reported that for 'a significant fraction of women' college is a regressive experience. It must be noted that an equal number of female respondents did also progress across the year. The starting and ending distributions for MBA females contained a slightly greater number of respondents rating at post-conventional stages than did the MBA males but the gap between the two was very small.

Table 6.16: All years MBA - self report scores based on Loevinger self development stages sorted by gender

ALL MBA (M) - START							ALL MBA (M) - END					
Subject	3	3/4	4	4/5	5	6	3	3/4	4	4/5	5	6
Male 42	3	7	2	0	0	0	0	6	6	0	0	0
Male 38	4	2	5	1	0	0	0	3	8	1	0	0
Male 37	5	6	1	0	0	0	2	3	3	3	1	0
Male 37	3	2	7	0	0	0	3	3	4	1	0	0
Male 35	4	2	6	0	0	0	0	3	9	0	0	0
Male 32	1	3	9	0	0	0	1	3	9	0	0	0
Male 31	1	1	9	0	1	0	1	1	5	4	1	0
ALL MBA (F) - START							ALL MBA (F) - END					
Subject	3	3/4	4	4/5	5	6	3	3/4	4	4/5	5	6
Female 43	0	0	7	5	0	0	0	0	4	8	0	0
Female 42	1	0	8	3	0	0	1	1	5	3	2	0
Female 41	7	3	2	0	0	0	3	2	3	4	0	0
Female 37	8	1	3	0	0	0	6	4	1	1	0	0
Female 35	1	1	3	6	1	0	2	3	6	1	0	0
Female 28	3	5	4	0	0	0	2	2	7	1	0	0
Female 25	2	2	5	3	0	0	1	1	9	1	0	0

6.4.6 Self development of the Combined MSF participants

Combined, the two MSF cohorts comprised twenty-six respondents and their results are shown at table 6.17. The gender composition of the combined MSF respondents was fifteen males and eleven females. The average age of an MSF respondent was 41.0 years (MBA average—35.9 years), the males averaged 40.1 years (MBA average 36 years) and the females 42.2 years (MBA average—35.9 years).

Start Four out of every five MSF respondents were rated at post-conventional stages before they commenced their year's study. A respondent distribution with eighty percent post-conventional ratings is almost twice as high as the unusually high post-conventional distribution noted by Cooke-Greuter (1999) amongst UK managers. Over half the total respondents were initially rated at the transitional stage 4/5, however, more than a third were also rated at the stable postconventional stages 5 and 6.

Table 6.17: All years MSF - self report scores based on Loevinger self development stages

ALL FORESIGHT - START							ALL FORESIGHT - END					
Subject	3	3/4	4	4/5	5	6	3	3/4	4	4/5	5	6
Male 58	0	2	6	4	0	0	3	1	1	4	3	0
Male 47	0	3	3	4	2	0	1	2	1	4	4	0
Male 47	0	0	3	6	3	0	1	2	4	4	1	0
Male 45	1	0	3	3	5	0	0	1	5	5	1	0
Male 44	1	4	7	0	0	0	0	2	6	4	0	0
Male 43	3	1	5	3	0	0	2	1	3	6	0	0
Male 43	0	1	8	3	0	0	0	4	5	3	0	0
Male 42	0	0	0	2	7	3	1	0	0	3	7	1
Male 42	2	2	7	0	1	0	1	0	5	3	3	0
Male 40	0	2	8	2	0	0	0	1	2	7	2	0
Male 36	0	0	2	6	4	0	0	1	3	4	4	0
Male 33	0	0	0	4	8	0	0	0	0	2	10	0
Male 31	0	0	9	2	1	0	0	0	0	4	8	0
Male 27	0	1	1	2	8	0	5	1	2	3	1	0
Male 24	0	2	2	7	1	0	0	0	1	7	3	1
Female 55	1	3	6	2	0	0	1	0	6	5	0	0
Female 51	1	4	7	0	0	0	0	4	6	2	0	0
Female 46	2	2	5	3	0	0	1	1	4	5	1	0
Female 43	0	3	8	1	0	0	0	3	6	3	0	0
Female 42	0	0	2	5	5	0	0	0	1	4	7	0
Female 42	1	2	5	4	0	0	0	0	6	6	0	0
Female 42	1	1	4	6	0	0	0	2	5	5	0	0
Female 39	0	0	7	5	0	0	0	1	1	9	1	0
Female 36	1	1	6	2	2	0	1	1	4	5	1	0
Female 35	0	1	8	2	1	0	2	3	2	5	0	0
Female 33	0	0	10	1	1	0	1	3	7	1	0	0

End By the end of a year's study almost the entire MSF cohort was rated at a post-conventional stage. Every respondent who had initially rated at a conventional stage progressed to a post-conventional stage by the end of the year. Three respondents moved from the transitional post-conventional stage to one of the stable stages 5 and 6. Three respondents who initially tested at a stable post-conventional stage regressed to the transitional post-conventional stage 4/5. A single respondent regressed from a post-conventional to conventional stage, however, it was noted previously that the initial post-conventional rating was within a range that was scored

as 'borderline' and the respondent may instead have maintained a conventional rating across the year.

Patterns in the data The combined MSF data distribution supported the conclusion that the MSF group developed into a group that exhibited an atypical self stage profile that was well outside what other studies had found. The fact that the starting profile was already atypical suggests that the respondents were self-selecting for this course, instead of doing another course, because it better fitted their self-sense and its concomitant interests. The fact that the post-conventional nature of the group further increased across the year suggests that the group paced the development of those respondents starting at conventional stages to the extent that almost every member was rated post-conventional by the year end. Notwithstanding that the entire group exhibited self-development, some members of the group did regress their rating. Whilst they did not completely regress to a conventional stage that pattern does suggest that their experience could have been destabilising rather than stabilising. The pattern of post-conventional understandings successively undoing earlier post-conventional understandings, or 'somersaulting' was noted in research by Torbert & Associates (2004). This does suggest that an individual may undergo a pattern of advancing and regressing within post-conventional self-assessments in order to find a stable point of existence. That being the case, it would be possible to differentiate between movement within the postconventional stages, as observed in the MSF cohort, to one where an individual regressed to a conventional stage, as was the case in two instances of the MBA cohort. It may be significant that the average age of the MSF cohort was some five years older than the MBA cohort.

Table 6.18 shows the self development data sorted by the age of the respondents to identify whether maturity was a factor. The only discernable age pattern in the MSF cohort is that the majority of the conventional stage ratings appear in the middle of the spread, between 40 and 44 years. By year end those respondents all progressed to post-conventional ratings. Apart from that suggestion of a pattern, the 'bunching' of post-conventional scores at the older end of the distribution that was seen in the MBA results was not evidenced in the MSF data. The spread of the stable post-conventional stages 5 and 6 followed no discernable age pattern.

Table 6.19 shows the self development data sorted by the gender of the respondent to identify if that was a factor.

The overall distribution of self stages amongst males and females undertaking the MSF were very similar at start and end. The male starting distribution had slightly more respondents at conventional ratings but by year's end these respondents had all progressed to post-conventional stages. The females started with fewer ratings

Table 6.18: All years MSF - self report scores based on Loevinger self development stages sorted by age

ALL FORESIGHT - START							ALL FORESIGHT - END					
Subject	3	3/4	4	4/5	5	6	3	3/4	4	4/5	5	6
Male 58	0	2	6	4	0	0	3	1	1	4	3	0
Female 55	1	3	6	2	0	0	1	0	6	5	0	0
Female 51	1	4	7	0	0	0	0	4	6	2	0	0
Male 47	0	3	3	4	2	0	1	2	1	4	4	0
Male 47	0	0	3	6	3	0	1	2	4	4	1	0
Female 46	2	2	5	3	0	0	1	1	4	5	1	0
Male 45	1	0	3	3	5	0	0	1	5	5	1	0
Male 44	1	4	7	0	0	0	0	2	6	4	0	0
Male 43	3	1	5	3	0	0	2	1	3	6	0	0
Male 43	0	1	8	3	0	0	0	4	5	3	0	0
Female 43	0	3	8	1	0	0	0	3	6	3	0	0
Male 42	0	0	0	2	7	3	1	0	0	3	7	1
Male 42	2	2	7	0	1	0	1	0	5	3	3	0
Female 42	0	0	2	5	5	0	0	0	1	4	7	0
Female 42	1	2	5	4	0	0	0	0	6	6	0	0
Female 42	1	1	4	6	0	0	0	2	5	5	0	0
Male 40	0	2	8	2	0	0	0	1	2	7	2	0
Female 39	0	0	7	5	0	0	0	1	1	9	1	0
Male 36	0	0	2	6	4	0	0	1	3	4	4	0
Female 36	1	1	6	2	2	0	1	1	4	5	1	0
Female 35	0	1	8	2	1	0	2	3	2	5	0	0
Male 33	0	0	0	4	8	0	0	0	0	2	10	0
Female 33	0	0	10	1	1	0	1	3	7	1	0	0
Male 31	0	0	9	2	1	0	0	0	0	4	8	0
Male 27	0	1	1	2	8	0	5	1	2	3	1	0
Male 24	0	2	2	7	1	0	0	0	1	7	3	1

at conventional stages and likewise these too had progressed to post-conventional stages by the end of the academic year. Both MSF distributions are quite different to their MBA equivalent. Both MSF distributions have a higher average age than their MBA equivalent and if maturity was evidenced as a factor in self development, then this could explain the higher post-conventional numbers in the MSF groups. Age, however, did not appear to be a factor in self-development, at least amongst the MSF as by year end almost every MSF respondent had achieved a post-conventional rating. The data suggests that gender is a slight discriminating factor in the likeli-

Table 6.19: All years MSF - self report scores based on Loevinger self development stages sorted by gender

ALL FORESIGHT (M) - START							ALL FORESIGHT (M) - END					
Subject	3	3/4	4	4/5	5	6	3	3/4	4	4/5	5	6
Male 58	0	2	6	4	0	0	3	1	1	4	3	0
Male 47	0	3	3	4	2	0	1	2	1	4	4	0
Male 47	0	0	3	6	3	0	1	2	4	4	1	0
Male 45	1	0	3	3	5	0	0	1	5	5	1	0
Male 44	1	4	7	0	0	0	0	2	6	4	0	0
Male 43	3	1	5	3	0	0	2	1	3	6	0	0
Male 43	0	1	8	3	0	0	0	4	5	3	0	0
Male 42	0	0	0	2	7	3	1	0	0	3	7	1
Male 42	2	2	7	0	1	0	1	0	5	3	3	0
Male 40	0	2	8	2	0	0	0	1	2	7	2	0
Male 36	0	0	2	6	4	0	0	1	3	4	4	0
Male 33	0	0	0	4	8	0	0	0	0	2	10	0
Male 31	0	0	9	2	1	0	0	0	0	4	8	0
Male 27	0	1	1	2	8	0	5	1	2	3	1	0
Male 24	0	2	2	7	1	0	0	0	1	7	3	1
ALL FORESIGHT (F) - START							ALL FORESIGHT (F) - END					
Subject	3	3/4	4	4/5	5	6	3	3/4	4	4/5	5	6
Female 55	1	3	6	2	0	0	1	0	6	5	0	0
Female 51	1	4	7	0	0	0	0	4	6	2	0	0
Female 46	2	2	5	3	0	0	1	1	4	5	1	0
Female 43	0	3	8	1	0	0	0	3	6	3	0	0
Female 42	0	0	2	5	5	0	0	0	1	4	7	0
Female 42	1	2	5	4	0	0	0	0	6	6	0	0
Female 42	1	1	4	6	0	0	0	2	5	5	0	0
Female 39	0	0	7	5	0	0	0	1	1	9	1	0
Female 36	1	1	6	2	2	0	1	1	4	5	1	0
Female 35	0	1	8	2	1	0	2	3	2	5	0	0
Female 33	0	0	10	1	1	0	1	3	7	1	0	0

hood of an MSF student being rated at a post-conventional self stage but by year end the discriminating factor is zero. While research had established that education was a developmental pacer up to the Stage 4 conventional level a pacer for post-conventional development was not identified. While most students who commenced the MSF were already post-conventional the point that all other students who initially rated at conventional stages were able to progress to post-conventional

stages by year's end could suggest that futures study is a developmental pacer for post-conventional development. Another possibility is that, subject matter notwithstanding, spending a considerable amount of time engaging with a large number of post-conventionally inclined students is of itself a post-conventional developmental pacer.

6.5 Data Analysis for the Moral Judgement line of development

This thesis hypothesised that the moral judgement line may be sensitive to changes in an individual's subject-object equilibrium. Moral judgement development has been shown to operate through phases of pre-conventional, conventional and post-conventional thinking. The developmental schema for moral judgement development progresses through increasingly abstract concepts of justice being applied for the interest of growing numbers of entities increasingly distant to the subject in question. This growth in concern for justice being given to an 'other' that is regarded as being akin to the development of future thought and as such the moral judgement line could exhibit some correlation to the students undertaking the MSF. Research also suggested that moral judgement thinking supported internal consistency such that only one or two stages of thought would be preferred in a respondents reasoning (Reimer et al. 1983). Further the progression of moral stages was considered a step-wise invariant sequence and that development was irreversible (Holstein 1976). The data was, therefore, examined to determine the stage of moral judgement, whether the stage of moral judgement changed and whether the moral thought was consistent with using few stages of thought ('categorical'). The nature of moral judgement employed by an individual was not originally an element of the hypothetical model of how foresight capacities could develop in an individual. The data collected, however, offered the opportunity to examine the mode of moral thought operating in addition to determining where the individual's stage of moral judgement could be assessed. That additional data analysis is not relied upon in this thesis, however, the analysis method and data obtained is included as Appendix B in the interest of assisting subsequent research into this area.

The student data will be shown by numeric code to signify the respective moral judgement stages and not the stage name, e.g. 3 refers to the Mutual Expectations stage. Table 6.20 lists the relevant codes (stages) that will be shown in the data presentations.

Table 6.20: The Kohlberg stage codes used in data presentations

Stage name	Code
Egocentric	1
Concrete Individualistic	2
Mutual Expectations	3
Social System	4
Social Contract	5
Universal Ethics	6

6.5.1 Moral Judgement development of the 2003 MBA participants

Table 6.21 shows the moral judgement data received from all 2003 MBA students including both their starting and ending ratings (if they completed a second instrument). The shaded cell indicates where the respondent's overall weighted average of stage preferences was located. A lighter shaded cell in the second data results indicates if a different weighted average was accorded in the first instrument. The dotted line suggests the demarcation point between the conventional and post-conventional stages. Nine MBA students completed both research instruments and will be the basis of the following data analysis. The initial results of those students who only completed the first instrument are shown for completeness but those results will not form any part of the following data analysis.

Start The starting distribution of the 2003 MBA cohort was that the group straddled the demarcation point between conventional and post-conventional moral judgement. Two third's of respondent's centre of moral judgement were located in conventional moral stages.

End By the end of the academic year the 2003 MBA cohort retained the same proportions of respondents straddling the same conventional and post-conventional demarcation point. Two MBA respondents moved up to the conventional Stage 4 from Stage 3 but no respondent moved from a conventional to post-conventional stage.

Patterns in the data The distribution of moral judgement amongst the 2003 MBA cohort was stable. More respondent's maintained their stage ratings than changed ratings. Overall the 2003 MBA cohort's centre of moral judgement progressed to a tendency towards late conventional Stage 4.

Table 6.22 shows the moral judgement development data sorted by the age of

Table 6.21: 2003 MBA - self report scores based on Kohlberg moral judgement stages

2003 MBA - START							2003 MBA - END					
Subject	1	2	3	4	5	6	1	2	3	4	5	6
Male 42			3.1							3.9		
Male 38				4.3						4.1		
Male 37			3.3							3.9		
Male 35				4.1						4.3		
Female 43					4.6						4.7	
Female 42				3.9						4.4		
Female 41				3.8						4.3		
Female 35					4.9						4.6	
Female 25					4.7						4.5	
Male 60				4.2								
Male 32				3.7								
Male 22				4.1								
Female 43				3.8								
Female 38				4.1								
Female 28					4.7							
Female 23					4.7							

the respondents to identify if maturity was a factor.

Table 6.22: 2003 MBA - self report scores based on Kohlberg moral judgement stages sorted by age

2003 MBA - START							2003 MBA - END					
Subject	1	2	3	4	5	6	1	2	3	4	5	6
Female 43					4.6						4.7	
Male 42			3.1							3.9		
Female 42				3.9						4.4		
Female 41				3.8						4.3		
Male 38				4.3						4.1		
Male 37			3.3							3.9		
Male 35				4.1						4.3		
Female 35					4.9						4.6	
Female 25					4.7						4.5	

The post-conventional stage rating were found at either end of the age distri-

butions. Reimer et al. (1983) reported that a normative age trend with moral judgement stages has been noted, however, that trend is towards emerging post-conventional stages beyond the thirties in adults. That research, however, does not conclude that moral judgement continues to develop with age, in fact, it concludes the opposite, that moral judgement in adults tends to stabilise in adulthood. The stability of the 2003 MBA data would appear to broadly support that finding. The finding of moral development beyond adolescence of early adulthood can be explained by that same research's other finding that education, especially college education, correlates to higher moral judgement stages. The 2003 MBA data by age supports the finding of higher stages of moral development in mature adults who are undertaking tertiary education. The apparent bunching of post-conventional ratings amongst the younger cohort respondents does not have a ready explanation.

Table 6.23 shows the moral judgement development of the 2003 MBA cohort by gender.

Table 6.23: 2003 MBA - self report scores based on Kohlberg moral judgement stages sorted by gender

2003 MBA (M) - START							2003 MBA (M) - END						
Subject	1	2	3	4	5	6	1	2	3	4	5	6	
Male 42			3.1							3.9			
Male 38				4.3						4.1			
Male 37			3.3							3.9			
Male 35				4.1						4.3			
2003 MBA (F) - START							2003 MBA (F) - END						
Subject	1	2	3	4	5	6	1	2	3	4	5	6	
Female 43					4.6							4.7	
Female 42				3.9						4.4			
Female 41				3.8						4.3			
Female 35					4.9							4.6	
Female 25					4.7							4.5	

As was the case with the 2003 MBA self development data, the male and female cohort distributions suggest greater moral judgement development amongst the female MBA respondents at both start and end points. The majority of males were rated at the Stage 4 level of moral judgement and the majority of females were rated at the post-conventional Stage 5. As the female grouping had a lower average age then this, in part, could explain the appearance of a greater incidence of post-conventional ratings in the lower age groups of the entire 2003 MBA cohort.

The female respondents maintained their stage across the year while two of the male respondents raised their stage. Still none of the male MBA respondents achieved a post-conventional stage rating for moral judgement.

6.5.2 Moral judgement development of the 2003 MSF participants

Table 6.24 shows the moral judgement data received from the 2003 MSF students including both their starting and ending ratings. Only the data from respondents who completed two survey instruments will be used in the following analysis.

Table 6.24: 2003 MSF - self report scores based on Kohlberg moral judgement stages

2003 FORESIGHT - START							2003 FORESIGHT - END					
Subject	1	2	3	4	5	6	1	2	3	4	5	6
Male 58				4.0							4.8	
Male 47					4.5					4.1		
Male 45				3.6					3.2			
Male 44					4.5					4.1		
Male 43				3.8						4.0		
Male 42					5.4						5.2	
Male 40				4.2							4.8	
Male 36				4.4						4.0		
Male 27				4.3						4.4		
Male 24					5.0						4.6	
Female 42					5.1						4.7	
Female 42					4.5						4.5	
Female 42				4.4						4.1		
Female 35					4.5						5.2	
Male 54				4.0								
Male 54					4.7							
Male 37					4.5							
Female 39					4.5							

Start The starting distribution of the 2003 MSF cohort was that the ratings were evenly spread between post-conventional Stage 5 and late conventional Stage 4. By comparison the 2003 MBA cohort distribution was one third post-conventional and

two thirds conventional. The 2003 MSF cohort was therefore starting for a more post-conventional position than the 2003 MBA cohort was.

End By the end of the academic year the 2003 MSF cohort distribution maintained the same equal split between conventional and post-conventional stages of moral development. Two respondents crossed from conventional Stage 4 to post-conventional stage 5 while an equal number moved in the opposite direction. One MSF respondent regressed from moral judgement Stage 4 to Stage 3. No MBA respondents regressed their stage of moral judgement across the 2003 academic year and so, while the MSF cohort was still more post-conventional than the MBA cohort, it was marginally less so by the end of the year.

Patterns in the data Only the MSF cohort had respondents who changed their moral stage rating across the year from conventional to post-conventional and visa versa. Overall the 2003 MSF cohort maintained a significant post-conventional stage presence. The MBA cohort did move its moral stages upwards but only to late conventional stages not to post-conventional stages.

Table 6.25 shows the moral judgement development data sorted by the age of the respondents to identify if maturity was a factor. The stage ratings were evenly

Table 6.25: 2003 MSF - self report scores based on Kohlberg moral judgement stages sorted by age

2003 FORESIGHT - START							2003 FORESIGHT - END						
Subject	1	2	3	4	5	6	1	2	3	4	5	6	
Male 58				4.0							4.8		
Male 47					4.5					4.1			
Male 45				3.6					3.2				
Male 44					4.5					4.1			
Male 43				3.8						4.0			
Male 42					5.4						5.2		
Female 42				4.4						4.1			
Female 42					4.5						4.5		
Female 42					5.1						4.7		
Male 40				4.2							4.8		
Male 36				4.4						4.0			
Female 35					4.5						5.2		
Male 27				4.3						4.4			
Male 24					5.0						4.6		

Table 6.26: 2003 MSF - self report scores based on Kohlberg moral judgement stages sorted by gender

2003 FORESIGHT (M) - START							2003 FORESIGHT (M) - END					
Subject	1	2	3	4	5	6	1	2	3	4	5	6
Male 58				4.0							4.8	
Male 47					4.5					4.1		
Male 45				3.6					3.2			
Male 44					4.5					4.1		
Male 43				3.8						4.0		
Male 42					5.4						5.2	
Male 40				4.2							4.8	
Male 36				4.4						4.0		
Male 27				4.3						4.4		
Male 24					5.0						4.6	
2003 FORESIGHT (F) - START							2003 FORESIGHT (F) - END					
Subject	1	2	3	4	5	6	1	2	3	4	5	6
Female 42					5.1						4.7	
Female 42					4.5						4.5	
Female 42				4.4						4.1		
Female 35					4.5						5.2	

spread across the age distribution and no bunching of ratings could be observed.

Table 6.26 shows the moral judgement development of the 2003 MSF cohort by gender. The moral stage changeability that was evidenced by the cohort can be totally explained by changes to the male MSF respondents. The female MSF respondents maintained their moral stage ratings, as did the MBA female respondents. Half the male MSF respondents, however, changed their moral judgement stage. The distribution of moral stages amongst the female respondents of both the MBA and MSF cohorts were similar whereas the male distributions were quite different. No MBA male reached a post-conventional stage in either instrument whereas slightly less than half the MSF male respondents were rated at post-conventional stages of moral judgement. The changeability in the male moral stage ratings could be a factor of post-conventionality, however, the stability of the female respondents holding post-conventional rating in both cohorts does suggest otherwise.

6.5.3 Moral Judgement development of the 2004 MBA participants

Table 6.27 shows the moral judgement data received from the 2004 MBA students including both their starting and ending ratings (if they completed a second instrument). Five respondents completed both instruments.

Table 6.27: 2004 MBA - self report scores based on Kohlberg moral judgement stages

2004 MBA - START							2004 MBA - END					
Subject	1	2	3	4	5	6	1	2	3	4	5	6
Male 37				3.9							4.5	
Male 32			3.2						3.4			
Male 31				4.4						4.2		
Female 37					4.5					3.8		
Female 28				4.2						4.2		
Male 45					4.5							
Male 32				4.4								
Male 28												
Male 26				3.9								
Female 37					4.5							
Female 35				4.2								
Female 30				3.7								
Unknown												

Start In self development the 2004 MBA cohort was more conventional than the 2003 MBA cohort and the same was the case with moral development. The starting distribution of the 2004 MBA cohort was again concentrated around the late conventional moral judgement Stage 4 rating. A single respondent was rated at the early conventional moral judgement Stage 3 (Mutual Expectations) while another respondent was rated at post-conventional Stage 5.

End By the end of the academic year the 2004 MBA cohort moral stage distribution was maintained. Unlike the 2003 MBA cohort, there was stage change across the conventional/post-conventional divide with two respondents moving in either direction.

Patterns in the data It is unwise to place much significance in patterns revealed in such a small data population. The 2004 MBA did appear slightly more conventional in its moral development and it did exhibit some changeability.

Table 6.28 shows the moral judgement development data sorted by the age of the respondents to identify if maturity was a factor. There was no observable age

Table 6.28: 2004 MBA - self report scores based on Kohlberg moral judgement stages sorted by age

2004 MBA - START							2004 MBA - END					
Subject	1	2	3	4	5	6	1	2	3	4	5	6
Male 37				3.9							4.5	
Female 37					4.5					3.8		
Male 32			3.2						3.4			
Male 31				4.4						4.2		
Female 28				4.2						4.2		

pattern in the stage ratings.

Table 6.29 shows the moral judgement development of the 2004 MBA cohort by gender. With data populations of two and three members there is little point in

Table 6.29: 2004 MBA - self report scores based on Kohlberg moral judgement stages sorted by gender

2004 MBA (M) - START							2004 MBA (M) - END					
Subject	1	2	3	4	5	6	1	2	3	4	5	6
Male 37				3							-1	
Male 32			1						0			
Male 31				2						-2		
2004 MBA (F) - START							2004 MBA (F) - END					
Subject	1	2	3	4	5	6	1	2	3	4	5	6
Female 37					4					-1		
Female 28				1						-1		

identifying patterns. A male members progressed to a post-conventional moral stage by the end of the year as compared to the 2003 MBA cohort where all male respondents maintained conventional moral stages across the year. A female respondent regressed from a post-conventional to a conventional moral stage.

6.5.4 Moral judgement development of the 2004 MSF participants

Table 6.30 shows the moral judgement data received from the 2004 MSF students including both their starting and ending ratings (if they completed a second instrument). Twelve respondents completed two instruments and only their data shall be used in the following analysis.

Table 6.30: 2004 MSF - self report scores based on Kohlberg moral judgement stages

2004 FORESIGHT - START							2004 FORESIGHT - END						
Subject	1	2	3	4	5	6	1	2	3	4	5	6	
Male 47				4.1							4.5		
Male 43				4.3						4.1			
Male 42					4.6					3.8			
Male 33					4.9						4.9		
Male 31					4.6						4.9		
Female 55				4.3						4.0			
Female 51					5.1						4.9		
Female 46				3.9					3.4				
Female 43				4.4							4.6		
Female 39				4.1							4.8		
Female 36					5.0						4.9		
Female 33					4.5					4.2			
Male 45						5.8							
Male 43					4.6								
Female 50					4.7								
Female 31					4.8								
Female 31					4.9								

Start The starting distribution of the 2004 MSF cohort was evenly spread between conventional Stage 4 and post-conventional Stage 5, repeating the distribution of the 2003 MSF cohort.

End By the end of the academic year the 2004 MSF cohort ending distribution was slightly more post-conventional with three respondents raising their stage rating to post-conventional Stage 5 while two respondents moved back to conventional Stage

4.

Patterns in the data The half the members of 2004 MSF cohort distribution changed their moral stage rating which was a higher extent of changeability than the 2003 MSF cohort which changed five of fourteen. Still there was more changeability in both MSF cohorts when compared to the relative stability of the MBA cohorts. Overall the two MSF cohort moral stage distributions were quite similar.

Table 6.31 shows the moral judgement development data sorted by the age of the respondents to identify if maturity was a factor. There was the suggestion of

Table 6.31: 2004 MSF - self report scores based on Kohlberg moral judgement stages sorted by age

2004 FORESIGHT - START							2004 FORESIGHT - END						
Subject	1	2	3	4	5	6	1	2	3	4	5	6	
Female 55				4.3						4.0			
Female 51					5.1						4.9		
Male 47				4.1							4.5		
Female 46				3.9					3.4				
Male 43				4.3						4.1			
Female 43				4.4							4.6		
Male 42					4.6					3.8			
Female 39				4.1							4.8		
Female 36					5.0						4.9		
Male 33					4.9						4.9		
Female 33					4.5					4.2			
Male 31					4.6						4.9		

a bunching of post-conventional moral stage rating amongst the younger cohort respondents, a pattern that was observed in the 2003 MSF cohort as well.

Table 6.32 shows the moral judgement development of the 2004 MSF cohort by gender. Both gender groups maintained an edge in post-conventional stages of moral judgement. Compared to the 2003 cohort gender distributions, the 2004 MSF male grouping was more post-conventional and the 2004 MSF female grouping was less post-conventional. The 2004 MSF female group's moral stage ratings were much more volatile than the 2003 MSF female group where all ratings were maintained across the year. Four of seven female MSF respondents changed their moral stage rating in 2004 and three of these crossed the conventional/post-conventional divide. The 2004 MSF male group's moral stage ratings were slightly less volatile than the 2003 MSF males. Two of five 2004 male respondents changed moral stage, both

Table 6.32: 2004 MSF - self report scores based on Kohlberg moral judgement stages sorted by gender

2004 FORESIGHT (M) - START							2004 FORESIGHT (M) - END					
Subject	1	2	3	4	5	6	1	2	3	4	5	6
Male 47				4.1							4.5	
Male 43				4.3						4.1		
Male 42					4.6					3.8		
Male 33					4.9						4.9	
Male 31					4.6						4.9	
2004 FORESIGHT (F) - START							2004 FORESIGHT (F) - END					
Subject	1	2	3	4	5	6	1	2	3	4	5	6
Female 55				4.3						4.0		
Female 51					5.1						4.9	
Female 46				3.9					3.4			
Female 43				4.4							4.6	
Female 39				4.1							4.8	
Female 36					5.0						4.9	
Female 33					4.5					4.2		

crossing the conventional/post-conventional divide whereas in 2003 half the male group changed moral stage.

6.5.5 Moral development of the Combined MBA participants

Table 6.33 shows the moral judgement data received from the combined MBA students. After two years of data collection, the combined MBA cohorts provided fourteen usable responses. The gender split across the two years included seven males and seven females. The fourteen students were of an average age of 35.9 years, the average of the seven male students was 36 years and the average for the seven females was 35.9.

Start The combined years distribution for the MBA respondents saw half the respondents being rated at the late conventional Stage 4 of moral judgement, three at the early conventional Stage 3 and four at the post-conventional Stage 5.

End Four of the fourteen MBA students changed their moral judgement stage rating—two moved up to Stage 4, one crossed to post-conventional Stage 5 while

Table 6.33: All years MBA - self report scores based on Kohlberg moral judgement stages

Subject	ALL MBA - START						ALL MBA - END					
	1	2	3	4	5	6	1	2	3	4	5	6
Male 42			3.1							3.9		
Male 38				4.3						4.1		
Male 37				3.9							4.5	
Male 37			3.3							3.9		
Male 35				4.1						4.3		
Male 32			3.2						3.4			
Male 31				4.4						4.2		
Female 43					4.6						4.7	
Female 42				3.9						4.4		
Female 41				3.8						4.3		
Female 37					4.5					3.8		
Female 35					4.9						4.6	
Female 28				4.2						4.2		
Female 25					4.7						4.5	

another regressed to conventional Stage 4. By the end of the academic year nine of the MBA respondents were rated at the late conventional Stage 4 and still four were rated at post-conventional Stage 5. Overall the MBA respondents had become more well established at conventional Stage 4 and they maintained about a third of respondents at a post-conventional stage of moral development.

Patterns in the data The overall distribution of moral judgement ratings of the combined MBA cohorts at start and end was very similar to the distribution of self stages analysed previously. By the end of the academic year the self distribution had nine out of fourteen ratings at conventional stages while the moral judgement distribution had ten out of fourteen at conventional stages. The MBA moral judgement distribution was more stable than the self distribution across the academic year. Eight of the fourteen MBA respondents changed their self stage rating across the year whereas only four MBA respondents changed their moral judgement rating. The stability in the moral judgement stages of the MBA respondents meant that the start and end distributions were proportionally very similar.

Table 6.34 shows the moral judgement development data sorted by the age of all years respondents to identify if maturity was a factor. No obvious pattern was apparent in the data suggesting that age was not a factor in the stage of moral

Table 6.34: All years MBA - self report scores based on Kohlberg moral judgement stages sorted by age

Subject	ALL MBA - START						ALL MBA - END					
	1	2	3	4	5	6	1	2	3	4	5	6
Female 43					4.6							4.7
Male 42			3.1							3.9		
Female 42				3.9						4.4		
Female 41				3.8						4.3		
Male 38				4.3						4.1		
Male 37				3.9								4.5
Male 37			3.3							3.9		
Female 37					4.5					3.8		
Male 35				4.1						4.3		
Female 35					4.9							4.6
Male 32			3.2						3.4			
Male 31				4.4						4.2		
Female 28				4.2						4.2		
Female 25					4.7							4.5

judgement development amongst the MBA respondents.

Table 6.35 shows the moral judgement data sorted by the gender of the respondents to identify if that was a factor.

The occurrence of post-conventional moral judgement is much higher amongst female rather than male MBA respondents. Half the female MBA respondents were rated at a post-conventional moral judgement stage at the start and three out of seven were likewise rated at the end of the academic year. Only a single male MBA was rated at a post-conventional moral judgement stage out of seven respondents. That difference between the two genders is more stark than the difference observed from the self stage distributions of the two gender groups of the MBA. That distribution saw four males out of fourteen rated at a post-conventional stage of self development at the start, dropping down to two out of seven at the end of the academic year. Amongst the female MBA respondents the self distribution was not greatly different to the moral judgement distribution. The self distribution for female MBA respondents saw six of fourteen respondents start at a post-conventional stage, and three of seven end at a post-conventional stage. The suggestion from this data is that female respondents are more likely to hold post-conventional stages of self and moral judgement than men, especially so for moral judgement. Moral judgement also appears to be more of a lag factor amongst the male respondents

Table 6.35: All years MBA - self report scores based on Kohlberg moral judgement stages sorted by gender

ALL MBA (M) - START							ALL MBA (M) - END					
Subject	1	2	3	4	5	6	1	2	3	4	5	6
Male 42			3.1							3.9		
Male 38				4.3						4.1		
Male 37				3.9							4.5	
Male 37			3.3							3.9		
Male 35				4.1						4.3		
Male 32			3.2						3.4			
Male 31				4.4						4.2		
ALL MBA (F) - START							ALL MBA (F) - END					
Subject	1	2	3	4	5	6	1	2	3	4	5	6
Female 43					4.6						4.7	
Female 42				3.9						4.4		
Female 41				3.8						4.3		
Female 37					4.5					3.8		
Female 35					4.9						4.6	
Female 28				4.2						4.2		
Female 25					4.7						4.5	

whereas the two developmental lines could be more closely related for women. The apparent stability in moral judgement stages when compared to self stages also suggests that moral judgement stages may move after self development and not before. This point will be examined later.

6.5.6 Moral development of the Combined MSF participants

Table 6.36 shows the moral judgement data received from the combined MSF students. After two years of data collection the combined MSF cohorts totalled twenty-six respondents who completed both instruments. The gender split across the two years was 15 males and 11 females. The twenty-six students were of an average age of 41.0 years (MBA average—35.9 years), the average of the fourteen male students who completed the second instrument was 40.8 years (MBA average—36 years) and the average for the eleven females who completed the second instrument was 42.2 years (MBA average—35.9 years).

Table 6.36: All years MSF - self report scores based on Kohlberg moral judgement stages

ALL FORESIGHT - START						ALL FORESIGHT - END						
Subject	1	2	3	4	5	6	1	2	3	4	5	6
Male 58				4.0							4.8	
Male 47				4.1							4.5	
Male 47					4.5					4.1		
Male 45				3.6					3.2			
Male 44					4.5					4.1		
Male 43				4.3						4.1		
Male 43				3.8						4.0		
Male 42					5.4						5.2	
Male 42					4.6					3.8		
Male 40				4.2							4.8	
Male 36				4.4						4.0		
Male 33					4.9						4.9	
Male 31					4.6						4.9	
Male 27				4.3						4.4		
Male 24					5.0						4.6	
Female 55				4.3						4.0		
Female 51					5.1						4.9	
Female 46				3.9					3.4			
Female 43				4.4							4.6	
Female 42					5.1						4.7	
Female 42					4.5						4.5	
Female 42				4.4						4.1		
Female 39				4.1							4.8	
Female 36					5.0						4.9	
Female 35					4.5						5.2	
Female 33					4.5					4.2		

Start The combined years distribution for the MSF respondents was an even split between the conventional Stage 4 of moral judgement and the post-conventional Stage 5 of moral judgement. The equivalent MBA starting distribution was two thirds at conventional stages and less than one third at post-conventional stages.

End Eleven of the combined MSF respondents changed their moral stage rating by the end of the year. Five progressed from conventional Stage 4 to post-conventional Stage 5 while four made the opposite movement. Another two respondents moved

from conventional Stage 4 to early conventional Stage 3. The equivalent MBA ending distribution was again more than two thirds at conventional stages and less than one third at post-conventional stages.

Patterns in the data The pattern of moral judgement ratings of the MSF cohort became slightly more conventional across the academic year while the MBA cohort maintained the same distribution. The MSF cohort did achieve a majority of respondents holding a post-conventional moral judgement rating whereas the MBA cohort had less than a third of respondents rated at a post-conventional stage. There was more volatility in the MSF cohort moral judgement ratings than there was in the MBA cohort with eleven MSF respondents from twenty-six changing their rating as compared to four MBA respondents from fourteen. Also a higher proportion of the MSF changes were movements across the conventional/post-conventional divide, nine of eleven for the MSF compared to two of four for the MBA. The ending MSF distribution of fourteen ratings from twenty-six at a post-conventional stage of moral judgement is very different to the ending MSF self stage distribution that saw twenty-five post-conventional ratings from twenty-six respondents. This difference will be examined further but it does support the suggestion that moral judgement development may be a lag factor and self development a lead factor.

Table 6.37 shows the moral judgement development data sorted by the age of all years MSF respondents to identify if maturity was a factor.

Post-conventional Stage 5 moral judgement ratings appear more prevalent amongst the younger MSF respondents with the bunching pattern appearing in the respondents aged in their early 40's or younger. There was also the appearance of more changeability amongst the stage ratings of the mid 40's and older MSF respondents than compared to the younger respondents. This volatility may explain the appearance of an age factor in the moral stage achieved. It may be that the older respondents are not more conventional, instead they are more changeable hence what the data reflects is a distribution that could undergo later change. The suggestion of younger respondents possibly holding post-conventional views in their thirties and early forties was noted in the combined MBA data. If age, by itself, was a significant factor in the stage of moral judgement then an older group on average, like the MSF respondents, would be expected to have a less, and not more, conventional tendency amongst its respondents. Age may explain some aspect of the nature of moral judgement ratings amongst a cohort but it does not appear to hold as a discriminating point between the MBA and MSF groups themselves. Changeability and age may be a more important point of discrimination.

Table 6.38 shows the moral judgement development of the 2004 MSF cohort by

Table 6.37: All years MSF - self report scores based on Kohlberg moral judgement stages sorted by age

ALL FORESIGHT - START							ALL FORESIGHT - END						
Subject	1	2	3	4	5	6	1	2	3	4	5	6	
Male 58				4.0							4.8		
Female 55				4.3						4.0			
Female 51					5.1						4.9		
Male 47				4.1							4.5		
Male 47					4.5					4.1			
Female 46				3.9					3.4				
Male 45				3.6					3.2				
Male 44					4.5					4.1			
Male 43				4.3						4.1			
Male 43				3.8						4.0			
Female 43				4.4							4.6		
Male 42					5.4						5.2		
Male 42					4.6					3.8			
Female 42					5.1						4.7		
Female 42					4.5						4.5		
Female 42				4.4						4.1			
Male 40				4.2							4.8		
Female 39				4.1							4.8		
Male 36				4.4						4.0			
Female 36					5.0						4.9		
Female 35					4.5						5.2		
Male 33					4.9						4.9		
Female 33					4.5					4.2			
Male 31					4.6						4.9		
Male 27				4.3						4.4			
Male 24					5.0						4.6		

gender.

There was a consistent difference in the distribution of moral judgement stages between male and female MSF respondents at the start point and end point. Both groups slightly reduced their proportion of respondents rated at post-conventional stages with the male group dropping below half by the end of the year. The MSF male grouping had a significantly higher number of respondents rated at post-conventional stages of moral judgement than did the MBA male grouping. The MSF male grouping distribution was quite similar to the MBA female distribution.

Table 6.38: All years MSF - self report scores based on Kohlberg moral judgement stages sorted by gender

ALL FORESIGHT (M) - START							ALL FORESIGHT (M) - END					
Subject	1	2	3	4	5	6	1	2	3	4	5	6
Male 58				4.0							4.8	
Male 47				4.1							4.5	
Male 47					4.5					4.1		
Male 45				3.6					3.2			
Male 44					4.5					4.1		
Male 43				4.3						4.1		
Male 43				3.8						4.0		
Male 42					5.4						5.2	
Male 42					4.6					3.8		
Male 40				4.2							4.8	
Male 36				4.4						4.0		
Male 33					4.9						4.9	
Male 31					4.6						4.9	
Male 27				4.3						4.4		
Male 24					5.0						4.6	
ALL FORESIGHT (F) - START							ALL FORESIGHT (F) - END					
Subject	1	2	3	4	5	6	1	2	3	4	5	6
Female 55				4.3						4.0		
Female 51					5.1						4.9	
Female 46				3.9					3.4			
Female 43				4.4							4.6	
Female 42					5.1						4.7	
Female 42					4.5						4.5	
Female 42				4.4						4.1		
Female 39				4.1							4.8	
Female 36					5.0						4.9	
Female 35					4.5						5.2	
Female 33					4.5					4.2		

There was more volatility in the male MSF moral judgement ratings than there was in the female MSF grouping which repeats the pattern observed in the MBA cohort. The moral stage distribution for MBA males, where slightly less than half the respondents were rated at post-conventional stages, was significantly different to the self stage distribution where all MSF male respondents were rated at post-

conventional stages. The same difference occurs with the female MSF respondents but the discrepancy is not as great. This differing pattern of moral judgement development compared to self development will be examined in the next section.

6.6 Data analysis of the Developmental dynamic of Self and Moral Judgement

The preceding data analysis suggested a number of patterns in the data. The analysis of the self line data found a noticeable difference in the starting stages of male and female MSF respondents and the disappearance of this difference by the end of the academic year. The analysis of the moral judgement line data found a similar difference in starting distributions but that the difference was largely sustained across the year. The end points of those data points is shown at table 6.39

In order to continue the examination of those previous data findings and to also deepen the understanding of the possible underlying developmental dynamics the data from these previous analysis will be combined. This is done in order to determine if there are any intra-line dynamics that occurred, dynamics that would not necessarily become apparent from the study of an individual line of development.

6.6.1 Combined data all MSF years with two instrument responses

The combination of the two lines of development, self-sense and moral judgement, gives a sense of how the individual sees themselves in relation to the environment they are aware of. Particularly the two give a perspective on whether the individual understands themselves within the roles and traits of their culture, or whether they stand apart from that culture, defining their self-sense by non-acceptance of those same cultural roles and traits. In addition, how do they base their moral judgements in light of how they sense the environment around them? Do they draw their sense of moral judgement from their culture or do they base their thinking on inalienable rights that are preeminent, irrespective of what the majority should wish?

The first analysis of that data is to present the end self and moral stage ratings as 'pairs' in order to identify any underlying dynamic. This analysis shall also be undertaken using MBA respondent data to allow a point of comparison. The underlying assumption behind this portrayal of the data, is that the self and moral stages could tend towards an equilibrium point where the two support one another. Simply put, a respondent with a post-conventional self rating or moral judgement

Table 6.39: All years MSF self report end stages

ALL MSF - END POINTS										
Subject	SELF LINE				MORAL STAGE				SELF	JUDGE
	3/4	4	4/5	5	3	4	5	6		
Male 58	1	1	4	3			4.8		4/5 > 5	4 > 5
Male 47	2	1	4	4			4.5		5 n/c	4 > 5
Male 47	2	4	4	1		4.1			4/5 < 5	4 < 5
Male 45	1	5	5	1	3.2				4/5 < 5	3 < 4
Male 44	2	6	4	0		4.1			4 > 4/5	4 < 5
Male 43	1	3	6	0		4.1			4/5 n/c	4 n/c
Male 43	4	5	3	0		4.0			4/5 n/c	4 n/c
Male 42	0	0	3	7			5.2		5 n/c	5 n/c
Male 42	0	5	3	3		3.8			4 > 5	4 < 5
Male 40	1	2	7	2			4.8		4 > 5	4 > 5
Male 36	1	3	4	4		4.0			5 n/c	4 n/c
Male 33	0	0	2	10			4.9		5 n/c	5 n/c
Male 31	0	0	4	8			4.9		4/5 > 5	5 n/c
Male 27	1	2	3	1		4.4			4/5 < 5	4 n/c
Male 24	0	1	7	3			4.6		4/5 > 5	5 n/c
Female 55	0	6	5	0		4.0			4/5 n/c	4 n/c
Female 51	4	6	2	0			4.9		4 > 4/5	5 n/c
Female 46	1	4	5	1	3.4				4/5 n/c	3 < 4
Female 43	3	6	3	0			4.6		4 > 4/5	4 > 5
Female 42	0	1	4	7			4.7		3/4 > 5	5 n/c
Female 42	0	6	6	0			4.5		4/5 n/c	5 n/c
Female 42	2	5	5	0		4.1			4/5 n/c	4 n/c
Female 39	1	1	9	1			4.8		4/5 n/c	4 > 5
Female 36	1	4	5	1			4.9		4/5 n/c	5 n/c
Female 35	3	2	5	0			5.2		4/5 n/c	5 n/c
Female 33	3	7	1	0		4.2			4 < 4/5	4 < 5

rating would tend to develop towards a point where those two ratings were ‘matched’. By considering each stage rating as being either conventional or post-conventional then four pairs are established. Conventional self—conventional moral; conventional self—post-conventional moral; post-conventional self—post-conventional moral; and post-conventional self—conventional moral. These four pairings can also encompass both the respondent who maintains a stage rating and the respondents who change a rating by grouping both around a common end-point. Table 6.40 is the result of

these pairings. The shaded points are the assumed points of equilibrium and the data elements within each shaded point, the process(es) by which the respondent got there. The MBA data is shown for comparative purposes.

Table 6.40: Pairings of self and moral end stages

MSF		MORAL JUDGEMENT				MBA		MORAL JUDGEMENT			
SELF		Post > Post	Con > Post	Con > Con	Post > Con	SELF		Post > Post	Con > Post	Con > Con	Post > Con
Post > Post	M	4	2	5	1	Post > Post	M				
	F	3	1	3			F	1		1	
Con > Post	M		1		2	Con > Post	M		1	1	
	F	2	1				F			1	
Con > Con	M					Con > Con	M			5	
	F						F			1	1
Post > Con	M					Post > Con	M				
	F				1		F	2			

Fourteen MSF respondents ended the year with the post-conventional self and post-conventional morals pairing. Seven of these respondents started with this pairing and maintained it across the year. The other seven respondents developed their moral stage and four of these developed their self stage as well. This pattern supports the idea that amongst the MSF respondents self development precedes moral judgement development as no respondent was rated at a conventional self and post-conventional morals pairing. Eleven MSF respondents ended with the post-conventional self—conventional moral judgement pairing and eight of these maintained that pairing across the academic year suggesting that this pairing, which although appearing as a disequilibrium point, may be one that an individual can sustain over a length of time. Three MSF respondents moved to this post-con pairing during the academic year, via either changes to self or moral stage. Further research could determine whether these respondents tended to remain at this pairing or whether the tendency was to continue developing towards the post—post pairing. A single MSF respondent ended in the conventional—conventional pairing via two regressions in self and moral stages.

By comparison, the MBA data shows that the majority of respondents are grouped at the conventional—conventional pairing. The next most populous pairing is post-conventional self and conventional morals. This point and the fact that no respondent in either cohort developed to a post-conventional moral state while maintaining a conventional sense of self does continue to support the pattern that respondents will change their sense of self before they will change their moral judgement sense. That observation suggests an important finding. If the development of post-conventional moral judgement is a key element of constructing, sustaining and communicating post-conventional images of the future then this may only occur if sufficient development of the self stages occurs beforehand. Another possibility is

that conventional moral judgement is quite a different thing when it is practised from a post-conventional sense of self. If the post-conventional self and conventional moral judgement pairing acts as an equilibrium point for respondents then perhaps it offers a pathway towards creating and sustaining social foresight's images of the future. The respondent operating from that pairing could be better able to communicate with those respondents operating at a conventional—conventional pairing as they do share, at least, a moral judgement stage.

All male and all, except one female, MSF respondents ended the academic year with a post-conventional self stage rating yet the spread of moral judgement stages did not so closely follow the self stage outcomes. Twelve male MSF respondents maintained a post-conventional self rating for the academic year and yet they divided their moral judgement stages evenly between conventional and post-conventional stages. Nine of those twelve respondents maintained the same stage of moral judgement across the academic year, however, it was surprising to see that the largest group of that nine maintained a conventional moral judgement stage and not a post-conventional moral judgement stage. The male self and moral stages combined were very stable across the academic year, in respect of whether the stage was conventional or post-conventional. The only male respondents who changed their moral judgement stage, moving between a conventional and post-conventional rating, also changed their self stage by making the same move across the conventional/post-conventional divide.

Seven female MSF respondents maintained a post-conventional self rating for the academic year and six of these also maintained the same moral judgement stage, in this case an even split of three in each of the conventional and post-conventional moral judgement stages. The self and moral stages showed more variability amongst the female MSF group with five respondents out of eleven changing either their self or moral rating across the year. The moral judgement stage alone was very stable with only a single female respondent moving between a conventional and post-conventional moral stage and that respondent was also the only MSF respondent whose self stage regressed to a conventional stage across the academic year.

6.6.2 Summary of Self and Moral Data Analysis

The data that arose from applying Loevinger's research methodology produced the most interesting data. There was a clear difference between the MSF and MBA respondents in the ratings of their self development. The MBA distributions, as a whole, were consistent with the results from some studies of professional and graduate populations. There was also a gender difference within the MBA group

where the most developed ratings were exhibited by women although this was not consistent across both years of study. The generalised pattern was that MBA males held self ratings more in keeping with a 'typical' conventional adult population and that some MBA females exhibited post-conventional ratings. The other pattern was that respondents with early conventional self ratings did tend to lift their stage rating by the end of the year but not to necessarily move to post-conventional ratings.

The MSF distributions did also exhibit a gender difference at the start of the academic years with more females receiving post-conventional self ratings than did the male respondents. By the end of each academic year almost every MSF respondent exhibited a post-conventional self stage rating and the gender difference was not maintained. The MSF distributions of post-conventional self stage ratings were much higher than any reported study. The MSF group also exhibited changeability amongst the post-conventional ratings with some members achieving stable post-conventional ratings while others regressed to transitional post-conventional stage ratings.

The data that arose from an original application of Kohlberg's theory of moral judgement development did not find as clear demarcation between the MBA and MSF groups. The distribution of conventional and post-conventional moral stages amongst MBA respondents was roughly similar to the self stage distribution. A gender difference was noted, where females tended to be more post-conventional than the males, and maintained across the year. Stability of moral judgement stages was also observed few MBA respondents receiving a different rating across the year.

The MSF moral judgement data differed from the self data in that the distribution of conventional and post-conventional moral stages was more evenly spread. A gender difference in moral stages was detectable but the difference between the two was small. The moral judgement stages were not as changeable as the self stages were amongst the MSF groups. The MSF moral judgement data was still different to the MBA data with the MSF respondents exhibiting more post-conventional moral stages. The MSF males were quite different to the MBA males whereas the MSF and MBA female data was not noticeably different.

Combining self and moral development data does suggest a pattern. Self development was a lead factor in moral development but did not guarantee it. The MBA groups tended towards a stable pairing of conventional self and conventional moral judgement whereas the MSF group tended towards a stable pairing of post-conventional self and post-conventional moral judgement. A large number of MSF respondents also exhibited a pairing of post-conventional self and conventional moral judgement suggesting that this could also operate as a stable pairing. No respondents amongst the MSF, and only two amongst the MBA, exhibited a pairing of

conventional self and post-conventional moral judgement suggesting that this is not a stable pairing.

6.7 Data analysis for the Values line of development

Clare Graves undertook research into a ‘systems conception of personality’(Lee 2002, p.3), specifically his research question was:

What will be the nature of psychological health of biologically mature human beings who are intelligent but relatively unsophisticated in psychological knowledge in general, and theory of personality, in particular?
(Lee 2002, p.11).

The research instrument asked a series of questions about specific beliefs or values about a range of subjects (friendship, marriage, religion, leadership) and the responses were scored against values protocols that are taught when individuals are accredited with using the Graves research method. Chapter Four outlined the stable, or nodal, stages of values. In addition to those stable stages, there are ‘transition’ stages states where the values are mixed. These transition stages represent individuals in the process of finding an equilibrium between their values and environment. Such transition stages are represented by coding with the relevant lowercase letter-pairs, e.g. a respondent assessed in the transition stage between stage DQ and ER is coded dq-er. Table 6.41 shows the range of Graves stages that are relevant to this thesis.

Table 6.41: **The Graves stage codes used in data presentations**

Code	Stage
CP	Egocentric stage
cp-dq	transition stage
DQ	Saintly stage
dq-er	transition stage
ER	Materialist stage
er-fs	transition stage
FS	Sociocentric stage
fs-gt	transition stage
GT	Cognitive stage
gt-hu	transition stage
HU	Experientialistic

Table 6.42: 2003 MBA - self report scores based on Graves value stages

Subject	2003 MBA - START											2003 MBA - END										
	CP	cp-dq	DQ	dq-er	ER	er-fs	FS	fs-gt	GT	gt-hu	HU	CP	cp-dq	DQ	dq-er	ER	er-fs	FS	fs-gt	GT	gt-hu	HU
Male 42						■										■						
Male 38						■										■						
Male 37				■										■								
Male 35						■								■		■						
Female 43						■										■						
Female 42						■										■						
Female 41							■											■				
Female 35						■										■						
Female 25						■										■						
Male 60				■																		
Male 32	■																					
Male 22					■																	
Female 43						■																
Female 38						■																
Female 28						■																
Female 23						■																

6.7.1 Values development of the 2003 MBA participants

Table 6.42 shows the instrument assessments for each MBA student at start and end. The shaded square represents the assessed stage. If the end assessment differed from the start then the earlier assessment is shown with a lighter shaded square. The dotted line suggests the demarcation point between the conventional and post-conventional stages. The responses of the nine MBA students who completed two research instruments were used in the following data analysis.

Start The majority of respondents were rated at the transition stage between the ER and FS stages. There was a single respondent rated at an earlier stage and a single respondent rated at what the Graves schema would regard as an early post-conventional stage. Beck & Cowan (1996, p.300) cites that some thirty percent of a Western adult population will be found at the ER stage and about ten percent at the FS stage. The opening distribution for the 2003 MBA cohort was more advanced than that typical adult population data cited by Beck & Cowan (1996).

End Three MBA respondents were rated at a different values stage by the end of the academic year. The MBA cohort distribution had become even more centralised around the er-fs transition stage. The single post-conventional rating had regressed to the dominant cohort stage another earlier rating had moved up while a single rating at er-fs regressed to the previous transitional stage dq-er.

Patterns in the data The 2003 MBA cohort remained strongly centred around the er-fs transition stage across the academic year. This stage can be equated as an exiting phase from high individualism and materialistic values and an entering phase for social and relativistic values.

Table 6.43 shows the values data sorted by the age of the respondents to identify if maturity was a factor. The distribution is not suggestive of an age correlation in values development.

Table 6.43: 2003 MBA - self report scores based on Graves value stages sorted by age

Subject	2003 MBA - START											2003 MBA - END										
	CP	cp-dq	DQ	dq-er	ER	er-fs	FS	fs-gt	GT	gt-hu	HU	CP	cp-dq	DQ	dq-er	ER	er-fs	FS	fs-gt	GT	gt-hu	HU
Female 43						█										█						
Male 42						█										█						
Female 42						█										█						
Female 41						█										█						
Male 38						█										█						
Male 37						█										█						
Male 35						█										█						
Female 35						█										█						
Female 25						█										█						

Table 6.44 shows the values data sorted by the gender of the respondent to identify if that was a factor. The earlier value ratings were only exhibited by the MBA male respondents and the single post-conventional values rating, which was not sustained, was exhibited by a female. By the end of the year, the self stage dynamic that was observed with this cohort was repeated with the males catching up to the female ratings, while the female ratings either held their stage or regressed to the commonly shared stage. While that pattern was repeated, what differed was that the point of gender difference was not a post-conventional stage but rather a late conventional stage. Nevertheless a developmental dynamic was observed that did distinguish between male and female respondents in the MBA cohort.

6.7.2 Values development of the 2003 MSF participants

Table 6.45 shows the instrument assessments for each 2003 MSF student at start and end. The data received from the fourteen MSF respondents were used in the following data analysis.

Start The most commonly rated value stage for the 2003 MSF respondents were rated at the transition stage between the ER and FS stages was the same stage that was predominant amongst the MBA cohort—the er-fs transition. The difference

Table 6.44: 2003 MBA - self report scores based on Graves value stages sorted by gender

2003 MBA (M) - START											2003 MBA (M) - END												
Subject	CP	cp-dq	DQ	dq-er	ER	er-fs	FS	fs-gt	GT	gt-hu	HU	CP	cp-dq	DQ	dq-er	ER	er-fs	FS	fs-gt	GT	gt-hu	HU	
Male 42						■											■						
Male 38						■											■						
Male 37				■		■											■						
Male 35						■											■						
2003 MBA (F) - START											2003 MBA (F) - END												
Subject	CP	cp-dq	DQ	dq-er	ER	er-fs	FS	fs-gt	GT	gt-hu	HU	CP	cp-dq	DQ	dq-er	ER	er-fs	FS	fs-gt	GT	gt-hu	HU	
Female 43						■											■						
Female 42						■											■						
Female 41						■		■												■			
Female 35						■											■						
Female 25						■											■						

Table 6.45: 2003 MSF - self report scores based on Graves value stages

2003 FORESIGHT - START											2003 FORESIGHT - END												
Subject	CP	cp-dq	DQ	dq-er	ER	er-fs	FS	fs-gt	GT	gt-hu	HU	CP	cp-dq	DQ	dq-er	ER	er-fs	FS	fs-gt	GT	gt-hu	HU	
Male 58						■											■						
Male 47						■				■										■			■
Male 45				■											■								■
Male 44						■									■						■		
Male 43						■									■								■
Male 42						■									■								■
Male 40						■				■													■
Male 36						■									■								■
Male 27						■				■													■
Male 24					■										■								■
Female 42						■											■						■
Female 42						■											■						■
Female 42						■											■						■
Female 35						■											■						■
Male 54				■																			
Male 54										■													
Male 37										■													
Female 39							■																

between the MBA and MSF starting distributions was that there were more than a single respondent who was rated at stages later than er-fs. Beck & Cowan (1996, p.300) reported that one percent of an adult population can be expected at stages beyond FS, in the MSF cohort three out of fourteen were rated above the FS stage.

End Eight MSF respondents were rated at a different values stage by the end of the year. That was a noticeably greater number of changes than the smaller MBA cohort exhibited with three changes amongst nine. Like the MBA cohort all respondents moved up to at least the the er-fs transition stage. Slightly less than half the 2003 MSF cohort were rated at post-conventional stages beyond FS by the end of the year. The same number of respondents were now located at the

post-conventional transitional stage fs-gt as located at er-fs.

Patterns in the data The ending distribution of 2003 MSF cohort contained almost half its respondents at post-conventional stages. Three respondent moved their stage rating from a conventional to post-conventional values stage. In following this pattern the values distribution was somewhat similar to the cohort’s moral judgement final distribution which moved about half respondents across the post-conventional divide. The 2003 MSF cohort distribution was considerably more advanced than the 2003 MBA values distribution which still saw almost all its members rated in conventional stages.

Table 6.46 shows the values data sorted by the age of the respondents to identify if maturity was a factor. All ratings were well spread amongst all age groups and no discernable age pattern could be observed in the 2003 MSF values development distribution.

Table 6.46: 2003 MSF - self report scores based on Graves value stages sorted by age

Subject	2003 FORESIGHT - START											2003 FORESIGHT - END										
	CP	cp-dq	DQ	dq-er	ER	er-fs	FS	fs-gt	GT	gt-hu	HU	CP	cp-dq	DQ	dq-er	ER	er-fs	FS	fs-gt	GT	gt-hu	HU
Male 58						■											■					
Male 47									■											■		■
Male 45				■											■					■		
Male 44					■											■				■		
Male 43					■											■				■		
Male 42					■		■									■		■				
Female 42					■											■				■		
Female 42					■											■				■		
Female 42					■											■				■		
Male 40								■												■		
Male 36							■										■					
Female 35					■											■				■		
Male 27								■												■		■
Male 24				■												■				■		■

Table 6.47 shows the values data sorted by the gender of the respondent to identify whether it was a factor. The 2003 MSF values data is quite different to the self and moral judgement distribution, as in this distribution the male members of the MSF cohort achieved later stage ratings than the female members at both start and end. The female MSF ending distribution was similar to the female MBA ending distribution, where most respondents were rated at the same stage, er-fs. The male MSF group contained all the post-conventional ratings for the entire MSF cohort. The values distribution is a clear departure from the patterns that were observed for the MSF males in all the other developmental lines data.

Table 6.47: 2003 MSF - self report scores based on Graves value stages sorted by gender

2003 FORESIGHT (M) - START											2003 FORESIGHT (M) - END											
Subject	CP	cp-dq	DQ	dq-er	ER	er-fs	FS	fs-gt	GT	gt-hu	HU	CP	cp-dq	DQ	dq-er	ER	er-fs	FS	fs-gt	GT	gt-hu	HU
Male 58						■											■					
Male 47										■										■		■
Male 45				■											■							■
Male 44						■											■					■
Male 43						■											■					■
Male 42							■											■				■
Male 40										■											■	■
Male 36							■										■					■
Male 27										■								■				■
Male 24					■												■					■
2003 FORESIGHT (F) - START											2003 FORESIGHT (F) - END											
Subject	CP	cp-dq	DQ	dq-er	ER	er-fs	FS	fs-gt	GT	gt-hu	HU	CP	cp-dq	DQ	dq-er	ER	er-fs	FS	fs-gt	GT	gt-hu	HU
Female 42						■												■				■
Female 42						■												■				■
Female 42						■												■				■
Female 35						■												■				■

Table 6.48: 2004 MBA - self report scores based on Graves value stages

2004 MBA - START											2004 MBA - END											
Subject	CP	cp-dq	DQ	dq-er	ER	er-fs	FS	fs-gt	GT	gt-hu	HU	CP	cp-dq	DQ	dq-er	ER	er-fs	FS	fs-gt	GT	gt-hu	HU
Male 37					■											■						
Male 32						■											■					
Male 31						■											■					
Female 37					■											■						
Female 28				■											■							
Male 45							■															
Male 32				■																		
Male 28				■																		
Male 26				■																		
Female 37						■																
Female 35						■																
Female 30						■																
Unknown						■																

6.7.3 Values development of the 2004 MBA participants

Table 6.48 shows the instrument values assessments for each student at start and end. Only the data from the five respondents who completed two instruments were used in the following analysis.

Start All respondents were rated at either side of the ER stage. The opening distribution for the 2004 MBA cohort was less advanced than the 2003 MBA cohort that were more located around the er-fs stage. That pattern is different to what this cohort displayed with self and moral judgement data. In those distributions there was not such a noticeable difference between the opening distributions of the 2003 MBA and 2004 MBA cohorts.

End By the end of the academic year none of the respondent ratings had changed.

Patterns in the data The 2004 MBA cohort maintained their values rating across the academic year. The final distribution was less advanced than the 2003 MBA cohort which was more strongly located at the er-fs stage. The 2004 MBA distribution could be regarded as a more expected adult distribution.

Table 6.49 shows the values data sorted by the age of the respondents to identify if maturity was a factor. No pattern was obvious.

Table 6.49: 2004 MBA - self report scores based on Graves value stages sorted by age

2004 MBA - START											2004 MBA - END													
Subject	CP	cp-dq	DQ	dq-er	ER	er-fs	FS	fs-gt	GT	gt-hu	HU	CP	cp-dq	DQ	dq-er	ER	er-fs	FS	fs-gt	GT	gt-hu	HU		
Male 37																								
Female 37																								
Male 32																								
Male 31																								
Female 28																								

Table 6.50 shows the values data sorted by the gender of the respondent to identify if that was a factor. The gender distribution did suggest that the 2004 MBA male group was slightly more advanced in values development than the 2004 MBA female group. That gender outcome is consistent with the 2004 MBA outcome for self and moral judgement stages where in each of those cases the female group presented a slightly less developed distribution than the males.

Table 6.50: 2004 MBA - self report scores based on Graves value stages sorted by gender

2004 MBA (M) - START											2004 MBA (M) - END													
Subject	CP	cp-dq	DQ	dq-er	ER	er-fs	FS	fs-gt	GT	gt-hu	HU	CP	cp-dq	DQ	dq-er	ER	er-fs	FS	fs-gt	GT	gt-hu	HU		
Male 37																								
Male 32																								
Male 31																								
2004 MBA (F) - START											2004 MBA (F) - END													
Subject	CP	cp-dq	DQ	dq-er	ER	er-fs	FS	fs-gt	GT	gt-hu	HU	CP	cp-dq	DQ	dq-er	ER	er-fs	FS	fs-gt	GT	gt-hu	HU		
Female 37																								
Female 28																								

6.7.4 Values development of the 2004 MSF participants

Table 6.51 shows the instrument assessments for each student at start and end. Only the data from the eleven respondents who completed two instruments were used in the following analysis.

Table 6.51: 2004 MSF - self report scores based on Graves value stages

Subject	2004 FORESIGHT - START											2004 FORESIGHT - END										
	CP	cp-dq	DQ	dq-er	ER	er-fs	FS	fs-gt	GT	gt-hu	HU	CP	cp-dq	DQ	dq-er	ER	er-fs	FS	fs-gt	GT	gt-hu	HU
Male 47							■												■	■		
Male 43						■											■					
Male 42							■												■			
Male 33									■											■		
Female 55					■											■	■					
Female 51						■										■	■					
Female 46						■										■	■					
Female 43					■											■						
Female 39								■											■			
Female 36									■								■			■		
Female 33					■											■	■				■	
Male 45								■														
Male 43						■																
Male 31					■																	
Female 50						■																
Female 31								■														
Female 31								■														

Start The 2004 MSF values stage distribution was spread between a span of two stages, from ER to GT. This was a more advanced starting distribution than the 2003 MSF cohort as five of the respondents were beginning from post-conventional value ratings.

End Five respondents changed values stage ratings across the academic year. The er-fs transition stage become the most frequent rating point. One respondent moved back from a post-conventional value stage to er-fs and no respondents moved from a conventional stage to a post-conventional one.

Patterns in the data This cohort commenced the year from a more post-conventional distribution than the 2003 MSF cohort. By the end of the year it had a distribution that was less post-conventional than the 2003 MSF ending distribution but still more post-conventional than the 2004 MBA cohort.

Table 6.52 shows the values data sorted by the age of the respondents to identify if maturity was a factor. No age pattern was apparent.

Table 6.53 shows the values data sorted by the gender of the respondent to identify if that was a factor. The 2004 MSF values data distribution appeared to repeat the 2003 pattern where the male MSF respondents were rated at later value stages than the female MSF respondents. Certainly the bulk of the 2004 female respondents were located around the er-fs stage while a single female respondent was rated at a post-conventional values stage. By contrast three of the four male MSF respondents were rated at post-conventional values stages.

Table 6.52: 2004 MSF - self report scores based on Graves value stages sorted by age

2004 FORESIGHT - START											2004 FORESIGHT - END											
Subject	CP	cp-dq	DQ	dq-er	ER	er-fs	FS	fs-gt	GT	gt-hu	HU	CP	cp-dq	DQ	dq-er	ER	er-fs	FS	fs-gt	GT	gt-hu	HU
Female 55					■											■	■					
Female 51						■										■	■					
Male 47								■											■	■		
Female 46						■											■	■				
Male 43																						
Female 43					■											■						
Male 42								■											■	■		
Female 39																			■	■		
Female 36									■								■				■	
Male 33																						
Female 33					■											■	■					

Table 6.53: 2004 MSF - self report scores based on Graves value stages sorted by gender

2004 FORESIGHT (M) - START											2004 FORESIGHT (M) - END											
Subject	CP	cp-dq	DQ	dq-er	ER	er-fs	FS	fs-gt	GT	gt-hu	HU	CP	cp-dq	DQ	dq-er	ER	er-fs	FS	fs-gt	GT	gt-hu	HU
Male 47								■											■	■		
Male 43						■											■					
Male 42								■											■	■		
Male 33									■											■	■	
2004 FORESIGHT (F) - START											2004 FORESIGHT (F) - END											
Subject	CP	cp-dq	DQ	dq-er	ER	er-fs	FS	fs-gt	GT	gt-hu	HU	CP	cp-dq	DQ	dq-er	ER	er-fs	FS	fs-gt	GT	gt-hu	HU
Female 55					■											■	■					
Female 51						■										■	■					
Female 46						■											■	■				
Female 43					■											■						
Female 39								■											■	■		
Female 36									■								■				■	
Female 33					■											■	■					

6.7.5 Values development of the Combined MBA participants

Table 6.54 shows the values data ratings from the fourteen MBA students who completed two research instruments.

Start The er-fs transitional stage was both the most common and the ceiling stage for the MBA combined cohort. The majority of the remaining respondent ratings were spread out in the two stages immediately prior to this. A single respondent was rated at a post-conventional values stage and four respondents were rated at values stage earlier than er-fs. The ER stage alone, and its connecting transitions with the DQ and FS stages, accounted for all but one of the combined MBA cohort. The values of the ER stage are strongly associated with achievement, expertise, excellence and material success. That those values are so strongly associated with

Table 6.54: All years MBA - self report scores based on Graves value stages

Subject	ALL MBA - START											ALL MBA - END										
	CP	cp-dq	DQ	dq-er	ER	er-fs	FS	fs-gt	GT	gt-hu	HU	CP	cp-dq	DQ	dq-er	ER	er-fs	FS	fs-gt	GT	gt-hu	HU
Male 42																						
Male 38																						
Male 37																						
Male 37																						
Male 35																						
Male 32																						
Male 31																						
Female 43																						
Female 42																						
Female 41																						
Female 37																						
Female 35																						
Female 28																						
Female 25																						

the MBA cohort is not surprising.

End Three respondents changed their values rating across the academic year. The distribution of year end ratings showed that the MBA group completely centralised all values stage ratings around the ER stage with a clear majority of respondents located at the er-fs transitional stage.

Patterns in the data The combined MBA values distribution operated in a fairly narrow values band. The lack of existence of values outside those encompassed by the ER stage does suggest a quite homogenous group insofar as values are concerned. It can be hypothesised, but not proven, that the single respondent who was initially rated at a post-conventional stage and who did not exhibit any strong association with ER values may have modified their values preferences in order to be a better fit with the prevailing group.

Table 6.55 shows the self development data sorted by the age of the respondents to identify if maturity was a factor. The overall MBA cohort distribution does suggest that respondents evidencing the dq-er transitional stage were younger members of the combined MBA cohort. As the DQ stage is based around the recognition of hierarchical authority and the role it plays in setting the boundaries of individual agency then perhaps the younger MBA respondents are experiencing business life conditions where they are not the leaders but still the followers. Perhaps the later-aged MBA respondents have moved into organisational roles where they have more say in establishing the boundaries of action.

Table 6.56 shows the self development data sorted by the gender of the respondents to identify if that was a factor.

Table 6.55: All years - self report scores based on Graves value stages sorted by age

Subject	ALL MBA - START											ALL MBA - END										
	CP	cp-dq	DQ	dq-er	ER	er-fs	FS	fs-gt	GT	gt-hu	HU	CP	cp-dq	DQ	dq-er	ER	er-fs	FS	fs-gt	GT	gt-hu	HU
Female 43						█										█						
Male 42						█										█						
Female 42						█										█						
Female 41						█					█										█	
Male 38						█										█						
Male 37					█											█						
Male 37				█												█						
Female 37				█												█						
Male 35						█										█						
Female 35						█										█						
Male 32						█										█						
Male 31						█										█						
Female 28				█												█						
Female 25						█										█						

Table 6.56: All years MBA - self report scores based on Graves value stages sorted by gender

Subject	ALL MBA (M) - START											ALL MBA (M) - END										
	CP	cp-dq	DQ	dq-er	ER	er-fs	FS	fs-gt	GT	gt-hu	HU	CP	cp-dq	DQ	dq-er	ER	er-fs	FS	fs-gt	GT	gt-hu	HU
Male 42						█										█						
Male 38						█										█						
Male 37					█											█						
Male 37				█												█						
Male 35						█										█						
Male 32						█										█						
Male 31						█										█						

Subject	ALL MBA (F) - START											ALL MBA (F) - END										
	CP	cp-dq	DQ	dq-er	ER	er-fs	FS	fs-gt	GT	gt-hu	HU	CP	cp-dq	DQ	dq-er	ER	er-fs	FS	fs-gt	GT	gt-hu	HU
Female 43						█										█						
Female 42						█										█						
Female 41						█					█											█
Female 37					█											█						
Female 35						█										█						
Female 28				█												█						
Female 25						█										█						

Both starting and ending distributions are very similar. This is quite different to the self and morals distribution where gender differences were noted amongst the combined MBA group. The homogeneity of values stages amongst the MBA cohort was the most striking observation. Graves hypothesised that values were largely the product of existential problems faced and the finding of such a common result amongst the combined MBA respondents does suggest that the respondents all perceive the same external types of problems to be resolved. The problems that ER values respond to are those of ‘accomplishing and getting, having and possessing ... He values gamesmanship, competition, the entrepreneurial attitude, efficiency, work simplification, the calculated risk, scientific scheming and manipulation’ (Graves

1970, p.151). Those problems and values they evoke in order to address them do seem an excellent description of what attributes that an individual would gain from an MBA education.

6.7.6 Values development of the Combined MSF participants

Table 6.57 shows the values data ratings from the twenty-five MSF students who completed two research instruments.

Table 6.57: All years MSF - self report scores based on Graves value stages

Subject	ALL FORESIGHT - START										ALL FORESIGHT - END											
	CP	cp-dq	DQ	dq-er	ER	er-fs	FS	fs-gt	GT	gt-hu	HU	CP	cp-dq	DQ	dq-er	ER	er-fs	FS	fs-gt	GT	gt-hu	HU
Male 58						■										■						
Male 47							■											■	■			
Male 47									■									■			■	
Male 45				■											■				■			
Male 44						■										■				■		
Male 43						■										■						
Male 43						■										■		■				
Male 42							■										■			■		
Male 42							■										■					
Male 40									■											■		
Male 36							■										■			■		
Male 33									■											■		
Male 27									■											■		
Male 24					■											■				■		
Female 55					■											■				■		
Female 51						■										■						
Female 46						■										■						
Female 43					■											■						
Female 42						■										■				■		
Female 42						■										■						
Female 42						■										■						
Female 39								■											■			
Female 36									■											■		
Female 35																					■	
Female 33					■											■						

Start The ER stage, that was central to the MBA cohort, was still a significant factor in the values expressed by the MSF cohort. Fourteen of the twenty-five respondents exhibited an aspect of ER in their ratings. The FS stage, however, was just central to the MSF combined cohort accounting for fifteen of the twenty-five respondents ratings. What was unique to the MSF cohort were GT values that were present in the ratings of eight of the twenty-five respondents. The MSF starting distribution was noticeably more developed than the MBA distribution.

End Thirteen respondents changed their values rating across the academic year. The MBA group, by comparison, changed only three of fourteen. The number of MSF respondents exhibiting post-conventional values rose by three, to eleven in total. The influence of ER in respondent ratings reduced from fourteen to twelve. The influence of FS in respondent ratings rose from fifteen to nineteen. GT influence rose from eight to eleven.

Patterns in the data The spread of the combined MSF cohort moved further away from the MBA core value stage, ER, to be largely based around the core values of FS and to an increasing extent of GT as well. There was also more changeability amongst the MSF respondents when compared to the MBA respondents. Slightly less than half the MSF respondents were rated at post-conventional value stages whereas no MBA respondent was rated at such a value stage by the end of the academic year.

Table 6.58 shows the self development data sorted by the age of the respondents to identify if maturity was a factor. The age distribution of the MBA cohort suggested that younger respondents (thirty-five years or less) had a greater tendency to rate with a stage value involving DQ values. The MSF age distribution did not find this, in fact, it suggested the opposite. The younger element of the MSF cohort exhibited a greater tendency to rate at higher, not earlier stages. The pattern was the younger MSF respondents more frequently exhibited GT values in their ratings. The MSF cohort was almost six years older, on average, than the MBA grouping. The oldest MBA respondent (42 years of age) would only be placed at the mid-point of the MSF age distribution. The greater spread of ages in the MSF respondents could act as a developmental factor as more life experience would be in the classroom and a potentially greater number of life situations could be available for group learning. Many of the older MSF respondents did advance their value stages to encompass GT values. This pattern could suggest a developmental pattern were the younger members who initially exhibit GT values could act as developmental pacers to the older members of the same student cohort.

Table 6.59 shows the self development data sorted by the gender of the respondent to identify if that was a factor. The female MSF respondents strongly evidenced FS-type values in their ratings with nine of eleven contained in that values spread. The male respondents also strongly evidenced FS-type values, representing ten of fourteen respondents. The noticeable difference was that male respondents also exhibited GT-type values amongst nine of fourteen respondents whereas females only exhibited those values amongst two of eleven. The female respondents also strongly evidenced ER-type values amongst nine of eleven whereas the male respondents only

Table 6.58: All years MSF - self report scores based on Graves value stages sorted by age

Subject	ALL FORESIGHT - START											ALL FORESIGHT - END										
	CP	cp-dq	DQ	dq-er	ER	er-fs	FS	fs-gt	GT	gt-hu	HU	CP	cp-dq	DQ	dq-er	ER	er-fs	FS	fs-gt	GT	gt-hu	HU
Male 58																						
Female 55																						
Female 51																						
Male 47																						
Male 47																						
Female 46																						
Male 45																						
Male 44																						
Male 43																						
Male 43																						
Female 43																						
Male 42																						
Male 42																						
Female 42																						
Female 42																						
Female 42																						
Male 40																						
Female 39																						
Male 36																						
Female 36																						
Female 36																						
Female 35																						
Male 33																						
Female 33																						
Male 27																						
Male 27																						
Male 24																						

exhibited ER-type values amongst three of fourteen. Thus the MSF males presented a more post-conventional values distribution than did the MSF females. The gender split of values data for the MSF cohort obtained a different outcome than did the result for self and moral judgement data. Both those measures found the female respondents more developed than the males.

The FS values that were core to both male and female MSF respondents, ‘value “getting along with” more than “getting ahead”. Consumer good-will takes precedence over free enterprise, cooperation stands out as more valued than competition and social approval is more valued than individual fame’ (Graves 1970, p.152). The sociocentric nature of these values are a good fit with the social expression of foresight and to this extent those values are an obvious fit with an MSF education. It is the expression of GT values amongst males in contrast to the expression of ER values amongst females that is most striking. ER values accomplishing and getting whereas GT values stand above the ‘fears’ of the earlier value stages and ‘with his energies free for cognitive activation, man focusses upon his self and his world’ (Graves 1970, p.153). The suggestion here is that the existential problems that MSF females interpret are still located at the level of fearing a lack of material security whereas the males have solved those problems and so can express the values of world

concern. The MSF female value distribution was like the MBA female distribution and this does suggest that the existential problems of females are similarly interpreted by all. It is the MSF males who are quite different to the MBA males and who while sharing the core of FS values are more prepared to express GT values rather than FS ones.

Table 6.59: All years MSF - self report scores based on Graves value stages sorted by gender

ALL FORESIGHT (M) - START											ALL FORESIGHT (M) - END													
Subject	CP	cp-dq	DQ	dq-er	ER	er-fs	FS	fs-gt	GT	gt-hu	HU	CP	cp-dq	DQ	dq-er	ER	er-fs	FS	fs-gt	GT	gt-hu	HU		
Male 58						■											■							
Male 47								■											■	■				
Male 47										■									■	■		■		
Male 45				■										■					■	■			■	
Male 44						■																		
Male 43						■																		
Male 43																	■	■						
Male 42						■		■																
Male 42								■										■						
Male 40										■														
Male 36								■									■	■						
Male 33										■														
Male 27										■														
Male 24						■											■							
ALL FORESIGHT (F) - START											ALL FORESIGHT (F) - END													
Subject	CP	cp-dq	DQ	dq-er	ER	er-fs	FS	fs-gt	GT	gt-hu	HU	CP	cp-dq	DQ	dq-er	ER	er-fs	FS	fs-gt	GT	gt-hu	HU		
Female 55					■												■	■						
Female 51						■																		
Female 46						■																		
Female 43					■																			
Female 42						■																		
Female 42						■																		
Female 42						■																		
Female 39								■																
Female 36										■														
Female 35						■																		
Female 33					■																			

6.7.7 Summary of Values Data Analysis

The data that arose from the application of Grave’s theory of value’s development provided another distinguishing measure between the MBA and MSF cohorts. The MBA cohort was entirely located around the ER value stage with a majority of respondents being rated at the er-fs transitional stage. The MSF cohort, by comparison, was predominantly located around the FS stage and it has a majority of its respondents at later stages than the er-fs transition. The existence of Graves rating above er-fs operated to clearly distinguish MBA from MSF respondents.

Evidencing postconventional values was a clear point of differentiation between the MBA and MSF cohorts but, unlike the Loevinger ratings, not all MSF respondents evidenced postconventional values ratings. The distribution of conventional

and postconventional values ratings amongst the MSF cohort was more like to the the Kohlberg morals ratings distribution than the Loevinger ratings. Amongst the MBA respondents, however, the division between conventional and postconventional stages was the most stark amongst the three measures with no MBA respondent evidencing postconventional values.

The gender difference between MSF respondents was quite different to anything observed in the other measures. In both the Loevinger and Kohlberg measures the MSF females evidenced higher and more postconventional stages of self and morals than did the MSF males. In the Graves data, however, that was reversed with the MSF males evidencing higher and more postconventional stages than the MSF females. There was no noticeable gender difference amongst the MBA males and females.

In summary, the Graves data did add value to the research. It repeated the conventional postconventional difference between the MBA and MSF cohorts, in this case the existence of postconventional values was exclusive the MSF respondents. It was also noteworthy that while a minority of MBA respondents did evidence postconventional stages of self and moral judgement, the problems of existence were only located at conventional stages. For the MBA respondents, at least, the values data would appear the lag factor in development when compared to self and moral development.

Chapter 7

Summary of the Empirical Data Analysis

7.0.1 Empirical Research Aims

Part I of this thesis undertook theoretical research in the development of individual foresight and it proposed that individual foresight capacity was an expression of the developing psychology of the individual. Three specific ‘lines’ of psychological development, self sense, moral judgement and values supported the generation of that theory. Part II undertook empirical research into that theory gathering data on those developmental lines amongst two adult populations. Specifically this research examined whether these three ‘lines’ of development—the ego or self line, the moral line and the values line in students studying foresight—could illuminate how foresight capacities develop in the individual. The research tested differences between the MSF and MBA cohorts; whether the respondents gave any indication of having undergone development across the academic year; and whether that development occurred in an expected or unexpected manner.

7.0.2 Empirical Data Findings

Two lines of development, the self and values, appeared the most sensitive discriminators between MBA and MSF respondents, especially for evidence of postconventional stages. The MSF and MBA cohorts differed at the start of the years’ study and that difference increased by year’s end. On the development of self-sense all but one MSF respondents attained postconventional self-sense by year’s end; on the values rating only MSF respondents reached a postconventional stages. More MSF respondents attained a postconventional self stages than for values and moral judgement, suggesting, that self development was more easily achieved than development

in moral judgement and values. Furthermore, the lack of any MBA respondent evidencing postconventional values stages suggests that values change last. The moral judgement data was the least discriminatory measure both within and between cohorts .

The paired sets of self and moral data suggested stable pairings: a conventional self-sense and conventional moral judgement and a postconventional self-sense and postconventional moral judgement; and the paired sets also revealed a possibly less stable pairing: a postconventional self-sense and conventional moral judgement. In contrast, the data did not reveal a pairing between conventional self-sense and postconventional moral judgement. These findings suggest that a postconventional sense of self can be sustained even the individual lacks postconventional moral judgement and postconventional values.

The data analysis suggests a respondent achieving Graves materialistic values stage is suggests more likely to be in an MBA class than an MSF class. That respondent would probably have both a conventional sense of self and conventional moral judgement. Some individuals moved from conventional to postconventional stages while others did the reverse. Moral judgement stages were fairly stable while values stages were very stable.

A respondent with Graves sociocentric values stage was more likely to be in an MSF class than an MBA class. A majority of those with sociocentric values had a postconventional self-sense while fewer showed evidence of postconventional moral judgement. Individuals moving from conventional to postconventional self stages by the year's end showed most development. of the year. Some respondents reverted to an earlier sense of self but did not revert to a conventional stage. Moral judgement stages were quite volatile in both the conventional and postconventional stages. Development in values stages occurred mainly among males.

These dynamics suggest that the individual sense of 'self' is the instrument that cognicises life conditions and identifies the problems that need addressing, as well as what 'judges' how 'we' (people like the individual in question) should live in the world. Thus the individual sense of self can develop ahead of the individual's interpretation of life conditions and before changes in their stage of moral judgement stage but not the reverse. A postconventional self can detect postconventional life conditions and can reason with postconventional morals. A postconventional self can also detect conventional life conditions whereas a conventional self will almost certainly detect conventional life conditions. The following data for the MBA and MSF groups illustrate can be grouped in order to highlight the potential differences and dynamics.

- MBA males—predominantly conventional selves in a world of material scarcity

best governed by conventional moral judgements.

- MBA females—mainly conventional, but some postconventional selves, in a world of material scarcity best governed by mainly conventional, but some postconventional, moral judgements.
- MSF males—postconventional selves in a world of relational scarcity and empowered individuals who can save an endangered world through postconventional and conventional moral judgments.
- MSF females—postconventional selves in a world of relational and material scarcity best governed through postconventional and conventional moral judgments.

Those patterns suggest three stages in the development of foresight.

1. Conventional foresight—conventional self in a conventional world (Most MBA Males and some MBA females).
2. Postconventional foresight—postconventional self in a conventional/postconventional world (Some MBA females, most MSF females and males).
3. Integrated foresight—postconventional self in a postconventional world (some MSF males).

Part III of the thesis discusses the two research questions in light of these foresight stages.

Part III

Overall Findings

Chapter 8

Discussion and Implications

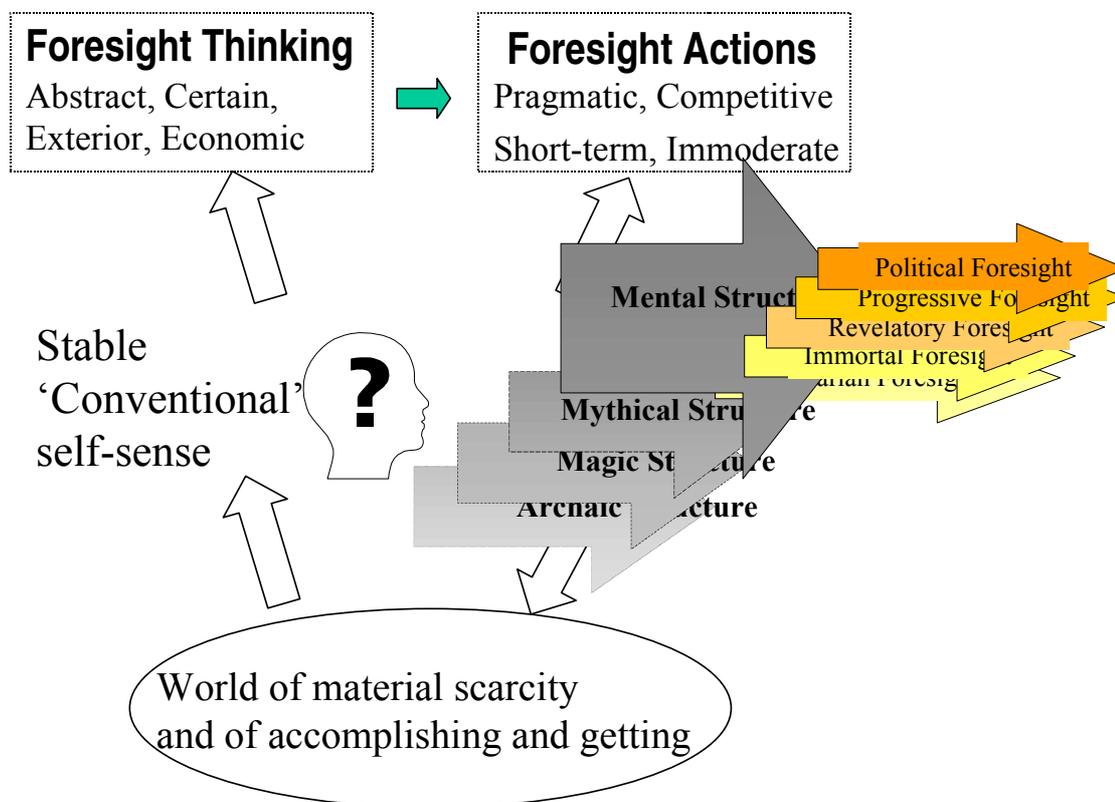
Research Question 1: How Does Foresight Develop in the Individual?

This chapter discusses the empirical findings and the theories which might answer the first research question—how does foresight develop in the individual? It begins by discussing the three stages of the development of individual foresight: conventional, postconventional and integrated.

8.1 Stage 1—Conventional Foresight

The majority of the MBA males and a number of MBA females exhibited conventional foresight. Figure 8.1 depicts conventional foresight. The self sense here is stable conventional: it arises out of observing a world with the existential challenge of material scarcity and a society that values accomplishment and material acquisition. This world is seen as a competitive place where the most competent individuals, operating with the best information, are the ones most likely to prosper. An individual operating with conventional foresight would fit well with economic and commercial market behaviour that demands ever-more accurate ‘intelligence’ with which to ‘price’ decision-making consequences. Such an individual would prefer foresight viewpoints that promoted stability and certainty and the methods employed would focus mainly on the exterior aspects of ‘reality’. Conventional foresight, as a stage, equates with the Gebser mental structure and the foresight worldviews of Political and Progressive Foresight. It employs abstract, rational, directive and dis-

Figure 8.1: Conventional Foresight



cursive thought in seeking to measure and control both the environment and the passage of time. 'It is evident in the conviction of present-day man [sic] that he is the maker of the future' (Gebser 1985, p.85). The individual would wish to believe in rational certainty. If his/her confidence in rational certainty was shaken then foresight could still be employed to promote high quality responses by providing knowledge surrogates or by creating dialogue around the uncertainties. From this foresight stage, technology would be regarded as a neutral factor and science as a reliable arbiter of truth. Language would be thought to mean "just what it says" and the present would be regarded as just the natural playing out of forces.

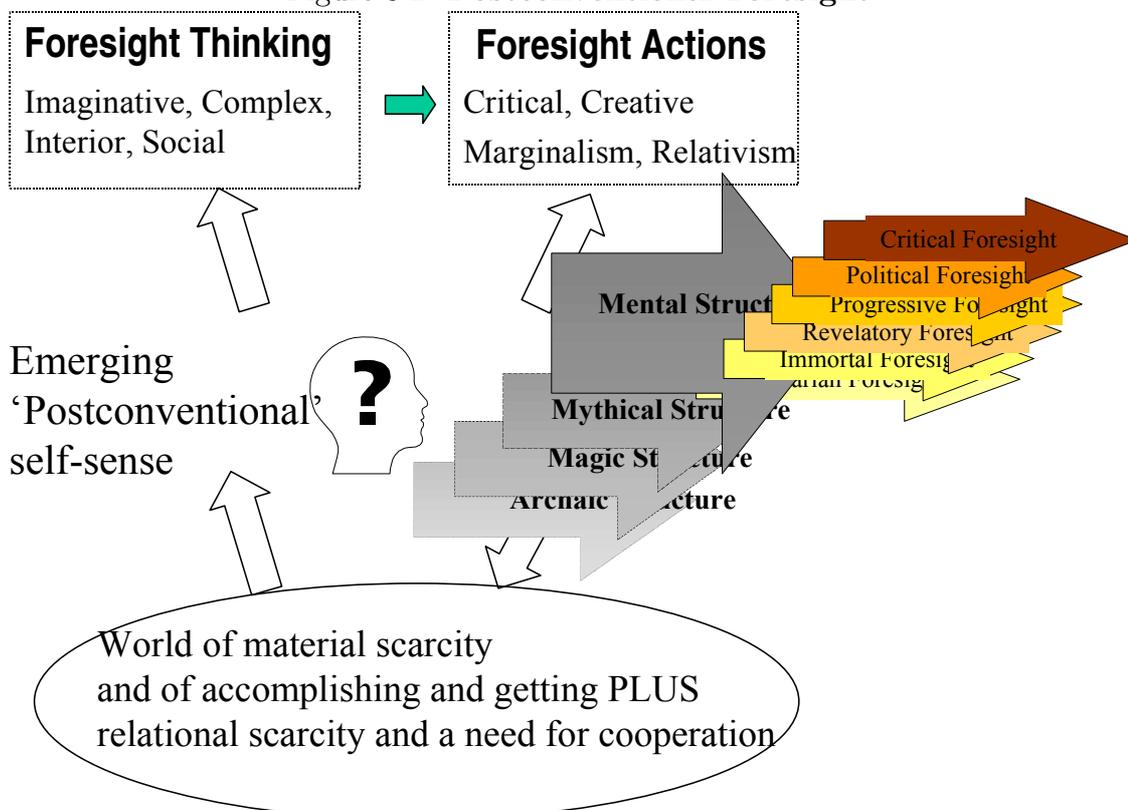
Conventional foresight would be shared by the majority of adults in the Western world and is congruent with prevailing commercial, educational and political interests. The individual operating with conventional foresight would feel highly congruent and certain of both their sense of self and their environment. Individual's exhibiting this stage would observe much mutually reinforcing behaviour in others, would find broad social congruence in how they 'see' the world and would readily find a role in society. The foresight worldviews that reflect this stage would continue to be sustained and legitimised while they remained effective in supporting

and generating valued behaviours. Lacking a sense of doubt, from either external or internal sources, the conventional foresight’s combination of conventional self, material values and pragmatic and competitive behaviours is almost unchallengeable. The potential for immoderation in conventional foresight, for its pragmatic and commercial interests to tend towards a predominant short-term focus and the consequent ‘de-futuring’, would go largely unobserved or be denied. If doubt, however, could overcome the buffering processes of conventional foresight then a pathway for transformation could be opened up. This pathway is evident in the next foresight stage, that of postconventional foresight.

8.2 Stage 2—Postconventional Foresight

A number of the MBA females, almost all MSF females and a number of the MSF males, exhibited postconventional foresight. Figure 8.2 outlines the dimensions of postconventional foresight. The self sense here is transitional postconventional. This

Figure 8.2: Postconventional Foresight



sense of self interprets a world with the challenges of material scarcity and relational needs. While this world is still a competitive place with material wants, where the

most competent individuals are still the ones who prosper, there is also the awareness of non-material needs and that competition creates losers as well as winners. This conflicted sense of the world would be mirrored by a conflicted sense of self. 'The dawning of postconventional understanding may be a confusing time for us. The Individualist's dark side includes troubled feelings of something unravelling or needing resolving, along with a sense of paralysis about how to move, because we have not yet developed postrelativistic principles' (Torbert & Associates 2004, p.102). An individual exhibiting postconventional foresight would not be always have to model economic and commercial market behaviours: the individual value thinking that uncovers the constructedness of what is commonly regarded as 'real'. Such an individual would probably not have a strong belief in rational certainty. They could well be fearful and be searching for ways of suspending fear and finding higher-quality responses to this lack of certainty. The idea of hopeful futures could be attractive to such an individual. Technology and science would not always be regarded as neutral factors. Vested interests would now be acknowledged and the ideas of 'multiple presents' and the 'social construction of reality' would be both exciting and troubling. 'At the first postconventional level people come to realize that the meaning of things depends on one's relative position in regard to them, that is, on one's personal perspective and interpretation of them. Although the objects themselves are seen as permanent, their meaning is seen as constructed' (Cooke-Greuter 2002, p.20). Realising the constructedness of the social world can create the illusion of expanded choices; however, it can also act to undermine the individual's confidence to act with certainty.

This stage of foresight still equates with the operation of the Gebser mental structure but in an elaborated form. This foresight stage employs reflexive, relativistic and deconstructive thought and 'seeks to lay bare underlying assumptions and frameworks' (Cooke-Greuter 2002, p.20). An individual exhibiting this foresight stage would favour approaches that promote context and perspective raising and that had an explicit interest in emancipation. The methods could be focused on those social processes and institutions that reify conventional notions of 'reality'. Individuals operating with this foresight stage could feel like 'dissenters' who were standing on the periphery of the conformist world. Such individuals could be highly critical of the interests promoted by commercial, educational and political institutions. Environmental, peace, feminist, anarchist and equivalent social movements might provide succour in this stage. Only a minority of adults in the Western world would share this foresight stage. Individual exhibiting that stage would struggle to find social acceptance of their interpretations the world and could find it difficult to conform with society's systems. Hence material scarcity would still be an

existential challenge these individuals face. Whereas an individual operating with conformist foresight would see material scarcity addressed by raising conventional competencies, an individual operating with postconventional foresight would not see conventional competencies as a solution. Rather they would be seeking postconventional competencies that could more deeply uncover the constructedness of reality. The foresight worldview that reflects this archetypal postconventional stage is somewhat sustained and legitimised by the conventional foresight worldviews that they readily find flaw with and by any networks they could create amongst ‘like-minded’ individuals. The potential for immoderation that is attendant in this stage includes a tendency towards excessive relativism and an inability to create sustainable change processes.

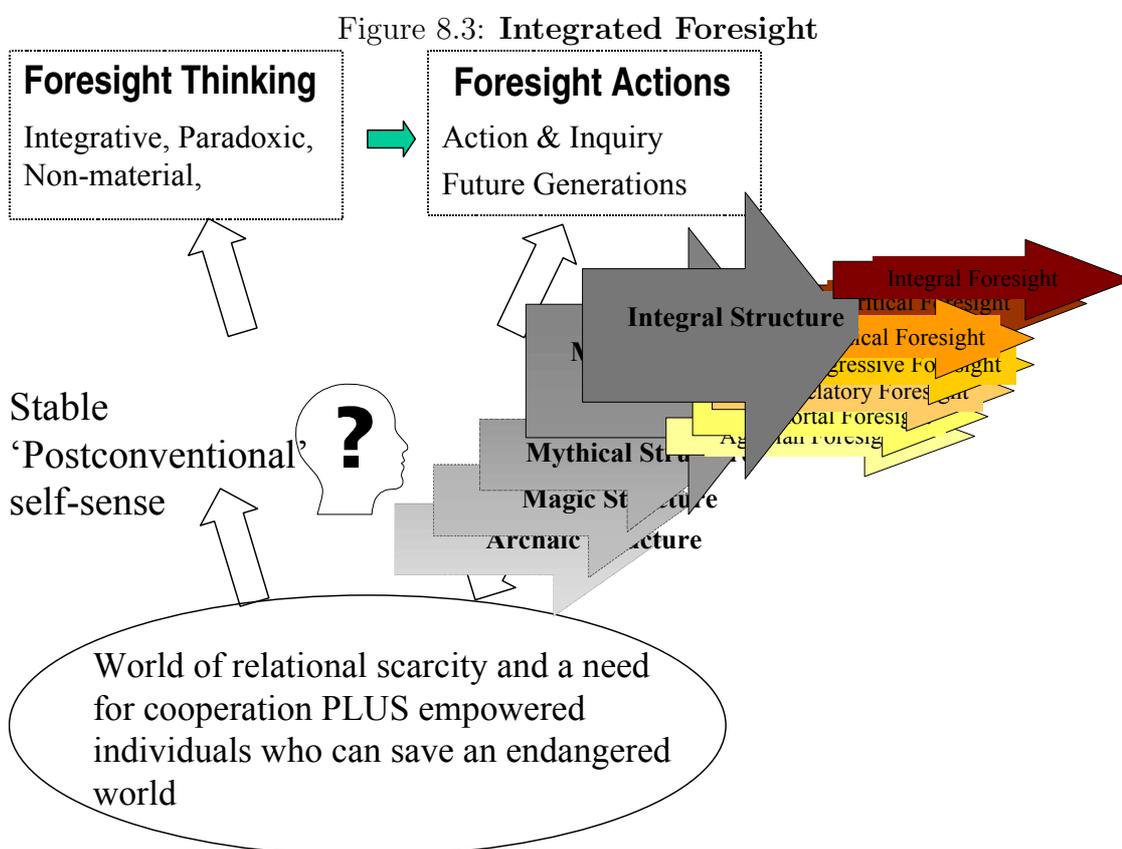
Felt dissonance would be high in this transitional foresight stage. The individuals could more easily define themselves by what they no longer are (no longer conventional) than what they can say about what they have become. ‘People at these stages emphasize their differences and uniqueness in relation to the previous stage. In each case, they are beholden to that former way of meaning making by explicitly setting themselves apart from it while they are, at the same time, able to observe it from a new level of perspective’ (Cooke-Greuter 1999, p.41). Such individuals would find it very difficult to return to seeing the world from a conformist perspective, yet they would also find it hard to gain individual traction in a still largely conformist world. Gebser’s research notes that individuals at this stage are still operating from the mental structure of consciousness. That structure operates by creating duality: thus to define oneself through difference and non-conformity is still an expression of that structure. It is still ‘perspectival’ to describe your perspective as more encompassing than a single perspective. Gebser suggests another structure of consciousness is possible: an ‘aperspectival’ stance that did not ‘run back and forth from one opposite to another in the belief that this compulsive back-and-forth will find a synthesis’ (Gebser 1985, p.99).

The present research did not find evidence of this structure of consciousness. It did, however, find evidence of a stage beyond the postconventional foresight. This stage suggests something that could lead to a stable postconventional self that can find congruence with the challenges to existence and also moderate different modes of behaviour. This stage can be called Integrated foresight.

8.3 Stage 3—Integrated Foresight

A number of the MSF males and a few MSF females attained a somewhat different stage of development to postconventional foresight. Perhaps those individuals were

not exhibiting a completely new stage, however what they did represent is shown pictorially in Figure 8.3. The self sense in integrated foresight would be at, or be-



coming, stable postconventional. This sense of self arises out of interpreting a world with the challenges of relational scarcity and an endangered world. While this world has non-material needs and also victims of the conventional world's competition that need assistance, what is most important for these individuals is that they become the agents of sustaining change. While conflict and threat are thought to exist in the external world that conflict is no longer mirrored by the individual sense of self. The self has 'the ability to acknowledge and deal with inner conflicts whereas the Individualist's relativism can make him or her paralyzed by such conflicts, the Strategist [Torbert's term for Loevinger's Autonomous stage] comes to appreciate the tension of opposites as paradoxical and seeks resolutions that transform the differences' (Torbert & Associates 2004, p.106). Such an individual would probably be relishing uncertainty and embracing inherent complexity. Technology, science, politics, commerce and the like would all be seen as validly representing their 'interests' and the task for the agentic individual is to align and reframe those valid interests in order to create broad beneficial outcomes. The recognition of complexity in the external would be matched, and perhaps even exceeded, by the internal

complexity and capacity of the individual.

This stage could equate with the operation of Gebser's integral structure and could represent a different foresight worldview. The modes of thought and action arising from such a stage can only be hypothesised as it is not extensively researched or commonly encountered. An individual exhibiting this stage could employ synthetic, systemic and paradoxical thought and it could be seeking macro-frameworks of understanding while at the same time, accepting that such frameworks can also act to prevent new knowledge arising. Such an individual could favour methods that promote experiential learning and employ multiple 'intelligences'. These methods could reach to the matters of worldcentric and civilisational considerations. The individual operating with this foresight stage could feel themselves as both part of and separate from the conformist world. This stage would only be shared by a very few adults. The individual exhibiting integrating foresight could be 'chameleon-like' in finding both social acceptance for their interpretation of the world while conforming with conventional society's systems. The concern over scarcity would have fallen away as both material and immaterial needs are now addressed. Instead an urgency to act due to the imperiled nature of human existence could arise. Wilber (1999b) described a structure of consciousness, vision-logic, that captures much of what could be unique to the perspective of this stage of foresight.

Vision-logic or network logic is a type of synthesizing and integrating awareness. Formal operational awareness is synthesizing and integrating in many important and impressive ways, but it still seems to possess a kind of dichotomizing logic, a logic of either/or, rather like Aristotelian logic. But vision-logic adds up all the parts and sees the networks of interactions. When employed in a merely objectifying fashion it produces objective systems theory in general. But when it is the basis of actual interior transformation... then it supports an integrated personality. When the self's center of gravity identifies with vision logic, when the person lives from that level, then we tend to get a highly integrated personality, a self that can inhabit a global perspective, and not merely talk about it. So the highly integrative capacity of vision-logic supports an equally integrated self. Which is why I call the self of this stage the centaur, representing an integration of the mind and the body, the noosphere and the biosphere, a relatively autonomous self—which doesn't mean isolated self or atomistic self or egocentric self, but rather a self integrated in its networks of responsibility and service (p.225).

Felt self-dissonance would be low in this foresight stage as the individual would

8.4. Implications for theory—Development and the attributes of foresight 255

be largely comfortable with inherent uncertainty. What would be strongly felt is the responsibility to take action and, if necessary, the need to expressly represent a dissenting perspective to that of prevailing and conformist modernity. Such responsibility would not, however, be felt as burden. Instead there can be a lightness, humour and freedom that comes from the adoption of such a meta-perspective.

My acts are sincere but they are only the acts of an actor because everything I do is controlled folly. Everything I do in regard to myself and my fellow men is folly, because nothing matters. Certain things in your life matter because they're important; your acts are certainly important to you, but for me, not a single thing is important any longer, neither my acts nor the acts of any of my fellow men. I go on living though because I have my will. Because I have tempered my will throughout my life until it is neat and wholesome and now it doesn't matter to me that nothing matters. My will controls the folly of my life. (Castenada (1973)).

Gebser's research suggested that individuals operating from the mental structure of consciousness would eventually tend to the immoderate expression of dualistic and abstract thought. The foresight literature gave account of such immoderate expression in our world and it proposed a different perspective, a foresight perspective, that could ameliorate and even transcend the deficiencies of the mental structure. The literature in psychology found that such perspectival changes were attributes of individual cognitive development and, so to the hypothesis of this thesis: that the development of individual foresight is the expression of capacities arising from the transformation of the self. That hypothesis was tested and the testing revealed two foresight stages and suggested a third one. These foresight stages answer the first research question, how does foresight develop in the individual? The following elaborates on this potential development.

8.4 Implications for theory—Development and the attributes of foresight

The foregoing posited a theory of how foresight 'develops' in three different stages of conventional, postconventional and integrated foresight. The thesis argues that foresight is, in part, the expression of capacities that attempt to broaden the boundaries of perception. These are the capacities to:

1. detect and avoid hazards;

2. assess the consequences of actions; and
3. envision desired futures (Slaughter 1995, p.48).

The following discussion of how these three capacities (regarding hazards, consequences and envisioning) develop through the different foresight stages is an original contribution to theory.

8.4.1 Detecting and avoiding hazards

Gebser described the departure from the mythic structure of consciousness and the ushering in of the mental structure thus:

With this we leave the rhythmic temporicity which sustains and encloses the stars as well as our hearts: the zone in which the inexorable course of events harnesses man's fate to the periodic tides, the inescapable destiny of ascent and decline. Let us rather return to the attempt by Western man to extricate himself from the restrictions of destiny and the confines of the soul (Gebser 1985, p.173).

The mythic structure of consciousness sees hazard as destiny playing out or as the repetition of history. The mental structure, however, refutes destiny and cites error to explain hazard. The mythic structure sees hazard as part of process whereas the mental structure sees it as event or occurrence. The mythic structure anticipates hazard and adapts life accordingly. In contrast the mental structure sees all hazard as preventable and adapts life accordingly.

The first capacity of foresight, that of detecting and avoiding hazards, therefore fits very well with Gebser's mental structure of consciousness. Forecasting, lookout panels and environmental scanning are foresight methods that can be seen as outgrowths of this capacity of foresight to prevent hazard. As the hazard prevention capacity of foresight is such a good and early fit with the mental structure of consciousness then it would make this also one of the easiest ways to generate foresight 'appeal' in the minds of decision-makers. Hazard prevention might well be an early developmental point. It may be the easiest capacity to teach and understand, for who doesn't, after all, want to prevent bad things happening in the future? If hazard prevention is an easy starting point for developing conventional foresight, then is it also a natural line of development in postconventional and integrated foresight.

As the emergence of the mental structure of consciousness freed the individual from destiny and process and converted hazard from a process step to a preventable occurrence then it also moved hazard to something outside the individual. That is

not to say that all mythic hazards were internally located but rather that mythic hazard may well be an external event with internal causes to the individual. Failure to listen to the Gods, pay respect to your ancestors, understand your fate or act in accord with nature would all be internal causes that could bring forth external hazard. Mental hazard, on the other hand, placed cause and occurrence external to the individual. The internal failure, if acknowledged at all, would be the inability to foresee and prevent the hazard. The individual would not internalise their possible involvement in causing the hazard but rather describe any role they played as 'unwitting'.

Another aspect of the externalisation of hazard is that of scale. Hazard can be ranged across a continuum. There are individual hazards, local hazards, national hazards, global hazards and even hazards at the trans-planetary level. Chapter Three observed that the external viewpoint of the foresight worldviews became progressively attenuated in both scale and timeframe (refer Table 3.1). It follows then that a developmental capacity to locate hazard externally which focuses on hazard prevention could likewise develop in reverse to the hazard continuum. Scale of hazard increases as the extent of knowledge and the range of instrumental power increases. Thus individuals in modern societies are now both aware of more hazards than in earlier societies and simultaneously the creators of greater hazards due to the scope and range of instrumental power. That dynamic describes a 'triple' bind: at a time when modernity is producing greater knowledge of hazard, and a greater capacity for creating hazard, the prevailing foresight worldviews entail a very limited perception of the scale of such hazards.

The growth of the environmental movement can be interpreted as a reaction to this 'triple' bind. As the foresight worldviews of governments and corporations have attenuated, then the vacuum this has created has been filled by scientific, environmental and community groups who have acted as amplifiers of foresight. Yet are the actions of these groups necessarily the expression of the development of foresight? The mythic structure of consciousness interprets hazard as process and the individual as a causal agent in that process. The mythic structure would be unable to create the intellectual theories that can explain dynamic environmental hazards such as global warming, rising salinity, deforestation and pandemic disease. The mythic structure could, however, interpret hazard as processes instigated by individuals ignoring Gaia, failing to live in balance with nature or ignoring the wisdom that native societies offer. While activating the mythic structure of consciousness may produce useful perspectives in itself, it is not a pathway to development. It could be that regression to a previous structure of consciousness may actually be counter-productive and become an obstacle to development. 'A mere conscious illumination

of these states, which for the most part are only dimly conscious, does not achieve anything; in fact, to illuminate these states from consciousness is to destroy them' (Gebser 1985, p.99). That is not to say that all responses to the hazard 'triple' bind are regressions. Some responses clearly are, others would certainly be extensions of mental structures and others could be responses originating from later structures of consciousness. The point here to note is that not all unconventional responses are necessarily postconventional. If it is necessary that individual foresight develops then what is needed is greater clarity about what is developmental, what is expanding existing thought structures and what is re-accessing previous structures. The re-accessing of previous structures may well be necessary in order for later structures of consciousness to be developed.

The nature of conventional foresight, therefore, could be to externalise hazard as single events from within a largely pragmatic scale of reference. It would also see technology and science as being neutral factors in the creation of hazard and as the primary hope of hazard prevention. Likewise the nature of society and culture would also be assumed to be unproblematic and its possible link to hazard creation would also be unreflected upon. Hazard would intrude on this stage as being 'unexpected' and the response to such unexpected hazard would typically be that 'someone should do something to prevent this happening' thus externalising both the threat and the responsibility of who needs to take the preventative action. The seeming naivety of the stance adopted by conventional foresight to hazard may well act as a stimulus to the development of postconventional foresight.

Postconventional foresight would reintroduce the notion of hazard as process. Systems thinking may well eventuate as an extension of the mental structure of consciousness through the consideration of hazard. System thinking concepts such as 'the tragedy of the commons' and 'the limits to growth' are clear examples of hazard as process and, importantly, they show that rational individual action can create irrational hazard. The development of an individual capacity for systems thinking may therefore be a prerequisite for the development of postconventional foresight. As the process nature of hazard is reintroduced then this causes the scale of hazard considerations to be expanded as most hazards originate in systems superordinate to that in which pragmatic thinking normally operates. Systems thinking around hazard could also act to 'de-attenuate' the temporal frame operating in the existing foresight worldview. Systems thinking stretches the temporal frame by mapping prior actions to future hazard in a manner that makes pragmatic and short-term approaches seem foolish at best.

Postconventional foresight would also be capable of deconstructing the notions of neutral science and technology and of societal and cultural 'innocence' in hazard

creation and mitigation. The addition of systems thinking, to reintroduce process to hazard generation and to re-scale temporal frames and perspectives, is not in itself a huge challenge to the conventional perspective. Challenging the notion of science and technology as a societal 'goods', however, is strongly opposed to the fundamental enlightenment notions that science would lead humanity from the past of superstition and into a future of prolific and happy lives. One of the inherent strengths of the scientific community is its ability to expose those of its members who are complicit in creating hazard. When the scientific community does this then it does deserve the respect that many in the community grant it. Still the notion that science does not rigorously examine itself often enough, or the notion that increasingly science is surrendering independence in order to secure commercial and political patronage, is deeply threatening. The notion that science is directly complicit in the generation of hazard may well be a point distinguishing conventional and postconventional foresight.

Postconventional foresight could also draw the complicity of rational individual actions back into the hazard generation process. Assumptions of venality amongst political and commercial leaders that create the fertile conditions for the generation of societal hazard can be allocated as the responsibility of individual citizens and consumers who sanction those leaders. The notion that it is ultimately individual's actions that create the conditions for the process of hazard generation may well be the largest hurdle. It may well be easier for an individual to evoke the mythic notion that nature acts as judge of our actions than it would be for that individual to accept responsibility both for creating and addressing the hazards that they have sanctioned. Postconventional foresight may be adept in generating the perspective that draws the choices of the individual back into the hazard creation process but it may not be sufficient to generate the impetus to act from that same responsibility. The joining of perspective and action may well be the stamp of another foresight stage: integrated foresight.

In considering the attributes of how an integrated foresight stage would deal with hazard it is useful to revisit the theory of values espoused by Clare Graves. In Graves' model integrated values emerge at the stage he called Cognitive. This was the stage where the individual operated 'without fear'. Hazard would generally be considered to be a fear inducing occurrence. Certainly an individual operating from Graves' Materialistic stage would fear hazard as a threat to their material security and comfort. They would also find difficulty in accepting the notion that their material attraction to technology and consumption could actually be hazardous to their very material holdings. They would find it hugely threatening that they might have to surrender their material values in order to live a more hazard-free

life. It makes sense that they would hold the hope that the very technologies that have created the hazards could somehow produce the solution and thereby leave their material values untouched. A Cognitive stage would be a fear-free response to hazard because it has transcended materialism. This stage also seeks to understand the world, and to induce individuals to see themselves, through ever-broadening frameworks and systems of understanding. From such a perspective hazard could be reframed as a natural consequence of existence. The integration of hazard with existence echoes the mythic structure of consciousness but it is not a regression to that structure. For Gebser, the integral structure of consciousness is one where ‘the various structures that constitute him must have become transparent and conscious to him; it also means that he has perceived their effect on his life and destiny, and mastered the deficient components by his insight so that they acquire the degree of maturity and equilibrium necessary for any concretion’ (Gebser 1985, p.99).

Figure 8.4 maps the developing capacity of hazard detection across the development of foresight stages. The development through the stages demonstrates the increasing capacity to respond to challenges. At the conventional foresight stage the

Figure 8.4: Expansion of the hazard detection capacity

Integrated Foresight	Stable Self-sense Fear-free response Integrative thinking Hazard as existence Global scope		
Post-Conventional Foresight	Transition Self-sense Systems thinking Hazard as process Generalised scope Tech. complicit		
Conventional Foresight	Stable Self-sense Hazard as event Localised scope Tech. as an answer Material focus		

**Hazard
Prevention**

challenges that can be responded to are in scale. Technology and science are possible solutions to potential hazard. Anything beyond that scale will probably not be detected until it is immediately apparent. There is a strong possibility of a failure of

foresight at this stage of the kind that Diamond (2005) cites in his research, namely, that a challenge:

- may not be anticipated before it arrives;
- may not be perceived when it does arrive;
- may be perceived but not be addressed (p.412).

Postconventional foresight expands the capacity to detect, at least, a broader and deeper range of hazard through reconstituting hazard as the outcome of a process, employing systems thinking to broaden and deepen the analysis of potential hazard, and examining science and technology as possible contributors to hazard. The weakness of this stage may be in its limited ability to generate sufficient support to ensure that the challenge is addressed. Diamond's third failure of foresight could still apply at this stage. The integrated stage of foresight does return the agency of a stable self-sense. It would not be necessary to garner support before action would be taken. This stage could be that of the 'early adopters' who, through actions, begin to raise awareness among others. That stage could also reconstitute hazard as a matter of existence thereby opening up new pathways of mitigation. That foresight stage should be seen as having a more extensive capacity to identify trajectories of preferred futures.

The second foresight capacity is that of assessing consequences: assessing the implications of present actions and decisions. How could this capacity develop through the foresight stages?

8.4.2 Assessing the future consequences of actions

The capacity to assess consequences assessment arises from thinking about the future. At its core is the individual-as-agent who, by acting in the present, creates consequences for the future. The operation of this agentic self is shaped by the culture, environment and the cognitive operators available. The assessment of consequence is a capacity that would emerge after hazard reduction. The individual thinks about environmental hazards before their sense of 'self-as-agent' emerges. Piaget's pre-operational cognition egocentrically fastens upon external and concrete realities in the environment, but does so in a temporal space that passes moment to moment. There can be hazard here but there is no future thought and so no assessment of future consequences. With Piaget's next cognitive stage, the concrete operational, the temporal space expands to encompass the past and future. Importantly, this is a mode of thought based upon the concrete actualities of past

and present. With the memory of the past comes the anticipation of a present not yet arrived, the future. Imagination is the base upon which the assessment of consequences can occur.

The freeing of parts of conscious thought from the constraints of an immediate present and the increased richness of social communication allow for the anticipation of future states and for planned behaviour. With that ability come the abilities to model the world, to make explicit comparisons and to weigh outcomes; through such comparisons comes the possibility of reorganising plans (Edelman 1992, p.133).

Gebser's mythic structure, in which the imagination is central, is the point where the assessment of consequences would emerge as a foresight capacity. That structure of consciousness employs circular time, concrete operational cognition and hence a limited ability to assess consequences. With the advent of the mental structure of consciousness something akin to what we would regard as the full capacity to assess consequences would emerge.

The conventional foresight stage was that of a stable self sense operating upon a world of material scarcity and opportunity. Its structure of consciousness would be mental and its mode of cognition would be primarily formal operational. The mental structure is embodied by discursive and directional thinking that is particularly focused upon measurement and identification. The stable self sense would give the individual confidence in both how they observe and reason about the world. The formal operational mode of cognition would bring the full capacity for hypothetico-deductive reasoning in to play and these elements create an individual perspective that 'present-day man is the maker of the future' (Gebser 1985, p.85). The assessment of consequences would, accordingly, be expressed through logical, hypothetico-deductive methods that would operate upon known and measurable external aspects of the world. Modelling, decision trees, cross-impact analysis, risk assessment, technology assessment, scenarios and trend analysis, in conjunction with tests of statistical significance, would be regarded as sound approaches towards determining the possible consequences of present actions.

The inherent weakness in the conventional foresight stage's capacity to assess consequences lie in its is its referential need to be accurate in its assessment processes. The certain belief of the 'know-ability' of the world and 'sense-ability' of the self are shaken if the world proves 'unknowable' or the self a less than effective sensor. Furthermore, the longer the timeframe the more shaky the basis for assessing consequences. A strategy to mitigate this weakness is consequence analysis in attenuated realms where the 'know-ability' is normally high and 'sense-ability' is ad-

equate. Thus we see consequence assessment commonly applied in ‘technical’ realms like economics or politics over ever-shortening timescales and less commonly applied in human or biological realms over longer timescales. The stability of the sense of self and world is thus maintained by fostering a cultured ambivalence or ignorance of those realms that do not neatly accord with such a conventional perspective.

Another response to that inherent weakness is to surrender the conventional notions of a ‘knowable’ world and a ‘sense-able’ self and to consider instead other notions, such as a ‘constructed’ human world and an equally ‘constructed’ self, existing within the meta-processes of complexity, adaptation and emergence. Those notions are encapsulated in the postconventional foresight stage. The postconventional stage acts to deconstruct some of the notions that the conventional foresight stage was based upon and so fundamentally challenges the idea of an agentic individual acting with full knowledge of the consequences of their actions. The postconventional foresight stage seeks to re-legitimise realms that are ignored by the conventional stage and also to extend the temporal frame of existing realms, thereby problematising the prevailing assumptions of certainty. Yet another inherent weakness exists in this stage. The conventional foresight stage combines assessment and responsibility. As the assessment of what is thought consequential grows then the responsibility for that consequence grows also. As assessment becomes problematic then does not responsibility also become problematic?

The strength of conventional foresight is that responsibility can be accounted for through the veracity of the assessing of consequences process. The weaknesses are that conventionality will tend to consider only external factors as ‘know-able’ and that other factors will be placed outside the process of attributing responsibility. The strength of postconventional foresight is that it can broaden the contexts within which consequential responsibility can be practised. Its weaknesses are where there is little attributable responsibility and there are few clear agentic pathways for action. An individual operating from within either stage will readily acknowledge the strengths of their perspective and the weakness of the other stage. To move back and forth between either perspective is to play the game of the mental structure of consciousness; that of ‘creating and directing this duality and drawing energy from the individual ego’ (Gebser 1985, p.72). When the paradox of both perspectives is noted then the mutual strengths can be recognised and the mutual weaknesses mitigated.

The integrated foresight stage has a stable self sense, that is a post-conventional sense of self. Its correlate in Loevinger’s Integrated stage finds a lightening of the ‘excessive seriousness’ that can burden individuals at the previous stage and the rising ability to accept paradox rather than always seeing difference. Its correlate

in Graves' stage, Cognitive, rediscovers agency as the excessive relativism of the previous stage diminishes. Both of these findings suggest that new pathways to responsibility for future consequences have opened up. This suggests that seemingly divergent and oppositional positions can be transcended by a higher concept. Schumacher (1977, p.122) called these *divergent* problems and made the point that these types of problems are existential. 'Divergent problems offend the logical mind, which wishes to remove tension by coming down on one side or another, but they provoke, stimulate and sharpen the human faculties, without which man is nothing but a clever animal' (Schumacher 1977, p.128). That quote echoes Gebser's mental structure of consciousness that finds opposition and then uses that to energise the individual ego (Gebser 1985). The ego, in effect, becomes stronger as the duality is 'solved' by siding with one or other of the opposites. Of course, the mental structure then goes on to find the next duality to solve, ad infinitum. When the postconventional foresight stage observes the 'constructedness' of many of these dualities then ego-driven agency can weaken. The discovery of superordinate unifiers that transcend divergent positions can act to rediscover agency without the necessity to energise ego. These existential 'problems' are both necessary elements in the transcendence of divergent problems. 'Justice is the denial of mercy, and mercy is the denial of justice. Only a higher force can reconcile these opposites: wisdom' (Schumacher 1977, p.127). Ideas like 'enoughness', 'attainment' and 'future generations' can also act as higher unifiers to transcend paradox and rediscover agency.

There is always something that is not 'got' or understood and so the ego can always gain energy from the process of 'getting'. 'Enough is the concept of satisfying a measure of present need in order to provide the capacity for building the common good and hence good fortune' (Fricker 2002, p.431). Enough transcends the duality of material scarcity and so breaks the link with ego. The integrated foresight stage could discover trans-ego driven agency through the creation of 'enoughness'. Another concept, 'attainment' is the discovery of psychological wellbeing through emotional, rather than material, improvement. This sense of wellbeing expands through growth in interior, and not exterior, means. It too seems to transcend the duality of material scarcity (MacGregor 2003) and also breaks the link with ego-driven agency. Finally, assessing consequences alongside an active concern for future generations finds agency through the notion of acting in the interests of those who are not present. This is expressly trans-egoic agency as the beneficiary of these considerations is not the ego doing the considering. Still, including the notion of future generations in processes of assessing consequences is not necessarily purely altruistic. There is the notion that living in ways that are clearly harmful for fu-

ture generations acts to diminish one’s moral stature and sense of personal integrity (Slaughter 1994): having regard for future generations may well promote one’s own wellbeing.

Actively considering the rights of future generations is not a new idea. There is evidence from mythic level cultures that the unborn were in their temporal frame. Perhaps consideration for future generations is a notion that weakens the mental structure of consciousness and is ultimately done away with through its increasing focus on the present and the short-term future. Such a capacity to act in the present with express consideration for the unborn may demarcate the foresight stages.

Figure 8.5 maps the developing capacity of consequence assessment across the foresight stages. The development through the stages demonstrates the increased capacity to respond to challenges. At the conventional foresight stage the scale

Figure 8.5: Expansion of the consequence assessment capacity

Integrated Foresight	Stable Self-sense Fear-free response Integrative thinking Hazard as existence Global scope	Unburdened self High agency Search for unifiers	
	Post-Conventional Foresight	Transition Self-sense Systems thinking Hazard as process Generalised scope Tech. complicit	Less confident Less accountability Lengthened timeframe Revalidated realms Burdened self
		Conventional Foresight	Stable Self-sense Hazard as event Localised scope Tech. as an answer Material focus
	Hazard Prevention	Consequence Assessment	

of challenge that can be assessed as a likely consequence of action is confidently regarded as arising from rational, scientific and statistical approaches. There is a possibility that data, approaches or realms that are not a good fit with these approaches could be ignored. There could be blindspots in its processes of assessment. The strength, however, is that where the assessment process clearly indicates likely consequence responsibility will be accepted. Its weakness, however, is that the assessment process could be further attenuated in order to escape such responsibility.

Nevertheless there is a strong likelihood that if a challenge can be anticipated at the conventional stage of foresight then action would be taken to address it. The potential for blindspots in these assessment processes still leaves foresight failures as possibilities. The next foresight stage addresses some of these risks of blindspots. Post-conventional foresight revalidates ignored data and realms and timeframes broaden rather than attenuate. The cost of this is the deconstruction of rational certainty and with that the weakening of clear responsibility. There is also a raised sense of burden here: the individual may perceive what others around them are oblivious to. This reminds one of the plight of ‘Cassandra’ in the ancient myth where the Trojan prophetess was cursed with the capacity to foresee the future but not to be believed. At the integrated foresight stage that burden is lifted and the search for the unifiers of the divergent problems of the previous stage begins. The incessant back-and-forth process of the prevailing mental structures of the conventional and postconventional stages can give way here to transcendent positions that honour but also contextualise earlier perspectives.

The third foresight capacity distinguishing the stages of foresight is the capacity to envision desired futures. How does this capacity develop through the foresight stages?

8.4.3 Envisioning desired futures

To envision the future is to use the imagination rather than cognitive processes of logical and deductive thinking. To forecast is to move thought from the known present to the unknown future. Furthermore envisioning imagines what is possible without necessarily having an obvious referent in the present. An individual’s mode of envisioning will be mediated by their structure of consciousness. Gebser’s mythic structure of consciousness is one of inward contemplation. Its primary mode of knowing is the imagination and the primary organ of knowing is the heart. Knowing here is ‘heartfelt’ and arises not from active processes but contemplation. The individual finds that image from within. Gebser’s mental structure, however, is qualitatively different. It is about externally focused thought. Its primary mode of knowing is mental operations and the primary organ of knowing is the eye. ‘Seeing is believing’ and knowing arises from active and directed processes. The individual finds the image outside themselves. Concrete operational thought finds the image by moving from the actual to the possible. Formal operational thought finds the image by moving from the hypothetical to the possible. In both modes the mind is predominant.

Every individual has an imaginary capacity for envisioning. In childhood the

individual imagination begins to emerge and express itself. The very young child's imagination can subordinate cultural images and create new and novel 'futures' for themselves (Page 1998, p.919). These cultural images become predominant as the child becomes socialised. The advent of the mental structure of consciousness weakens the imaginative ability of the child to 'see' themselves in the future (Masini 2001). Individual imagination can be re-empowered, however, through teaching that values artistic, imaginative, values-based, meaningful educational experiences and processes (Gidley 1998). As children can be socialised 'out' of their imaginations this means that adults will also be operating with un-activated or suppressed imaginations. The mythic imagination could still be operating in individual daydreams and flights of fancy but when it comes to 'serious' envisioning it is more likely that mental processes would predominate. The common practice of using written artefacts to communicate the outcomes from envisioning processes also favours the mental structure of consciousness. Where envisioning was practised could also favour a specific structure of consciousness. Envisioning, in a commercial or political scene, with its pragmatic interests and needs, would favour mental structure envisioning of a kind that would fit well with the conventional foresight stage.

Conventional foresight, however, does not have to be 'imagination-free'. A process could be designed that encourages imaginary phases. Closed-eyes visioning, silent reflection, automatic writing and rich-picturing are all micro-processes that can evoke for short periods, prior structures of consciousness. Likewise, different modes of communication could be used. An art work, a piece of music or a poem can be used to facilitate envisioning. Extending the limits of mental structure envisioning might then begin to step into the realms of creative thinking and experiential learning. Those two realms are outside the scope of this thesis. Suffice to say that both creativity and experiential learning may well work within the range and limitations of the structures of human consciousness and are therefore probably developmental in nature.

The efficacy of trying to extend mental structure envisioning processes by injecting other possible modalities of consciousness, however, should be questioned. If the dominant modality of consciousness is the mental structure then the significance of insights through using these practices could largely be lost by the mental structure's tendency to abstraction.

This process is reflected in the reality of our world of thought; the symbol, always inherently polar and imagistic, is reduced to allegory, then to mere formula, as in the formulas of chemistry and physics and even the formulas of philosophy. In its extreme forms of exaggerated abstractness, it is ultimately void of any relation to life and becomes autonomous;

empty of content and no longer a sign but only a mental denotation, its effect is predominantly destructive (Gebser 1985, p.88).

The idea that the conventional foresight stage can usefully 'envision' may be oxymoronic. Postconventional foresight still operates from within the mental structure of consciousness. The same potential for converting 'felt' imaginings into abstract concepts still exists. Nevertheless, postconventional foresight is open to the notion of interior processes being given full reign. The focus on material scarcity, which is predominant in conventional foresight, is attenuated in postconventional foresight by a focus on relational scarcity. Some individuals who exhibit postconventional foresight may re-engage with the mythic structure of consciousness. This new value set can evoke an interest in 'spirituality'. Graves (1970, p.117) and Wilber (2000*c*) both refer to the tendency for individuals to become fascinated by 'new-age' spiritualities that support high levels of egotism. Finding such 'alternatives' could provide energy to the ego as Gebser suggested. Wilber (2000*c*) suggests that a mental preoccupation with spiritual concerns actually runs counter to both spiritual and psychological development and a phrase that he coined for this behaviour was 'Boomeritis' (p.24). All this suggests that postconventional foresight might be amenable to envisioning and not potentially resistant to accessing other modalities of consciousness. Postconventional foresight may well prefer envisioning and its emphasis on subjective processes of knowing over other capacities of foresight. Whether the individual's with postconventional foresight envisions from the mythic structure or merely employs the mental structure to abstract the mythic notion of insight through contemplation, the mental structure will prevail after envisioning has ended.

The individual has most probably postconventional foresight through employing critical subjectivism rather than the preferred objectivism of conventional foresight. Subjectivism can take the agentic edge off the certainty of the mental structure. Without certainty and objectivity then envisioning, no matter how 'heartfelt', can fail to create the decisive will to act.

The integrated foresight stage may bring two additional aspects to the capacity to envision. Its stage of self development has potentially transcended the high ego stage associated with the excess subjectivism of 'Boomeritis'. The stage of self may have transcended the compulsion to convert all non-mental occurrences of consciousness into an individual conversation with the 'eternal spirit'. Second, the stage of self could accessing insights from prior structures of consciousness that can be acted on in the present. This is consistent with Graves' finding that individuals act 'without fear'.

Figure 8.6 maps the developing capacity of hazard assessment in the three fore-

sight stages. The development through the stages demonstrates the increased capacity to respond to challenges. At the stage of conventional foresight, the capacity

Figure 8.6: Expansion of the envisioning futures capacity

Integrated Foresight	Stable Self-sense Fear-free response Integrative thinking Hazard as existence Global scope	Unburdened self High agency Search for unifiers	Integral Rational/Imaginary 'Heart & Head felt' Spiritual balance
	Transition Self-sense Systems thinking Hazard as process Generalised scope Tech. complicit	Less confident Less accountability Lengthened timeframe Revalidated realms Burdened self	Mental/Mythic Prefer imaginary 'Heartfelt' Spiritual egoism
	Stable Self-sense Hazard as event Localised scope Tech. as an answer Material focus	Confident knowing Clear Accountability Shortened timeframe Technical realms Ignored other realms	Mental structure Prefer rational Non-imaginary 'Headfelt' Not strong capacity
	Hazard Prevention	Consequence Assessment	Envisioning Futures

to envision the future is largely limited to the processes characteristic of the mental structure of consciousness. While imaginary processes can be injected into conventional foresight stage process the mental structure will prevail and convert the 'heartfelt' into the 'head-known'. An individual operating at the postconventional foresight stage may even prefer imaginary foresight process rather than rational ones. It may also be the point at which the non-mental nature of envisioning processes triggers a narcissistic spiritualism in individuals whereby they feel that this capacity brings them 'closer to God'. However the 'heartfelt' aspect of postconventional foresight is a necessary condition for any development to integrated foresight. In integrated foresight the head and heart are balanced as 'just perspectives' and both are seen as necessary ingredients in acting to bring about envisaged futures.

8.5 Research Question 1 Summary

The above outlined three stages of foresight each of which contained a particular sense of self and a particular sense of the existential conditions of the environment in

which it exists. These sense of self and of the environment are not static but developmental. Each also varied in the capacities to prevent hazard, assess consequences and envision futures.

Examining the development of foresight initially in hazard detection was heuristic. This approach sat well with the predominant mental structures of consciousness that operates in most adults. Conventional foresight strongly emphasised hazard prevention, however, this focus on hazard could externalise hazard into an event and less as a process outcome. Removing hazard from process de-scaled the scope of hazard focus down to the pragmatic and here-and-now. From conventional foresight hazard appeared ‘unexpected and uninvited’. Conventional foresight also had a weak sense of self-created hazard. From this point hazard prevention could follow two developmental pathways.

Postconventional foresight could evoke prior structures of consciousness and re-discovering individual agency in hazard creation. The prior structures of consciousness could also allow a ‘felt’ response to hazard rather than a ‘thought’ response. This rediscovery of agency was useful but did not adequately deal with the scale and timeframe of significant hazards. The second developmental pathway was accessed by Postconventional foresight employing systems approaches to hazard. Considering hazard through systems approaches would minimise pragmatic and short-term thinking and would also located hazard into expanding contexts. Postconventional foresight could also use critical subjectivity to challenge notions of independence and neutrality. This later developmental point, however, would also create conflict with those with vested interests in maintaining conventional viewpoints. A consequence of postconventional foresight’s use of critical subjectivity was its potential to weaken individual responsibility. An individual operating from postconventional foresight could lay the primary blame for hazard on avaricious and unprincipled politicians and businesspeople and fail to the complicity of individuals, including themselves, in hazard creation. Individuals may only fully realise their complicity in hazard creation with the development integrated foresight. The ultimate realisation may be that the much hazard is created by personal choice—what we buy, how we live and who we vote for.

The capacity to assess consequences developed from hazard prevention and it does represent the ‘high-water’ mark of conventional foresight. An individual operating from conventional foresight would have a stable sense of self and be certain that the world could be accurately comprehended. Conventional foresight is also congruent with political and corporate interests that emphasised stability and certainty. The strength of conventional foresight is its strong connection with consequence and responsibility. Its weakness is the use of pragmatic and short-term timeframes to

maintain the sense of stability and certainty. Conventional foresight could ignore or deny the assessment of future consequences that arose from adopting a longer timeframe. Individual's operating from postconventional foresight could conceive of longer timeframes and deeper perspectives when they conceded that the world could not be accurately comprehended, that stability was unlikely given emerging complexity and that their sense of self was constructed. Such individuals could identify more hazards and assess more consequences than individuals operating from conventional foresight. Individual's operating from postconventional foresight, however, could struggle to find have their 'different' perspective accepted. Holders of conventional foresight could deny responsibility for those hazards and consequences. Both conventional and postconventional foresight would equate to Gebser's mental structure of consciousness. That structure of consciousness draws its explanatory power from taking oppositional positions so a 'back and forth' dynamic between individuals operating from conventional and postconventional foresight would feed ego and strengthen the mental structure of consciousness. With the development of integrated foresight, duality and its link to the mental structure of consciousness is broken by individuals discovering unifiers that transcend opposition and weaken ego-driven agency.

Individuals operating from conventional foresight would struggle with the capacity to envision futures because of their preference for the rational operation of consciousness. When individual's develop postconventional foresight then their capacity to envision futures becomes fully available. Individual's operating from postconventional foresight concentrate upon interior perspectives in order to balance the prevailing external preference of conventional foresight. The development of postconventional foresight can however, see individuals become focussed upon a 'narcissistic spirituality' where they interpret subjective phenomena as proof that they possess a superior form of spiritual communion. The development of integrated foresight enables individuals to accept different types of consciousness as changed perspectives and useful insofar as they can inform wise action.

Chapter 9

Discussion and Implications

Research Question 2

Question 1 of this thesis focused on the human capacity to exercise foresight: *How does foresight develop in the individual?* The conclusion reached was that foresight capacities develop through the expansion of individual consciousness. Individual consciousness both enables and limits foresight. Foresight is not merely an elaborated form of abstract reasoning; it is not solely developed as an individual might learn the rules and tools of euclidian geometry. This is because the ‘organ’ of foresight is not just the mind but the entire sense of ‘self’ of the individual concerned. The individual’s stage of foresight develops as the sense of self does. What the individual detects and imagines in the world is shaped by this self sense. The self sense shapes those future concepts that capture the ‘why’ of foresight. Self sense can find a world of opportunity, scarcity or threat and the nature of what is found in the world has a major effect on the methods and processes that would be employed by the individual.

Question 2; *Does a ‘social’ sense of foresight develop and, if it does, what structures and processes could be established which could support the development of Social Foresight?* is predicated upon there being a capacity for foresight in individuals. Self sense is also a key enabling factor in the development of social foresight. The choice of whose ‘interests’ are included in foresight calculations are shaped by self sense. The scope of any social expression of foresight is largely defined by the inclusion, or exclusion, of the interests of particular individuals or groups. Foresight begins with an egocentric interest but can extend to encompass a growing range of other individual’s interests: family, nationality, humanity, to all sentient life forms. Finally the individual’s awareness that all that is detected in the world, whose interests are regarded as valid and even the self sense are ‘constructions’, can open up

broader and deeper realms where social foresight can be practised.

Slaughter (1996a) argues that humanity needs to develop a social foresight capacity if near and longer term challenges are to be answered (p.761). He also said that, at present, social foresight capacity barely exists. Slaughter (1999a) argues that foresight could transcend the individual interest and called this *social foresight* which he described as ‘a distinctively futures-oriented mode of understanding and social application, which can emerge through several distinct layers of capability’ (p.22). His theory of social foresight (shown at figure 9.1) consists of five layers.

Figure 9.1: **The layers of social foresight capability**

5 - Social Capacity
4 - Processes
3 - Methods
2 - Concepts
1 - Brain / Mind

Source: Slaughter (1996a)

The first [layer] is the raw capacities and perceptions of the human brain/mind system. The higher order consciousness which they support provides the grounds, the basic wherewithal, for thinking about the not-here and the not-yet. Second is the way that futures concepts and ideas progressively enable a futures discourse... Third are the futures tools and methodologies which extend the analytic reach of the discourse and make it possible to carry out extended high-quality explorations into many different future states and options. Fourth are the organisational niches where futures work can be embedded for a wide range of purposes, including those outlined above... Finally, the social capacity for foresight is a property that emerges from these layers of capability (Slaughter 1999a, p.197).

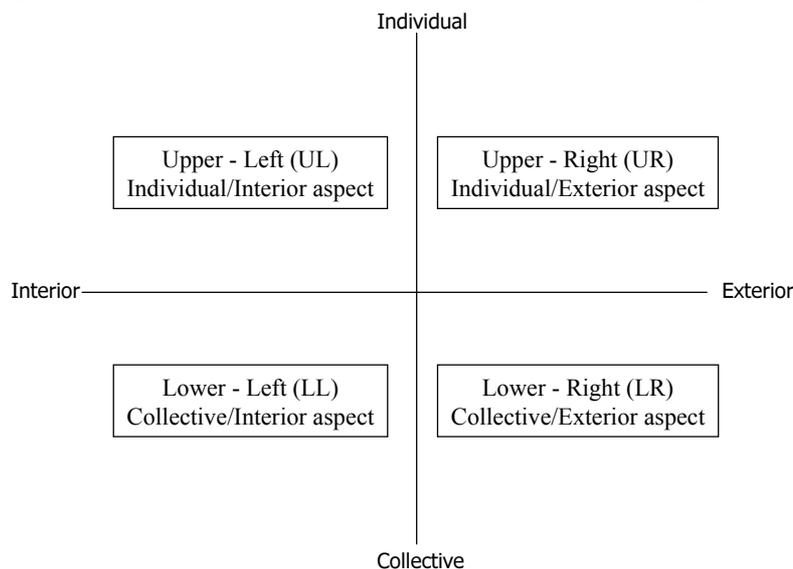
The base of that model of social foresight is the human brain/mind system. Upon that base the successive layers of concepts, methods, processes develop. Finally a social foresight capacity emerges. This thesis has focussed primarily on the ‘mind’ element of that model and argues that the development of self sense is central to the capacities of individual foresight. It is a mistake, however, to regard social foresight

as a capacity that emerges after individual foresight. Likewise the existence of social foresight does not somehow circumscribe individual foresight. Both individual and social foresight develop co-dependently. This chapter will reframe the theoretical understanding of social foresight to explain the relationship of individual foresight capacities to the expression of social foresight. Fortunately there exists a framework within which the interrelation of individual and social foresight can be best understood.

9.1 Framing Foresight through the Four Quadrants

Wilber (2000*c*) proposes a framework that represents, at least, the four aspects of reality. Wilber's Four Quadrant Model has two axes, one is the exterior—interior axis which runs east-west and the other is the individual-collective axis which runs north-south. Mapped together, as we see them in figure 9.2, they produce four quadrants. These four quadrants are different aspects of the same whole. A simple example will illustrate this.

Figure 9.2: **The Four Aspects of the Wilber 4Q Model**



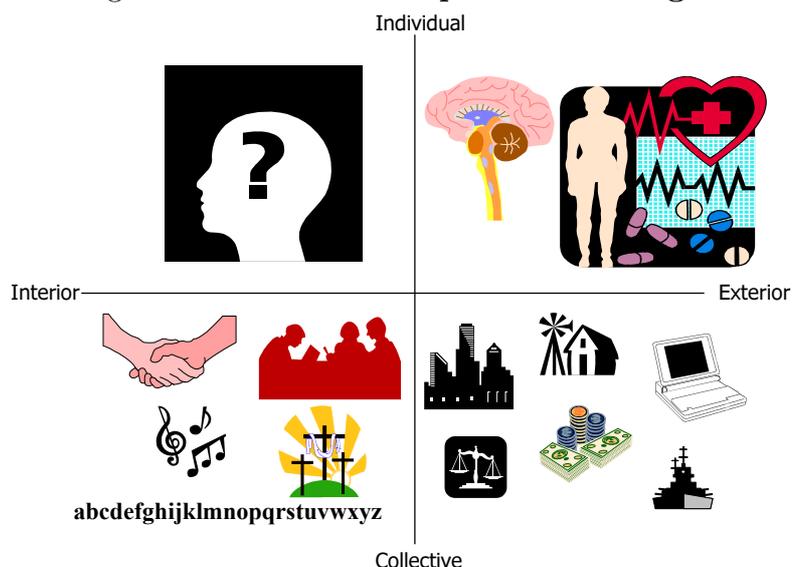
If I examine myself through this methodology then the two upper quadrants would be my individual aspects. The upper-right (UR) would be my exterior, the objectively measurable aspect of me, eg. height, weight, DNA and also my observable behaviours and actions. Thus this quadrant contains everything that is observable about me when considered from my individual/exterior aspect.

The corresponding aspect is the upper-left (UL) which is my individual/interior aspect. This is where my thoughts, ideas, and dreams are located. These are directly experienced by me and can only be accessed by another person through interpretation. A technician can hook me up to a machine that will show my brain waves and he can look at what my brain is doing (UR), however, if he wants to know what I am thinking (UL) then he has to ask me. In summary, the two upper quadrants refer to the exterior of (UR) and interior of (UL) my individual aspects.

Continuing with the consideration of myself from this framework the bottom two quadrants refer to myself in my collective aspects. The UL aspect was the thoughts that I have, the lower left (LL) are those thoughts that we share. Of course, if the ‘we’ changes then what is shared might also change. While there is a single ‘I’ in the UL there are potentially many different ‘we’s’ in the LL. Finally the lower right (LR) is the externally measurable aspect of the collective ‘we’ under consideration. If I consider the aspects of my relationship to the society I inhabit, the LL would contain what we share as an understanding of what constitutes ‘good’ and ‘bad’, ‘right’ and ‘wrong’—what my ‘role’ in that society is, what is expected of my ‘gender’. The LR would be the external structures and processes of those shared understandings—the way we live, the work we do, the technologies we employ and the institutions that govern us.

Figure 9.3 represents foresight when considered through the four quadrants. The

Figure 9.3: The Four Aspects of Foresight

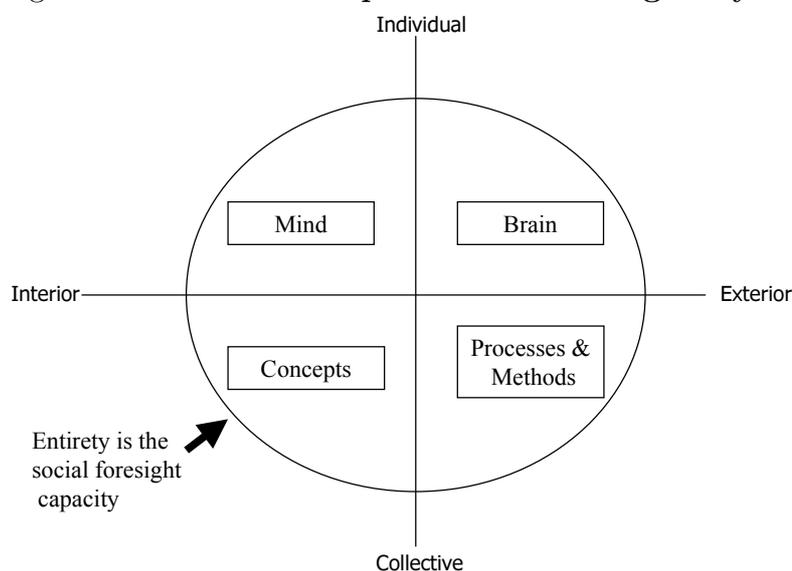


UR is the ‘raw capacities’ of the human brain plus those individual behaviours that amount to ‘foresightful’ actions. This thesis has not examined the structure of brain physiology that correlates to the different stages of foresight. Later research

could examine this area. The UL is the aspect of the foresight mind that question one of this thesis has focused on. Here is the sense of self and the other ‘lines’ of consciousness development. The LL is the aspect of the shared foresight ‘concepts and ideas’ that culminate in a foresight discourse that represents the social ‘morality and values’ that are embodied in a social foresight capacity. This thesis has not examined this aspect in detail and therefore this is another area of possible later research. The LR is the aspect of the exterior manifestations of those foresight ideas and concepts, namely the processes, methods and institutions’.

Figure 9.4 reinterprets Slaughter (1996a) through the four quadrants. The indi-

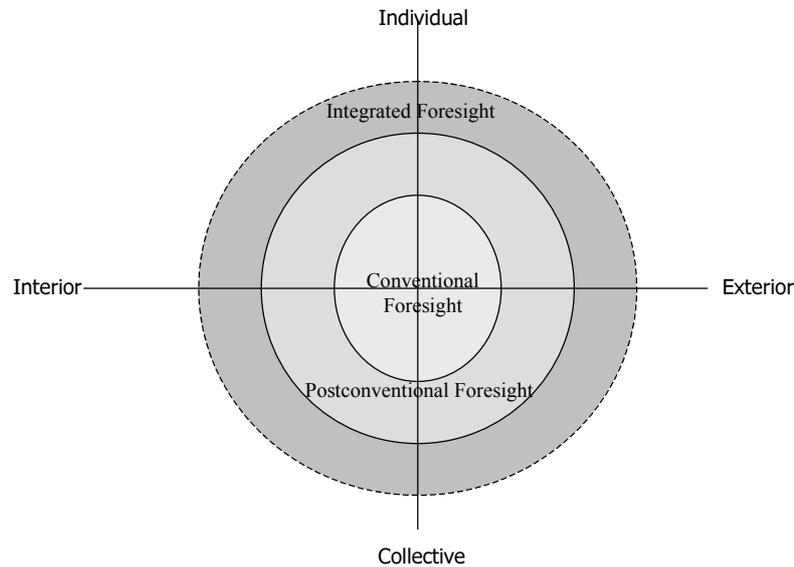
Figure 9.4: The Four Aspects of the foresight layers



vidual capacities of foresight are shown in the two individual aspects and comprise the totality of the brain/mind layer of Slaughter’s model. The concepts of foresight (LL) do not emerge out of thin air but are the product of shared or intersubjective meaning. If there are no foresight minds (UL) then there can be no foresight concepts (LL). Likewise the concepts themselves are the ‘ground’ from which the foresight mind emerges. Similarly there are no foresightful actions (UR) that are not represented in processes, methods and institutions (LR) plus those same processes and institutions reflect what foresight meanings are shared (LL). The interrelation between the interior and exterior and individual and collective means that all comprise the entirety of the social foresight capacity hence the proposition by Slaughter (1999a) that social capacity emerges from the previous layers of capacity.

The research into question one concluded that two stages of foresight development were observed and a third stage of development was suggested. Figure 9.5 maps those three stages of foresight to the four quadrants. The figure does not rep-

Figure 9.5: The Four Aspects of the stages of foresight layers



represent the relative proportions of the population in each stage instead representing the expanded capacities that arise from the different foresight stages. Conventional foresight has a certain overall social foresight capacity, postconventional foresight adds to the overall social foresight capacity and integrated foresight would expand it again. What follows is an elaboration of the foresight capacity for each of those three stages when considered through the four aspects of the Wilber 4Q model.

9.1.1 The social capacity of conventional foresight

Foresight can be developed in individuals, however, the nature of that development will be circumscribed by the stage of individual consciousness. The most common stage of development among adult individuals in Western countries is a stable sense of self embodying individualism and materialism and hence the most likely form of foresight that can be engendered in such a population is one that supports individualism and materialism (UL). This research has called this conventional foresight. Consider this perspective from American futurist Cornish (2004).

Technological progress has been the supremely important trend in human evolution for millions of years: When it weakened or even reversed in one area, it flourished elsewhere, such as China during Europe's Dark Ages. The power, persistence, and current acceleration of this trend suggests that it will continue through the twenty-first century and perhaps much longer. We can speculate that technological progress might come to a halt in the years ahead, but, if that were to happen, the most likely

explanation would be that some form of massive calamity had occurred. Scientific research continues to provide massive amounts of new knowledge that technologists can exploit. The Cybernetic Revolution is still racing ahead. Biotechnology promises a fourth technological revolution, and there could be a fifth through nanotechnology or some other area of technology. So there seems more reasons to think of progress racing ahead even faster than to anticipate that it will slow down soon (p.23).

That is an example of conventional foresight. The concepts (LL) that underpin Cornish's viewpoint are growth, progress and optimism in continued external and material progress (LR). Cornish associates scientific research and technological advances (LR) with the 'good' of humanity (LL). Certainty is preferred by Cornish (UL and LL) as this enables confident actions to be taken (UR and LR).

Cornish's viewpoint is emblematic of conventional foresight. Individuals operating from conventional foresight can acknowledge that absolute certainty cannot be achieved, nevertheless foresight should strive become 'more' certain in order to become more useful. The preferred foresight methods (LR) for individuals at conventional foresight would be forecasting and scenarios. Forecasting is a deliberate attempt to give certainty, 'this will happen', while scenarios creates zones of probable certainty, 'this could occur or that could occur'. Both methods are a good match for conventional foresight concepts (LL). The overarching process for conventional foresight is supporting and enabling strategic action (LR). This is the planning for and creating of future states. Another key process here is assessment; technology assessment, risk assessment, and opportunity assessment, are all processes that scale and define the strategic landscape and all act as confidence building processes for actors and decision-makers (LR). Conventional foresight is weak at building social capacity. Hazard prevention would be operating from a predominantly external focus on hazards occurring as events (LR). Individuals here are individualistic and competitive (UL), seeking material gain to alleviate material scarcity (LR) and it is difficult to change to cooperative behaviours and collective interests. Cooperative behaviours could emerge if there was a perception of imminent and widespread hazard (LR) but that cooperation would probably end once the hazard passed. If the hazard was thought just a possibility rather than probability, if the hazard could likely impact on another individual(s) then the hazard might be regarded as remote enough as to not cause cooperation to occur; 'it either won't happen or it won't happen to me'.

Thinking about consequences would operate within what the individual thought was their realm of agency. Responsibility would be personally felt (UL) if the consequence was associated with specific action of the same individual (UR). Conse-

quences outside the individual's realm of agency would be likely thought 'someone else's' problem (LR). A shared sense of responsibility (LL) that could facilitate co-operation would be difficult to create. A social contract that establishes a shared moral code (LL) can encourage people to act in their longer term interests. Moral judgement data collected in this thesis, however, does not suggest that the social contract mode of moral judgement was widely operating amongst those assessed at the conventional foresight stage. Second the social contract is a variation on the theory of the 'Prisoner's Dilemma', where individuals can get a better result by acting together than individually. The weakness in that theory is that the individual who continues to act in their own interest does even better if the rest of the people act 'altruistically'. For an individual to act in accord with a social contract then there must be a strong and enduring form of social membership (LL) operating whereby an individual can confidently rely on the other person acting 'selflessly'. Once there is suspicion that the other person is pursuing their own interests, over the social interest, the social contract disappears.

The capacity for envisioning the future would not be operating extensively at conventional foresight. If the contest between material scarcity and competition makes sense to the conventional self then what incentive would exist for an individual to seek to imagine a 'different' future? It is difficult to conceive that the capacity for envisioning the future could engender social foresight if conventional foresight was operating in most individuals.

Conventional foresight is not very fertile ground within which to try and grow a cooperative form of foresight among individuals. Cooperation in order to prevent hazard would offer the strongest chance. The environmental movement has been attempting to do just that for the past forty years with mixed success. Humans have responded with remarkable cooperation once hazards have eventuated but do seem less willing to cooperate to prevent hazards arising in the first place. If the cooperation is inconvenient, costly or difficult then the observation is that very few individuals will cooperate. Social foresight could emerge if this stage was operating in most individuals and a hazard existed but cooperation would not endure once the hazard had passed.

Individuals operating from conventional foresight are energised by external perspectives. Imminent hazard (LR) or clear consequences of actions (UR) could both support social foresight but the lack of a strong sense of mutual interest (LL) does not work in favour of sustaining social foresight over the long term. Individuals with Conventional foresight would exhibit episodic social foresight that would interrupt the focus on individualism. This suggests that the overall social foresight capacity of conventional foresight could well be inadequate for the future challenges that

humanity may have to face.

9.1.2 The social capacity of postconventional foresight

Postconventional foresight starts when individual's begins to doubt their own rationality, when the constructed nature of the world (LR) becomes apparent, and when the self sense becomes less certain (UL). A Chan Buddhist huatou is appropriate here.

Small doubt, shallow enlightenment.

Great doubt, deep enlightenment.

No doubt, no enlightenment (Yen (2002)).

When the material world (LR) no longer satisfies non-material needs (UL) and when the achievements of individualism (LR) feel hollow in the absence of relationships (LL) then further individual foresight capacities become possible. Individual doubt ushers in a different stage of foresight that asks different questions. To individuals operating from conventional foresight the postconventional foresight stage can appear 'troubled', 'depressing' or 'melancholy' (UL). Individuals with conventional foresight predominantly see a world of opportunity, albeit with some awareness of challenges to be faced, but with an expectation that science, technology (LR) and human ingenuity (UR) will find a way to overcome those challenges. Individual's with postconventional foresight, however, are troubled by what they sense and are unconvinced by the confidence and optimism of conventional foresight's proponents. What individual's with postconventional foresight sense is hazard or unrecognised consequences and what individuals detect in conventional foresight's responses to these challenges are unreality or denial. Individual's with postconventional foresight can envisage, and probably prefer, alternative futures that are quite different to the projection of the present into the future. Where the postconventional foresight individual finds depth, the conventional foresight individual could see unnecessary complexity, prevarication and impracticality. Where the conventional foresight individual finds opportunity, progress and improvement the postconventional foresight individual could see superficiality, arrogance and hubris. Individuals from either stage could appear incomprehensible to the other. Meaningful dialogue between individual's operating from conventional and postconventional foresight would be difficult. Consider this critique of American futures work by Slaughter (2004*a*).

Within a culture in which 'growth' has been elevated to an unquestioned norm and notions of 'limits' have been discarded from awareness, the constant search for such advantage really means that 'the future' is being

invented 'elsewhere', beyond the reach, and certainly the control, of most of humanity. It is within this context that American futurists live and work. At yet, on the whole, they have failed to understand, critique and respond adequately to these world-shaping issues and processes. Overall, and let us be clear, with notable exceptions, they have tended to acquiesce both in the establishment and maintenance of US hegemony. This is a serious mistake. Passive acceptance of the status quo is one of the powerful driving forces that lead inexorably on to Dystopian futures (p.67).

That is an example of the postconventional foresight perspective critiquing the assumptions upon which the perspective of conventional foresight is based. The viewpoint from postconventional foresight doubts the optimism of conventional foresight and, instead, envisages a dystopian, not utopian future as probable. An individual operating from postconventional foresight employs the key concepts of doubt (UL) and constructedness (LL). The preferred methods of inquiry for postconventional foresight individuals are critical inquiry methods, layered analysis and visioning (LR). These methods make inquiry of the interiors of reality, meaning and thought (UL and LL). The key processes for postconventional foresight individuals are sustainability (LR), engaging in dialogue (LL) and taking a dissenting stance to the conventional world. Sustainability acts to counterbalance the conventional concepts of growth and progress. Dialogue counters the conventional processes technical assessment and quantification and dissent counters conventional confidence. Sustainability, dialogue and dissent do develop a form of social foresight, one that seeks to empower the powerless, to give voice to what is silenced and to relegitimise what was previously thought invalid (LL). The individualism of conventional foresight makes problematic a lasting form of social foresight. The postconventional stage, however, is a collective one and it can sustain social foresight. The key dynamic for individuals operating at postconventional foresight is antithesis to conventional foresight.

Cooke-Greuter (1999) found the postconventional individual defines their self sense (UL) by what they no longer are (conventional) than by what they have become. As that stage of self is transitional then likewise the postconventional foresight stage is transitional. An individual with a transitional self sense defines themselves in terms of their prior stage. The individual has not transcended the previous self sense until they can fully understand themselves as representing something more than difference to a prior stage. Individual's operating from postconventional foresight adopt a dialectical position to conventional foresight. The strength and weakness of postconventional foresight's viewpoint is the antithetical stance it adopts to

conventional foresight. The energy necessary to sustain an postconventional stance is generated by the opposing or dissenting definitional stance that is represented by individual's operating from postconventional foresight. That energy also enables the postconventional individual to maintain their self sense while most of the adult world does not share their perspective. The individual who has to continually find antithesis in order to sustain their self sense, however, is also blocked from adopting synthetic positions that embrace the validity inherent in conventional and postconventional foresight. Postconventionality is a necessary, but not always sufficient, condition to the adoption of integrative positions.

There are a number of factors operating that make the postconventional foresight stage more conducive to sustaining an expression of social foresight. First, is the emergence of relational scarcity (LL) to go along with material scarcity (LR). There is a sense that people have to find ways to 'get along' with one another. Those values temper the individualism prevalent in the previous stage and support the beginnings of cooperation. Second, is the self sense (UL) in this stage which tends to contrast itself with conventional foresight self sense. If there is a feeling that the previously individualistic and competitive self was no longer an effective way to operate in the world then perhaps cooperative ways of operating could be pursued. Third, certainty of self and world has given way to doubt (UL) and subjectivism (LL). The lack of felt certainty may give impetus to individuals seeking new ways of operating. If not necessarily ways to rediscover certainty then at least to find companionship in felt uncertainty.

The capacity of preventing hazard in individuals' with postconventional foresight is conducive to a social foresight. Systems thinking (UL) could be operating which can transform isolated hazardous events back into hazards as products of processes. Likewise social structures and processes (LR) can be critically deconstructed by this stage thereby subverting the naturalistic viewpoint that is prevalent in conventional foresight. Hazard can also be reinterpreted as the outcome of individuals rationally pursuing their own interests and thereby making hazard more likely. The 'environment-first' perspective of some in the 'Green' movement would have great congruence with postconventional foresight. Environmentalism itself may be the expression of a nascent social form of postconventional foresight. It is nascent because it lacks strong internal coherence. Environmentalism is a broad church that gives membership to pagans and anarchists on one hand and scientists and entrepreneurs on the other. Environmentalism thought spans Gebser's mythic and mental structures of consciousness. Environmentalism's catch cry, 'sustainability', is strikingly abstract and rarely is it made explicit exactly 'what' is to be sustained. That, in part, is probably done to avoid splitting the environmental church into rival sects.

It is both a strength and a complicating obstacle that postconventionality is open to multitudinous viewpoints, irrespective of the adequacy of those viewpoints, and that postconventionality will rarely try to resolve the conflicts and paradoxes that those viewpoints contain. With an explicit wish of finding ways to 'get along' with others this is hardly surprising. Perhaps it is the realisation of hazard, from either mythic or mental structures, that acts to unify and energise such a diverse group of viewpoints?

Individuals operating from postconventional foresight can assess consequences from multiple perspectives, can readily identify wrongs that should be righted, and can easily find minority viewpoints that need legitimation. An individual here could suffer from consequence 'overload'. Social foresight would have to chart pathways of action through multiple assessments of consequence as it is unlikely that a consequence 'free' pathway of action can be found. A perverse capacity of critical inquiry is that a consequence, an offended minority or a disempowered cultural group can always be found where previously none were thought to exist. To accept the consequences of a preferred action whilst declining the consequences of another action is to place the declined consequences above the accepted ones. 'The consequences of logging are too serious to be accepted so it is better to accept the consequence that individuals and communities may have to lose their livelihoods'. Ranking consequences suggests that hierarchies of relative adequacy exist and yet hierarchies are the very things that have delegitimised and disempowered most minorities. Postconventional positions can have difficulty accepting hierarchical structures and yet hierarchy is useful in charting pathways through multiple consequential positions. An adequate mechanism for weighing choices would seem necessary in any expression of social foresight, assuming that such an expression wished to make choices, and yet individuals from postconventional foresight could find difficulty in doing this. It may be thought that the only action without consequence is to take no action at all.

Another point here is the nature of moral judgement. For individuals operating from postconventional foresight the nature of moral judgement (UL) ranges between late conventional and early postconventional. Conventional judgement tends towards common moral reasoning patterns amongst individuals because the moral positions place collective interests above individual ones. With the entry of postconventional moral reasoning then individual reasoning re-emerges to weaken the predominance of the collective interest (LL). Postconventional moral judgements attempt to balance collective and individual conceptions of morality and they tend towards individual moral reasoning. The postconventional requirement for individuals to assemble their own moral schemas (UL) operates against agreed notions

of what is in the ‘common’ interest (LL). That is not to say that postconventional moral reasoning is selfish, rather, it is an individual-centred process. If moral literacy is strong amongst individuals then moral dialogues can occur where individual moral schemas can be interrogated in order to determine their veracity and utility. If moral literacy is weak, however, then individually held moral schemas will not be interrogated and the basis of moral reasoning will remain largely unexamined. Weak moral positions will exist alongside strong ones as ‘equals’ and this would work against the critical assembling of social foresight concepts that can unite and determine adequacy (LL).

Envisioning futures would be powerful capacity in postconventional foresight individuals. The openness to interior processes (UL), the seeking of unique perspectives and the suspension of the need to ‘judge’ all creates a powerful potential for creating shared social visions. It could be that the power of these visions could propel individuals to action despite the difficulties they face in resolving multiple consequences. Perhaps, for the vision to have broad appeal, then it must have a simple premise—‘Free the Refugees’, ‘No War’, or ‘Stop the WTO’—thereby allowing each individual the space to find coherence with their own moral worldspace. What the vision would probably not encompass is the integrated platform of specific strategies that will be necessary to bring the vision to fruition.

The postconventional foresight stage is very fertile ground for creating a space within which a sense of the ‘shared-ness’ (LL) of social foresight can be expressed. The foregoing has shown that it is the interior aspects that energise this foresight stage and that build an additional foresight capacity. Recognising the constructed nature of self and the world adds capacities to the conventional foresight stage. The express inclusivity of postconventional foresight creates the potential for the broadest range of inputs to contribute to the formation of visions of social foresight. The tendency of postconventional foresight individuals to refuse hierarchies of adequacy does weaken, the external aspect of conventional foresight, however, that refusal of hierarchy can also hold back the capacity for considered and integrated strategic action (UR and UL). Overall a much stronger social foresight capacity arises from individuals operating from postconventional foresight through strengthening aspects largely ignored by the conventional foresight stage, however, it has also weakened some of the strengths of the conventional stage.

Postconventional foresight offers potential for the development of a sustainable expression of social foresight. The research in this thesis found that the majority of the individuals who were studying foresight were already holding postconventional viewpoints. For those individuals, at least, there were already existing processes (LR) that engendered the postconventional turn. The empirical research did not

examine what those existing processes were but one can hypothesise that processes such as enhanced global communication, the growth of non-government organisations, the rising profile of environmental risks, the increasing social role of women, generational change as the influence of the ‘babyboomers’ decline and the burgeoning sense of dissatisfaction with the Western societies emphasis on material wealth could all play a part. Psychological demographics report that less than 10 percent of Western adults achieve postconventional viewpoints suggesting that many more existing processes encourage conventional viewpoints only. The empirical research did not examine what those existing processes are but the likely candidates would include the education system, the media and entertainment industry, the political system and the commercial system. While the numbers of individuals achieving postconventional viewpoints remain less than 10 percent of the population then the more widespread adoption of social foresight will suffer. A growth in the numbers of individuals achieving postconventional viewpoints may only become a reality if the processes that sustain conventionality are identified and reformed.

9.1.3 The social capacity of integrated foresight

This research did not suggest that an integrated foresight stage was evidenced. A stage of foresight, beyond postconventional foresight, was suggested by the data. An integrated foresight stage, should it exist, would be different in that it would not exclusively appear as a manifestation of Gebser’s mental structure of consciousness.

The integrated foresight stage could develop if individual’s realise that postconventional foresight’s dissolution of conventional foresight’s certainties (UR and LR), can be insufficient to clearly articulate pathways of action. Integrated foresight could also develop when the individual realises that the clever deconstructions of postmodern perspectives (LL) that energise and sustain the self sense (UL), tend to go in circles. Graves (1970) found individuals who operate without ‘fear’. Wilber (1999c) wrote that when individual life is truly seen as meaningless (given that all meaning is an egoic creation) then the individual can find the ‘courage to be’ and then ‘start to *intend* and *mean* her future and thus find meaning in it’ (p.235). What is common in both those findings is the creative freedom that these individuals appear to have. Where the optimism (UL) of conventional foresight’s found certainty and the critique of postconventional foresight found doubt (UL), integrated foresight recognises each perspective and finds the pathway of action from the integration of both.

The aspects of integrated foresight can be suggested from the work of researchers that have studied the upper reaches of developmental psychological studies. The

aspects of an integrated foresight stage can be suggested from the later stages findings of Graves (1970) (Cognitive stage); Loevinger (1976) (Autonomous stage); and Cooke-Greuter (1999) (Strategist). Its concepts could encompass the paradox of acting with confidence (UR) notwithstanding felt doubts (UL). Harmony could be found between what is 'real' and what is 'constructed', between what is objective (UR and LR) and what is subjective (UL and LL). Responsibility (UL) could be felt for all actions taken (UR) whilst also recognising that no action is really important. The methods that could arise from such concepts would not be strikingly different to the methods of the previous stages, it would be the consciousness (UL) that employed them that would be different. The processes for this stage are described as 'action in the midst of consciousness' (Torbert (1991))—the meta-choice of perspective and action rather than automatically operating from within unreflected constructions. The social capacity that could emerge from this stage could be one of service to future generations (LL), those that will come after the death of the servant self, thereby attaining a measure of meaning and satisfaction from the gift of human existence. Much of those suggested capacities can seem farfetched, idealistic or irrational, however, what those capacities certainly are is something very different from the two foresight stages that precede it. It could be that there are very few individuals who embody such a stage of foresight capacity, nevertheless, following the logic of the continuing evolution of human consciousness then such a stage is a potential, if not currently realised in many individuals.

One significant difference occurring with the possible emergence of integrated foresight is the weakening of the belief in material scarcity and its replacement with the belief in an imperilled world and the need for individuals to act. Relational scarcity still exists but overall integrated foresight of individual agency. This is not necessarily a collective stage, it could be that individuals would act individually rather than seek membership with similarly minded people (LL). The demographic likelihood of meeting similarly minded individuals is slight, therefore, perhaps the preference for individual agency. It is noteworthy too that the self sense (LL) is now stably postconventional. The individual can now define themselves in terms of what they represent, not just what they have come from. This self sense (UL) could explain the valuing of individual agency. What is also different is the dropping away of the burden of excessive responsibility. The clarity that there is always more that needs to be done than a single individual can do can now, gives freedom to take action (UR) without fear. There could also be the dropping away of the excessive subjectivism that can seem to paralyse action.

The prevention of hazard would be operating very strongly in integrating foresight. The breadth and scale of hazard analysis would be extensive through very

well developed capacity for systems thinking (UL). The individual here would operate according to their own systems map of how the world operated (LR). They would not be bothered with the ‘relativist’ viewpoint that was prevalent in postconventional foresight other than to use different perspectives to complete more of their own map. They would wish to understand another individual’s viewpoints but they would not feel compelled to try and change viewpoints that do not match theirs. They would strongly believe in the adequacy of their own ‘map’ of the world and they would freely act in accordance with that map. They would support a social form of foresight in order to create sufficient wide-spread changes of behaviour (LR) but they would not wait for it before changing their own behaviours (UR). They may lack the patience necessary, ‘to suffer fools lightly’ and this may militate against them creating broader social movements.

Assessing consequence would be extensively practised and the individual here would be comfortable with notions of ‘less is more’ and ‘making choices now so that future generations can have the same choices then’. Felt responsibility (UL) would be high but not to the point of burden. The individual would have coherent moral understanding that can navigate through rivalling consequences and responsibilities (UL). It could be that moral literacy is stronger in this stage as part of the individual search for positions of greater adequacy, notwithstanding that the the expanded conceptual space in which moral thought operates (LL). This individual would more readily change their moral position if a stronger position was demonstrated. They would also not feel the necessity to have others agree with their moral choices and they would be prepared to stand outside the majority view. The necessary rigour of the moral judgements operating at integrated foresight may challenge others who prefer more relativistic moral structures and that also may be a factor why individuals at this stage could prefer to operate alone.

Envisioning the future would be available as a capacity when needed. The individual would be ‘quieter’ on matters relating to their ‘non-rational’ thought processes (UL). They would probably not regard these ways of knowing as anything different to employing mental level cognition. Adopting different structures of consciousness would just be a way of gaining additional perspectives upon which necessary actions could be based.

The foregoing suggests that integrated foresight individual could embrace the strengths of both previous stages of foresight. This could see an individual operating with a balanced awareness of mind and action and awareness of the interrelationship between the two, plus, an equal awareness of the collective aspects of society and culture and its interrelationships, plus, awareness of the interrelationships between both aspects of the individual and the collective. What this suggests is that the

foresight capacities here are energised by the external and internal aspects of both the individual and the collective. The capacities of conventional foresight offers an attenuated form of social foresight that is predominately focused on the aspects of the LR. Postconventional foresight raises overall foresight capacities by reintroducing the interior aspects, however, that stage could also tend towards regarding the interior aspects as primary sources of knowledge. Integrated foresight further raises overall foresight capacity by embracing the validity of all aspects and deliberately seeking to avoid aspect absolutism. There cannot be a single, one size fits all, expression of social foresight but rather developmental pathways towards the social expression of foresight. These developmental pathways would work along and across the spectrum of foresight stages and development is necessary in all aspects to achieve an integrated balance.

The overall capacity that could arise from the widespread occurrence of integrated foresight gives some encouragement to the thought that humanity can consciously choose futures that encompass the global welfare of present and future. That encouragement, however, should be tempered by the knowledge that less than one percent of adults have been found to achieve integrated stages of development. Certainly integrated stages of development are somewhat circumscribed by the small numbers of adults who achieve postconventional stages. If the proportion of adults at postconventional stages were significantly increased then perhaps the proportion of adults at integrated stages would increase as well. It could also be that there are processes that would encourage the achievement of integrated stages of development. It is not clear whether it would be the continued reform of processes like education, politics and commerce that would promote integrated development or the more widespread adoption of other processes such as meditation. It may also be that while postconventional foresight appeared to require reform predominantly in the LL and LR aspects of society; integrated foresight's reforms will be predominantly located in the UL and UR aspects of the individual.

9.2 Research Question 2 Summary

The social capacity for foresight will emerge from the totality of development in all the foresight aspects. At present conventional foresight is most prevalent in individuals. The social capacity that emerges with that stage is predominantly energised by the exterior aspects, especially around the prevention of hazard. The relatively underdeveloped interior aspects, around the self-sense (UL) and the conceptual basis of foresight (LL), inhibit overall social foresight capacity. Enlightened self interest, energised by a sense of imminent hazard, is the most likely expression of social

foresight that the conventional stage can achieve. Provided that the hazard is not too large and there is still sufficient time to adapt to the challenge then that social capacity may be sufficient. If, however, the challenge is enormous and the hazard is large this social foresight capacity may well be insufficient for a sufficient response to be marshalled.

This thesis does suggest the individual foresight stage can develop ahead of conventional social foresight. The self sense (UL) of students studying Strategic Foresight were found to have achieved, at least, postconventional stages of foresight. That level of individual development would likely be in advance of what they would normally encounter in their educational, commercial and social environments (LR). That imbalance would be countered as the foresight students joined the foresight community, and as they developed their own shared foresight concepts (LL). The interior development of the individuals (UL), and the group (LL), would sustain their 'outsider' stance relative to the dominant conventional stage environment (LR).

What was not observed, but could be hypothesised, is that postconventional development in the interior aspects of self and concepts could eventually lead to postconventional processes and organisations in the exterior aspects. This would raise overall social foresight capacity, and greatly enhance the range and scope of foresight capacities needed to respond to future challenges. Perhaps this balancing of the interior and exterior aspects of foresight would be 'led' by individuals at the integrated stage of development. Stable postconventional development could provide individuals with the extended foresight capacities that would unite and transcend the dialectic stances of conventional and postconventional foresight.

Chapter 10

Conclusion and Recommendations

In Chapter One the wish was expressed that we should not have to experience dystopia in order to learn how to prevent it. It was claimed that this research would contribute to knowledge by improving the understanding of how increasing foresight capacities in individuals will raise the likelihood of producing preferable futures for ourselves and future generations. Under the right conditions individual foresight can develop to stages that can give us the capacities to respond to futures challenges. Furthermore, that same development of individual foresight can facilitate the emergence of social expressions of foresight that expand foresight interests to include all current and potential life. This research has indicated the possible pathways of such transformational development. Such development cannot not assumed but that knowledge should not create despair, it is merely a challenge to which we must respond. Part of that response will be when others follow on from this research.

10.1 Recommendations for Further Research

Following on from the framing of social foresight capacity through Wilber's Four Quadrant Model that occurred in the previous chapter, developmental pathways in each of those four aspects of foresight will be mapped out.

10.1.1 The individual/interior aspect

The first area of further research would be to repeat the empirical research of this thesis across a larger, and perhaps different, population to determine if the stages of foresight development theory is valid. In addition there are many other 'lines' of development that could be utilised in further research. Metacognition was identified as a possible foresight enabler so further research could explore that or identify other enablers. Another research area is to examine if there are other ways to

evoke metacognitive capacities—could meditative practises engender such a stance? Further research could examine if imagination and creativity share aspects with foresight or if either/both are enablers of foresight.

10.1.2 The individual/exterior aspect

The physiological structures associated with foresight could be examined and even correlated to interior foresight capacities. Likewise foresight behaviours could also be researched and correlations made to interior foresight capacities. A possibly fruitful area of further research would be to examine if developing the practises of action research/inquiry promoted meta-perspectives and therefore something akin to foresight

10.1.3 The collective/interior aspect

This research focused upon the individual/interior aspect and then hypothesised theoretical implications for the collective aspects. Further research could make the collective the subject. An avenue of inquiry could be the process of how collectives construct shared foresight concepts. This research suggested that moral literacy could be an important enabler of higher foresight stages, so further research could examine this aspect in more detail. Further research could also examine the role played the image of the future that Polak (1973) regarded as central to cultural development. That research could also examine the nature, evolution and transmission of shared images of the future.

10.1.4 The collective/exterior aspect

Further research in this aspect could occur into the nature of foresight processes themselves and foresight in organisations in order to understand better those aspects but also their correlation to the collective interiors/images/cultures.

Further research could identify the processes and structures that sustain conventional viewpoints and those that encourage postconventional and even integrated viewpoints. Research could also identify the means of reforming existing processes or establishing new processes.

Slaughter & Garrett (1995) outlined a framework for the establishment of institutions of foresight (IOFs) to promote a social constituency of foresight, and Slaughter (2004*b*) gave a progress report on the establishment of an institute with the core purpose of creating social foresight. Further research could build upon this

seminal work by further examining IOFs and seek to identify best practice for these innovative and necessary organisations.

Philanthropy and social foresight would seem to overlap many aspects of their separate purposes. Further research could explore these commonalities and identify possible partnerships or new arrangements whereby the interests of both could be mutually supported and reinforced. Likewise the newly emerging field of entrepreneurial studies, especially the area of social entrepreneurship, offers exciting possibilities through merging powerful new disciplines in new and innovative ways.

The empirical research took place in a university but did not examine the specifics of that educational process. Further research could examine the ‘how’ of teaching foresight. The idea of postconventional stages of development also throws up other interesting research questions, eg. does the teaching of postconventional foresight require the teacher to be at a transitional or stable postconventional sense of self? How would postconventional approaches to epistemology and ontology be received by conventional organisations or conventional parents? What are the ethical positions of teachers of adults and teachers of children? At an even more fundamental necessary level how we educate our children speaks volumes about how much concern we really have in their futures. Slaughter (1999*a*) claims that that educating children to actively employ foresight is critical given that ours is ‘a “thin” culture; one which has lost sight of limits, values, meanings, myths, rituals, commitments and principles. All of which are needed for a robust, healthy and wise society’ (p.165). There can be no more valuable area of further research than one which empowers children to build the humane and caring futures we know that they desire.

10.2 Closing remarks

An understanding of the development of self-sense is fundamental to an understanding of how foresight capacities develop in the individual and from these to how a social form of foresight could emerge. At its essence, the development of foresight is an individual journey. Processes and structures can support but not instigate the journey. The stepping off point is to move from certainty towards doubt; to move from comfort to discomfort. It should not surprise anyone that individuals do not consciously seek doubt and discomfort, however temporary. There can be no guarantees that the individual will be ‘happier’ for having undertaken the journey, as life itself can offer no guarantees. Still it seems in our nature to imagine, explore and to develop. Our inherent curiosity can be temporarily sated by sensual distractions but that curiosity can break us from our present-centred stupours at any time and put us back on the path. The development of foresight capacities give us the

opportunity to better respond to our challenges, no matter what they are. If we do so then perhaps our future generations will judge us favourably. The exercise of our foresight could give them the opportunity of seeing our generation as ‘wise’ from the luxury of their hindsight.

The pathway that each individual follows will hopefully become the collective trajectory to our preferable futures:

As the self is awakened, the world is experienced as an objective place for the self to manipulate and play with. Foresight here is practised as causal, teleological, objective and rational.

As the original self is doubted then the world is now experienced as uncertain, complex and problematic. Foresight here is practised as learning, relativism, subjectivity and meaning.

As a new self is discovered then the world is re-experienced as enchanted, alive, interlinked, paradoxical and infinite. Foresight here is practised as atemporal, responsibility, insight and wisdom.

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Appendices

Appendix A

The Research Instrument

The following are the research questions employed in gathering the respondent data. The same questions were employed at both the start and end of the academic year.

A.1 Self Line questions

The following twelve questions were taken from Loevinger et al. (1970*b*) and used in the research instrument. The instruction given was,

Finish the sentence in in any way you wish.

- Raising a family ...
- Being with other people ...
- The thing I like about myself ...
- Education ...
- When people are helpless ...
- Women are lucky because ...
- I feel sorry ...
- Men are lucky because ...
- I am ...
- My main problem is ...
- If I can't get what I want ...
- My conscience bothers me if ...

The data from those questions were rated according to the protocols found in Loevinger et al. (1970*a*) and Hy & Loevinger (1996).

A.2 Morals Line questions

The following five questions were used. The overall design was based upon an article by Kohlberg that was published in Modgil & Modgil (1985). That article explained each of the levels of moral reasoning in terms of Aristotle's five elements of moral justice. The following instruction was given:

There are five questions with six statements under each. You are asked to choose which of the statements you accept. You have a total of fifteen points to distribute amongst the six statements in order to show the relative strength of your agreement with each. For example you may choose to put all fifteen points against a single statement if that is the only one that you agree with, or you can divide the points between two or more statements. Just make sure that the total adds up to fifteen.

When faced with a matter of judgement I would:

- Refer to the 'Golden Rule', do unto others as you would have them do unto you.
- Look for a solution that suited my needs.
- Take the point of view that all affected parties and balance all these views such that I would be happy to be any of the parties affected.
- Do what is right.
- Choose the decision which offered the best outcome for the most people.
- Look for what would promote the common good.

If a person has broken the law then:

- You should look at their motives and decide whether a good person would've done that. If so, then they shouldn't be punished.
- We should not seek retribution. While incarceration and restitution might be necessary it cannot be based upon punishment or repayment. The offender is a human being and they have rights too.
- You should consider the matter impartially and ensure that justice is done. If possible, punishment should be aimed at letting the offender repay their debt to society.
- They should be punished if they did something that I wouldn't have done.
- Due process must be followed but there should be room for some discretion. Rather than necessarily punishing offenders, the focus should be on reform.
- What they have done should be done to them.

A just way of sharing something of value is:

- Give everyone exactly the same share.
- Choose a method that respects each individual involved and finds the most rational way of distributing it amongst them.
- Only give it to those who ask for it.
- Make no special allowance for talent and achievement, however, do recognise individual need. If scarcity makes for an unequal distribution then a lottery process is best.
- Use a process that is fair, treats everyone equally and rewards everyone who made a contribution.
- Make sure that only those who deserve it, get to share in it.

You should do what you promised to do because:

- Everyone expects that promises should be kept.
- It builds trust and allows us to maintain interrelationships with others.
- Others will keep their promises to you.
- If you do so then you will be thought honest.
- It shows mutual respect towards the other person and recognises their integrity.
- It is a matter of honour and character.

What I think about the 'law' is:

- The law is the law.
- Laws should be consistent with those universal principles that we all share, and if they don't, then they can be disregarded.
- People should be punished if they break the law because others may try to get away with it too.
- You should obey the law because respect for the law would be destroyed if people just feel that they can break the law just because they disagree with it.
- All people should obey the law because without laws it would be chaos.
- Laws should reflect the social system that each person freely enters and they should preserve the rights and promote the welfare of all members.

The data from those questions were rated according to the following protocols where the moral judgement stage that equates to each statement is shown. The total points weighted against each moral judgement stage were then tallied in order to determine the dominant stage of moral judgement that was being employed and a weighted average score was calculated.

When faced with a matter of judgement I would:

- Stage 3.
- Stage 2.
- Stage 6.
- Stage 1.
- Stage 4.
- Stage 5.

If a person has broken the law then:

- Stage 3.
- Stage 6.
- Stage 4.
- Stage 2.
- Stage 5.
- Stage 1.

A just way of sharing something of value is:

- Stage 1.
- Stage 5.
- Stage 2.
- Stage 6.
- Stage 4.
- Stage 3.

You should do what you promised to do because:

- Stage 3.
- Stage 5.
- Stage 2.
- Stage 1.
- Stage 6.
- Stage 4.

What I think about the 'law' is:

- Stage 1.
- Stage 6.
- Stage 2.
- Stage 4.
- Stage 3.
- Stage 5.

A.3 Values Line questions

The following seven questions were used in the research instrument. The instruction given was,

Please write two or three sentences in respect of each statement.

- This I believe about FRIENDSHIP.
- This I believe about THE AUSTRALIAN WAY OF LIFE.
- This I believe about MARRIAGE.
- This I believe about RELIGION.
- This I believe about PEOPLE.
- This I believe about LEADERSHIP.
- This I believe about the FUTURE.

The data from those questions were rated according to the protocols taught in Spiral Dynamics accreditation training.

Appendix B

Categorical Moral Thought

B.1 Introduction

As was explained in Chapter Four the way that an individual reasons morally is just as important as what they are reasoning about. This research was designed to examine an individual's stage of moral judgement, however, the way that the research instrument was designed also allowed an individual's mode of moral judgement to be also examined. This research should be regarded as highly speculative, it is not employing a proven method and nor is it based upon a known methodology. Still the data that it obtained is possibly useful to subsequent researchers and to that point it is included in this thesis.

B.2 Moral thinking and the image of the future

Wendell Bell in vol 2 of the Foundations of Futures Studies states, that all futures are morally based. To this one would add, all human futures are morally based. The behaviour of the physical world (e.g. planets, tides, seasons) can be forecast without need of a moral basis. This is Habermas's technical interest, or Wilber's Mind considering Matter employing the Empirical-Analytic mode with a Technical interest (Wilber 1996a). Once the Mind tries to consider the actions of Mind, however, then it is Habermas's Hermeneutic interest or what Wilber refers to as the hermeneutic, phenomenological, rational or historic mode with a Moral or Practical interest. A moral basis plays a significant role in shaping an individual world view and so an individual moral basis will significantly shape what can be understood as a future state. It could be suggested that a moral human future is 'utopian' and an immoral human future is 'dystopian' in so far as a particular consciousness or worldview would interpret that future state. A fundamentalistic Islamic worldview can interpret the Western lifestyle and its projection into the future as 'immoral' (dystopian) and so that consciousness could prefer/construct a mythic Islamist future as a more 'moral' (utopian) future. A Gaian worldview can interpret a Western Materialist lifestyle and its projection into the future as 'immoral' (dystopian) and could prefer/construct a simpler, less material lifestyle as a more 'moral' (utopian) future. To take this point further, what Polak found in the *Image of the Future* about the relationship between culture and its need for a future image is equivalent

as the cultural worldspace shares moral values. If there is not a shared cultural worldspace then there cannot be an shared image of the future. Polak was severe in his assessment of Post-modernity and how it has made images of the future impossible. As post-modernism disassembles cultural basis then it also disassembles their moral basis too. What this suggests for this thesis generally, and the third research question specifically, is that the creation of Social Foresight requires the creation of shared future images and hence requires that there be shared cultural and moral bases to those images. If individuals lose the capacity to construct, maintain and argue for coherent shared moral bases in the future then they will also be unable to create shared future images. Kohlberg's theory of moral development proposes that the moral stages go to higher and higher understanding of moral judgement that transform the previous stages, ie a holarchical arrangement of moral structures. His post-conventional structures are not post-modern in accepting that all morality structures are relative, context dependent and therefore none is better or worse than another. His post-conventional structures are the opposite of that, finding ever higher ordering principles that can be used to determine adequacy or a moral position. His sixth stage, universal ethics, transcends all conventional and individually held moral structures and cites an even higher authority as the arbiter of morality. His seventh stage, Spiritual Ethics, suggested an even higher ethic than a universal one but it was dropped from his later research.

'What' we think is important but its also important 'how' we think as well . An individual may be able to comprehend the moral basis of Kohlberg's sixth stage but if it is not preferred categorically, that it clearly regarded as the moral basis that grants the greatest moral adequacy, then could a coherent future image based upon that moral basis be constructed? A future image based on an ambiguous moral basis could be constructed but then would it be difficult to finding others to support that image of the future and ultimately the basis of that future culture? The advantage for pre-conventional and conventional worldviews is that it is easier to assemble collective future images based upon those worldviews because the moral bases of those images are understood by many. The difficulty faced by post-conventional worldviews, and the future images that they assemble, is that the moral bases of those images are not widely understood or they may not be understood at all. A purpose of futures education is to give people the literacy to create coherent moral bases that can support images of future states. A property of good science fiction writing could be that it outlines future moral understandings that do not exist in the present. A property of poor science fiction writing, on the other hand, would merely project existing moral understandings (e.g. Star Trek) or previous moral understandings (e.g fantasy worlds) into the future and build a future image on that basis.

B.3 The Research data on Moral Judgement

The moral judgement element of the research instrument asked five questions about where a respondent's centre of gravity about moral thought was. What was not expected was that respondents would fail to display any significant preference for a moral stage. To prefer many responses to a moral question is to be morally

relativistic or ambiguous about what is moral, or what isn't, and that is not how moral thought was expected to operate.

Table B.1 sets out four examples that bound the range of developmental patterns of moral thinking that can be uncovered by this research. For the purposes of this research an example of categorical moral judgement was considered to have occurred when a respondent allocated at least half their fifteen points against a single preferred answer and the amount against that answer was at least twice the amount recorded against another preferred answer for that same question. Example

A												B											
KOHLEBERG STAGE	Moral 1		Moral 2		Moral 3		Moral 4		Moral 5		KOHLEBERG STAGE	Moral 1		Moral 2		Moral 3		Moral 4		Moral 5			
	Start	End		Start	End	Start	End	Start	End	Start	End	Start	End										
1											1	1				3	3	1	1	1			
2											2	1	1				1	1			1		
3											3	2	1	4	4	1	1	1	2	1	2		
4											4	4	5	4	4	5	4	2	4	2	2		
5					15	15	15	15	15	15	5	6	3	5	5	4	4	5	4	6	6		
6	15	15	15								6	1	4	2	2	2	2	5	4	4	5		

C												D											
KOHLEBERG STAGE	Moral 1		Moral 2		Moral 3		Moral 4		Moral 5		KOHLEBERG STAGE	Moral 1		Moral 2		Moral 3		Moral 4		Moral 5			
	Start	End		Start	End	Start	End	Start	End	Start	End	Start	End										
1	5										1	4						3					
2	10	8									2	3		2							3		
3											3			2		1					3		
4		3	5	4	5	7	8				4	5		5	15	4		4			2		
5		2	10	4	10	8	2	7	10	8	5	3	15	3		6	15	4	15	7	15		
6		2		7			5	8	5	7	6			3		4		4					

Table B.1: Samples of Categorical thinking patterns

A is the prototype for what type of response was expected in relation to each of the moral reasoning questions. The respondent chose a single piece of moral reasoning for each question. The answers were completely categorical as only one response was considered for each question. The same pattern of remaining categorical in thinking was repeated in the second instrument. The responses to each question were coherent in relation to the same two stages covering all answers. In summary, respondent A was categorically certain in their moral judgement thinking and their weighted average stage of moral reasoning was between 5 and 6. Example B is an example of what response was not expected. There were no categorical responses in any of the questions. In some questions all six responses were accorded some preference. The moral judgement mode here was ambiguous or relativistic. The overall answers can be weighted to determine a stage of moral thought but what is completely absent in both instrument responses is anything resembling categorical moral thought about a stage of moral reasoning. Example C gave four categorical responses to the first instrument but by the second instrument no categorical answer was found to any question. Example D is the reverse of that, with no categorical moral judgement at the start of the year but five categorical answers by the end of the year. The four examples shown here give an example of consistent categorical reasoning, non-existent categorical reasoning, lost categorical reasoning and discovered categorical thinking. With those four examples it is suggested that 'A' and 'D' give a basis for building a coherent and shared image of the future whereas 'B' and 'C' would find

it difficult to maintain a coherent and shared image of the future due to the lack of a strongly believed moral underpinning.

B.4 Data Analysis

What follows is the analysis of the moral judgement data from each of the subject cohorts.

B.4.1 2003 MBA cohort

In addition to determining the respondents stage of moral judgement the data was also examined to determine whether there was any change in the mode of moral judgement thinking. Table B.2 shows the MBA moral judgement modes employed by the MBA respondents at the start and end points of the year. The data is further split between those respondents who rated at either a conventional or postconventional stage of moral thought and between male and female respondents. That table shows the frequency of categorical moral judgement being employed by a respondent. Each instrument asked questions in five dimensions of moral judgement so the maximum number of categorical judgement by a respondent was five. If no categorical moral judgement was employed then a zero was scored. For each of the splits, moral stage and gender, the weighted average of categorical moral judgement was calculated in order to determine if the frequency of that moral thinking mode changed across the academic year.

2003	0 Categoricals		1 Categorical		2 Categoricals		3 Categoricals		4 Categoricals		5 Categoricals		TOTALS		AVERAGES	
	Con	Post	Con	Post	Con	Post	Con	Post	Con	Post	Con	Post	Con	Post	Con	Post
MBA START			3		1	1	1	1	1	1			6	3	2.0	3.0
MBA END		1	1		3		1	1	1	1			6	3	2.3	2.3
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
MBA START			2	1		2	1	1	1	1			4	5	2.3	2.4
MBA END		1	1		2	1		2	1	1			4	5	2.3	2.4

Table B.2: 2003 MBA moral judgement mode data

The table shows that six MBA respondents were initially rated at a conventional stage of moral judgement. In achieving that rating they employed a categorical mode of moral judgement in 2.0 of the 5 dimensions tested. Whereas three respondents were initially rated at a post-conventional stage of moral judgement and they employed a categorical mode of moral judgement 3.0 times on average. At the beginning of the academic year, therefore, those respondents who were rated at a post-conventional moral judgement stage were also more categorical in how they reasoned morally. By the end of the academic year there was no difference between the use of categorical moral judgement by respondents who were rated at either a conventional or post-conventional stage. The respondents at a conventional moral stage increased their frequency of categorical moral judgement to, on average, 2.3 times out of a possible 5 occasions, whereas the respondents decreased their frequency to 2.3 times.

The gender groupings showed that the female MBA respondents employed a categorical mode of moral judgement slightly more often than then male respondents did and that the rates for each group were maintained across the academic year. The frequency of categorical moral judgement was 2.3 times for males and 2.4 for females. No obvious patterns emerge from the 2003 MBA cohort’s moral judgement usage data.

B.4.2 2003 MSF cohort

In addition to determining the respondents stage of moral judgement the data was also examined to determine whether there was any change in the mode of moral judgement thinking. Table B.3 shows the MSF moral judgement modes employed by the MSF respondents at the start and end points of the year. The data is further split between those respondents who rated at either a conventional or postconventional stage of moral thought and between male and female respondents. That table shows the frequency of categorical moral judgement being employed by a respondent.

	0 Categoricals		1 Categorical		2 Categoricals		3 Categoricals		4 Categoricals		5 Categoricals		TOTALS		AVERAGES	
	Con	Post	Con	Post	Con	Post	Con	Post	Con	Post	Con	Post	Con	Post	Con	Post
2003 MSF START	3	1	1	3		1	1	1	1	1	1	1	7	7	1.9	1.9
MSF END	3	1	2	3	1		1					3	7	7	1.0	2.6
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
MSF START	4		1	3	1		1	1	1		2		10	4	2.0	1.5
MSF END	4		3	3			1				2	1	10	4	1.6	2.0

Table B.3: 2003 MSF moral judgement mode data

The data shows that seven MSF respondents were initially rated at a conventional stage of moral judgement. In achieving that rating they employed a categorical mode of moral judgement in 1.9 of the 5 dimensions tested (2.0 - MBA). Seven respondents were also initially rated at a post-conventional stage of moral judgement and they employed a categorical mode of moral judgement 1.9 times on average (3.0 - MBA). At the beginning of the academic year, therefore, all MSF respondents were less categorical in how they reasoned morally when compared to the MBA cohort. Those MSF respondents who were rated at a post-conventional moral judgement stage quite less categorical in how they reasoned morally when compared to the MBA cohort. By the end of the academic year the two MSF groups had moved in different directions. The MSF respondents rated at a post-conventional moral stage increased their frequency of categorical moral judgement to 2.6 times (MBA - 2.3). The MSF respondents rated at a conventional moral stage reduced the frequency of moral categorical judgement to 1.0 (MBA - 2.3) contrasting the pattern evidenced by both MBA groups and the other MSF group. The MSF respondents rated at a conventional moral stage had become quite ambiguous in their moral reasoning mode by the end of the academic year.

The gender groupings showed that at the start of the academic year the male MSF respondents employed a categorical mode of moral judgement slightly more often than the female respondents did. By the end of the academic year the male MSF reduced their frequency of employing categorical moral thought while the fe-

male group increased their rate to now surpass the male MSF respondents. The female rate of categorical thought by the end of the academic year, however, was less than the rate employed by both groupings in the MBA cohort. The frequency of categorical moral judgement for females being 2.0 times (2.4 - MBA) and for males 1.6 (2.3 - MBA). Three males MSF respondents regressed their stage rating for moral judgement while two males increased. Two of those regressions crossed from post-conventional to conventional moral judgement stages. The female MSF respondents, by contrast, maintained their moral judgement stages. The MSF females, like the MBA females were stable in their moral judgement stages and they increased their rate of categorical moral judgement. The MBA males increased their moral judgement stages and they too increased their rate of categorical moral judgement. Perhaps the changeability in the MSF male stages of moral judgement contributed to their lack of growth of categorical moral judgement and to the increase in moral judgement ambiguity amongst conventional moral stage respondents of the MSF cohort?

B.4.3 2004 MBA cohort

Table B.4 shows the MBA moral judgement modes employed by the MBA respondents at the start and end points of the year. The data is further split between those respondents who rated at either a conventional or postconventional stage of moral thought and between male and female respondents.

2004	0 Categoricals		1 Categorical		2 Categoricals		3 Categoricals		4 Categoricals		5 Categoricals		TOTALS		AVERAGES	
	Con	Post	Con	Post	Con	Post	Con	Post	Con	Post	Con	Post	Con	Post	Con	Post
MBA START			2		1		1			1			4	1	1.8	4.0
MBA END	2		1			1	1						4	1	1.0	2.0
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
MBA START			1	1	1		1			1			3	2	2.0	2.5
MBA END	1	1	1		1			1					3	2	1.0	1.5

Table B.4: 2004 MBA moral judgement mode data

The data shows that four MBA respondents were initially rated at a conventional stage of moral judgement. In achieving that rating they employed a categorical mode of moral judgement in 1.8 of the 5 dimensions tested (2003 MBA - 2.0). Whereas one respondent was initially rated at a post-conventional stage of moral judgement and they employed a categorical mode of moral judgement 4.0 times on average (2003 MBA - 3.0). Like the 2003 MBA cohort a conventional stage of moral development saw less categorical moral thought. By the end of the academic year the frequency of categorical moral judgement decreased to 1.0 times for the conventional group (2003 MBA - 2.3) and 2.0 times (2003 MBA - 2.3) for the post-conventional group. This was the opposite of the 2003 MBA outcome where the frequency of categorical moral judgement increased for both groups across the academic year. These outcomes for the 2003 MSF cohort and 2004 MBA cohort do suggest that the categorical moral judgement of respondents may be more resilient if a post-conventional stage of moral judgement is held. Another possibility is that in the act of crossing the conventional/post-conventional divide, that the certainty of moral thought may be

weakened and become more ambiguous. Four respondents in the 2003 MSF cohort crossed that moral judgement divide and the average frequency of categorical moral judgement decreased for both conventional and postconventional stage respondents. Likewise two of the 2004 MBA cohort respondents crossed that stage divide and the frequency of categorical moral thought declined. Whereas the no respondents in the 2003 MBA cohort crossed the divide and the frequency of categorical moral judgement increased for both groups.

The gender groupings showed that the female MBA respondents employed a categorical mode of moral judgement more often than then male respondents did. By the end of the academic year, both gender groups had decreased their frequency of categorical moral judgement. The frequency of categorical moral judgement dropping from 2.0 to 1.0 times for males and from 2.5 to 1.5 for females. Once again this was the opposite result to what was achieved in the 2003 MBA cohort but is somewhat similar to the 2003 MSF cohort gender outcome. In the 2003 MSF cohort four male respondents crossed the conventional/post-conventional divide and the frequency of their categorical moral judgement remained static whereas the female respondents maintained their stage of moral judgement across the year and their frequency of categorical moral judgement increased. Amongst the 2004 MBA respondents two respondents (a male and female) crossed the divide and the frequency of categorical moral judgement decreased for both.

B.4.4 2004 MSF cohort

Table B.5 shows the MSF moral judgement modes employed by the MSF respondents at the start and end points of the year. The data is further split between those respondents who rated at either a conventional or postconventional stage of moral thought and between male and female respondents.

2004	0 Categoricals		1 Categorical		2 Categoricals		3 Categoricals		4 Categoricals		5 Categoricals		TOTALS		AVERAGES	
	Con	Post	Con	Post	Con	Post	Con	Post	Con	Post	Con	Post	Con	Post	Con	Post
MSF START	1		3	1		1		1		1	2	2	6	6	2.2	3.3
MSF END	1	2	1	2			1	2	2	1			5	7	2.4	1.7
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
MSF START	1		1	3	1		1		1			4	5	7	2.0	3.3
MSF END	3		1	2			1	2		3			5	7	0.8	2.9

Table B.5: 2004 MSF moral judgement mode data

The data shows that six MSF respondents were initially rated at a conventional stage of moral judgement. In achieving that rating they employed a categorical mode of moral judgement in 2.2 of the 5 dimensions tested (2003 MSF - 1.9). Six respondents were initially rated at a post-conventional stage of moral judgement and they employed a categorical mode of moral judgement 3.3 times on average (2003 MSF - 1.9). At the beginning of the academic year, therefore, those respondents who were rated at a post-conventional moral judgement stage were more strongly categorical in how they reasoned morally. In three of the four cohorts the respondents rated at a post-conventional stage of moral judgement have the higher frequency of categorical moral judgement. The 2004 MSF post-conventional respondents had

the highest frequency of employing categorical moral judgement. By the end of the academic year the frequency of categorical moral judgement for respondents rated at a post-conventional moral stage decreased their frequency of categorical moral judgement from 3.3 to 1.7 times. The respondents rated at a conventional moral stage increased their frequency of categorical moral judgement from 2.2 to 2.4 times. In this cohort the apparent resilience of respondents at a post-conventional stage of moral judgement noted in the other cohorts did not hold up. The frequency of the post-conventional stage respondents almost halved whereas the conventional stage respondents rose by a smaller amount. It was earlier noted that the stages of moral judgement for this cohort were quite changeable with six of twelve respondents changing stages across the conventional/post-conventional divide and the drop in the frequency of categorical moral judgement is consistent with this stage changeability in other cohorts.

The gender groupings showed that at the start of the academic year the female MSF respondents employed a categorical mode of moral judgement more often than then male respondents did. This pattern of the female cohort respondents having a more frequent use of categorical moral judgement has been repeated in three of the four yearly cohorts of this study. Both gender groupings of the 2004 MSF cohort decreased the frequency of their categorical moral judgement across the academic year. The frequency of categorical moral judgement for females reduced from 3.3 to 2.9 times and for males it reduced from 2.0 to 0.8 times. In all four cohorts of this study the pattern of the female respondents ending up with a higher frequency of categorical moral judgement than the male respondents has been repeated. In 2004 both the MBA and MSF cohorts have also evidenced a pattern where by the end of the year there was a noticeable difference between the frequency of categorical moral judgement of males and females. A possible relationship between a change in a respondent's moral judgement stage change, especially a change across the conventional/post-conventional divide, and the frequency of categorical moral reasoning was previously noted. In 2004 four of the MSF female respondents changed moral judgement stage, including three conventional/post-conventional stage changes, whereas a lesser number of 2004 MSF male respondents made such a similar change. In the 2004 MBA cohort a single male and female respondent made this change conventional/post-conventional change. The finding that the male frequency of categorical moral judgement fell faster than the female frequency suggests that female respondents may have a greater resiliency of categorical moral judgement.

B.4.5 Combined MBA cohorts

Table B.6 shows the MBA moral judgement modes employed by the MBA respondents at the start and end points of the year. The data is further split between those respondents who rated at either a conventional or postconventional stage of moral thought and between male and female respondents. That table shows the frequency of categorical moral judgement being employed by a respondent.

The data shows that ten MBA respondents were initially rated at a conventional stage of moral judgement. In achieving that rating they employed a categorical mode of moral judgement in 1.9 of the 5 dimensions tested. Four respondents were

	0 Categoricals		1 Categorical		2 Categoricals		3 Categoricals		4 Categoricals		5 Categoricals		TOTALS		AVERAGES	
	Con	Post	Con	Post	Con	Post	Con	Post	Con	Post	Con	Post	Con	Post	Con	Post
COMBINED			5		2	1	2	1	1	2			10	4	1.9	3.3
MBA START																
MBA END	2	1	2		3	1	2	1	1	1			10	4	1.8	2.3
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
MBA START			3	2	1	2	2	1	1	2			7	7	2.1	2.4
MBA END	1	2	2		3	1		3	1	1			7	7	1.7	2.1

Table B.6: All years MBA moral judgement mode data

initially rated at a post-conventional stage of moral judgement and they employed a categorical mode of moral judgement 3.3 times on average. At the beginning of the academic year, therefore, those respondents who were rated at a post-conventional moral judgement stage were also more categorical in how they reasoned morally. By the end of the academic year the usage rate of categorical moral judgement had slightly reduced for the respondents rated at a conventional stage of moral judgement, down to 1.8 times. The usage rate of categorical moral judgement by respondents rated at a post-conventional stage of moral judgement reduced to 2.3 times. Categorical moral judgement was more frequent amongst respondents who were rated at post-conventional moral stages.

The gender groupings showed that the female MBA respondents employed a categorical mode of moral judgement more often than the male respondents. By the end of the academic year the male respondents had decreased their frequency of categorical moral judgement, from 2.1 to 1.7 times. The female respondents decreased their rate, from 2.4 to 2.1 times. Three male MBA respondents changed moral judgement stage across the year, one of these being across the conventional/post-conventional divide. One female respondent changed moral judgement stage, moving from a post-conventional to conventional stage. This pattern suggests that it might not be the total number of changes but just the number of changes across the conventional/post-conventional divide that may affect the usage of categorical moral judgement.

B.4.6 Combined MSF cohorts

In addition to determining the respondents stage of moral judgement the data could also be examined to determine whether there was any change in the mode of moral judgement thinking. Specifically the data could be examined to determine if the respondent thought in morally categorical terms or in morally ambiguous terms. Table B.7 shows the MBA moral judgement modes employed by the MBA respondents at the start and end points of the year. The data is further split between those respondents who rated at either a conventional or postconventional stage of moral thought and between male and female respondents. That table shows the frequency of categorical moral judgement being employed by a respondent. Each instrument asked questions in five dimensions of moral judgement so the maximum number of categorical judgement by a respondent was five. If no categorical moral judgement was employed then a zero was scored. For each of the splits, moral stage and gender, the weighted average of categorical moral judgement was calculated in

order to determine if the the frequency of that moral thinking mode changed across the academic year.

	0 Categoricals		1 Categorical		2 Categoricals		3 Categoricals		4 Categoricals		5 Categoricals		TOTALS		AVERAGES	
	Con	Post	Con	Post	Con	Post	Con	Post	Con	Post	Con	Post	Con	Post	Con	Post
COMBINED																
MSF START	4	1	4	4		2	1	2	1	1	3	3	13	13	2.0	2.5
MSF END	5	3	2	5	1		2	2	2	1		3	12	14	1.5	2.1
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
MSF START	5		2	6	2		2	1	2		2	4	15	11	2.0	2.6
MSF END	8		3	4		1	2	2		3	2	1	15	11	1.3	2.6

Table B.7: All years MSF moral judgement mode data

The data shows that thirteen MSF respondents were initially rated at a conventional stage of moral judgement. In achieving that rating they employed a categorical mode of moral judgement in 2.1 (MBA - 1.6) of the 5 dimensions tested. Twenty-one respondents were initially rated at a post-conventional stage of moral judgement and they employed a categorical mode of moral judgement 2.5 (2.1 - MBA) times on average. At the beginning of the academic year, therefore, those MSF respondents who were rated at a post-conventional moral judgement stage were also more categorical in how they reasoned morally. By the end of the academic year the usage rate of categorical moral judgement had noticeably reduced for the respondents rated at a conventional stage of moral judgement, down to 1.1 (1.8 - MBA) times. The usage rate of categorical moral judgement by respondents rated at a post-conventional stage of moral judgement slightly reduced, down to 2.3 (2.3 - MBA) times. The moral judgement stages in the MSF cohort were noted as being quite volatile with eleven stage changes recorded amongst twenty-six MSF respondents. Six of those stage changes occurred for respondents rated at conventional stages of moral judgement and five occurred to a respondent rated at a post-conventional stage of moral judgement. Four of the six conventional stage changes and all five post-conventional stage changes involved a change across the conventional/post-conventional divide. The pattern that the conventional stages changed more and had a larger loss of frequency of categorical moral judgement was noted in the MBA cohort data. The frequency of categorical moral judgement amongst respondents rated at post-conventional stages held up despite having almost the same number of respondents change their stage. This apparent resilience of the moral judgement thinking of respondents rated at post-conventional stages was also noted in the MBA cohort data.

The gender groupings showed that the female MBA respondents employed a categorical mode of moral judgement more often than then male respondents did maintaining the pattern that has been consistently reflected in the cohort data. By the end of the academic year the male respondents had reduced their frequency of categorical moral judgement, dropping from 2.1 to 1.3 times. The female respondents maintained their rate at 2.5 times. By comparison both MBA gender grouping slightly raised their usage of categorical moral judgement across the year. Seven male MSF respondents changed moral judgement stage across the year, six of these being across the conventional/post-conventional divide. Four female respondents changed moral judgement stage, three of these being across the conventional/post-

conventional divide. This pattern further supports the connection between stability in moral judgement stage and the usage of categorical moral judgement. While more males changed moral stage, and the rate of categorical moral thought declined accordingly, the female grouping had a fewer number of changes but maintained their rate of categorical moral thought. This does suggest that the moral judgement of female respondents may be more resilient than that of male respondents.

B.4.7 Self and Moral Developmental dynamic

Turning to the mode of moral judgement employed then the average frequency of respondents using categorical moral judgement can be mapped to each of those four, high level, pairings of self and moral stage. Table B.8 displays the number of respondents in each high level pairing and their start and end frequency of using categorical moral reasoning.

	Moral -Post	Moral -Con		Moral -Post	Moral -Con		Moral -Post	Moral -Con		Moral -Post	Moral -Con
Self - Post	14	11	Self - Post	7	8	Self - Post	7	3	Self - Post	2	3
	2.9 2.1	1.5 1.5		2.3 2.0	1.0 0.8		3.6 2.3	1.0 3.3		2.5 1.0	1.7 1.7
Self - Con		1	Self - Con			Self - Con		1	Self - Con	2	7
		1.0 3.0						1.0 3.0		3.5 3.5	2.1 1.9
	MSF TOTAL			MSF MALE			MSF FEMALE			MBA TOTAL	

Table B.8: Frequency of categorical judgement per self/moral pair.

Excepting the single MSF respondent who was rated at a conventional self stage, the most frequent usage of categorical moral judgement was found amongst the respondents who ended the academic year at post-conventional stages of self and moral judgement. The rate of categorical moral judgement was highest amongst the female MSF respondents. The usage rate of categorical moral judgement amongst female respondents, however, declined much more rapidly than it did for the male respondents and there did not appear to be a significant difference between the two usage rates by the end of the academic year. The usage rate amongst respondents who maintained a conventional moral sense across the year moved in different directions depending upon the gender grouping. The male MSF respondents reduced an already low rate of usage and the females increased a low starting rate. The MBA data shows the highest usage of categorical moral judgement amongst those respondents with conventional self sense and the highest usage rates amongst two female respondents who maintained a post-conventional moral judgement stage while regressing their self stage to conventional. The MBA group also repeated the pattern whereby respondents at post-conventional stages of self and moral judgement tend to reduce their frequency of employing categorical modes of judgement.

Figure B.9 expands the upper pairs of the previous table to determine any further developmental dynamics can be ascertained.

The male MSF usage of categorical moral judgement declines in most combinations of post-conventional self and moral judgement. Overall the rate of decline is

MSF - Male SELF	MORAL JUDGEMENT						MSF - Female SELF	MORAL JUDGEMENT					
	Post > Post	Con > Post	Con > Con	Post > Con				Post > Post	Con > Post	Con > Con	Post > Con		
Post > Post	4 3.0 2.25	2 0.0 2.5	5 2.0 0.8	1 1.0 1.0	12 1.8 1.6		Post > Post	3 3.0 3.3	1 5.0 3.0	3 1.0 3.3		7 2.4 3.3	
Con > Post		1 4.0 0.0		2 2.0 0.5	3 2.7 0.0		Con > Post	2 3.0 1.0	1 4.0 1.0			3 3.7 1.0	
Con > Con							Con > Con						
Post > Con							Post > Con				1 1.0 3.0		

Table B.9: Frequency of categorical judgement per self/moral pair.

slowest for respondents who maintain a post-conventional sense of self across the entire year and highest for those male respondents who move from a conventional to a post-conventional stage of self. For the female MSF group the same pattern regarding the usage for respondents who move from a conventional to post-conventional sense of self is noted, the usage of categorical moral judgement declines quite significantly. The usage of categorical moral judgement, however, for female respondents who maintain a post-conventional stage of self goes up.

Publications

Publications directly arising from thesis

Hayward, P. (2005), *The Worldviews of Foresight*, in Slaughter, R. A. (ed) (2005), *The Knowledge Base of Futures Studies*, 5 vols, CD-ROM, professional edn, Foresight International, Brisbane.

Hayward, P. (2005), *The Lineage of Foresight*, in Slaughter, R. A. (ed) (2005), *The Knowledge Base of Futures Studies*, 5 vols, CD-ROM, professional edn, Foresight International, Brisbane.

Other publications relevant to thesis

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