The Lineage of Foresight

Peter Hayward

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 following propositions arise from the previous work and will be used to interrogate the literature of future studies, especially thirty-five years of the journal, Futures (1968-2003).

• 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 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 practiced 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 ‘knowledgability’, is an aspect of consciousness development. External knowledgability and education liberates foresight from exclusive rationality. Internal knowledgability 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.
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 consciousness 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 stimuli that do not exist ‘out there’ instead it originates only ‘in here’. This evolutionary adaptation enabled the development of conceptual capacities like language, social memory and cultural expression. Homo sapiens could, therefore, react to conceptual stimuli the way that mammals without such a highly developed cortexual area could only respond to sensory stimuli. Homo sapiens could still learn from actual experience and its attendant emotional responses plus their learning opportunities could also be elaborated by imagined experiences as well.

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

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

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 eventuating in the future. 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. Key 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’. Experience operates best in the realm of precededented 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 precededented to unprecedented and the pathways to prudence should be
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.  

It is the engagement of foresight that acts clarify the dynamics of emerging and unprecedented situations. 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’.  

Yet an examination of human behaviour suggests that a salutary oxymoron exists. ‘Unfortunately there is an indissoluble relationship between foresight and experience, we require the latter before the former will be seriously engaged’. 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.  

**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.  

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. 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 the 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’. The individual perception of the failure of rational certainty can,
activate 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.  

Another response, that was noted earlier, is that unless we have the actual experience then we will not seriously engage foresight. A third response is to simplify the circumstances in order for the dissonance to disappear. What all these forms of psychodynamic response share is that they seriously compromise foresight. An encompassing term for all these responses is ‘defuturing’, ‘a retreat from the constructive thinking about the future in order to dig oneself into the trenches of the present’. Defuturing is a low quality response to the failure of rational certainty, however, there are high-quality responses that could instead be adopted. Foresight, as an individual capacity, cannot operate to any effective level unless some these high-quality responses are adopted.

By seeking to broaden the consequential aspect of foresight then the seemingly causal relationship between experience and foresight can be inverted. To ‘analyse in depth because the facts that are harbingers of the future are not always those that appear at first glance’. 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. 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 what are operating to censor apprehension of significance are cultural or behavioural factors arising through fear.

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.

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 ameliorate self-censorship and create environments conducive to high-quality responses.

Transcending fear through foresight

The low-quality response to fear felt by the failure of rational certainty eventuates when the individual acts solely on the basis of the emotional and instinctual response occurring. The literature has identified a range of attitudes that act to mitigate this emotional response and thereby allow high-quality responses to be taken. 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, or if an individual can develop creative thinking, adopt a future-orientated approach and has the ability to tolerate strain, 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 their 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 reasoning.
would allow them to understand better the emotional response that can arise with cognitive dissonance. With that understanding the emotional response could be reframed or interpreted differently. A low-quality response to anxiety felt, 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.\(^{25}\)

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.\(^{26}\) The other property of a presumptive truth is that it can lead to actions that negate the truth of the presumption itself,\(^{27}\) 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.\(^{28}\)

Human actions are based upon anticipations that are felt to have a real possibility of eventuating notwithstanding the recognition that what is anticipated is likely inaccurate and uncertain.\(^{29}\) 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.\(^{30}\)

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.\(^{31}\) 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.\(^{32}\) ‘Fear may be understood as a consequence of the illusion of separateness’.\(^{33}\) 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).\(^{34}\) Hope 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.’\(^{35}\) 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’.\(^{36}\) 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...[is] the acquisition of emotional skills which enable us to stand up to ambivalent, unclear and insecure situations.\(^{37}\)

People must be assisted to become more open, experimental and flexible, to see their organisation as complex system embedded in complex environments.\(^{38}\) Yet people will not become more open in organisational environments unless they feel safe to do so, unless they trust the organisation.\(^{39}\) Outside the organisational context the phenomena of shrinking levels of trust is being shown by citizens to 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 something negative. Instead, those social movements that have been critical towards modernity have shown a higher tolerance to uncertainty and ambiguity and in turn those movements are trusted by an important part of the citizenry.\(^{40}\) 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 generation, the manipulation of values by presenting alternatives that emerge from outside the present social structures.\(^{41}\) 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 is 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’.\(^{42}\) Thus it is thinking that must be explicitly outside the present in both time, structure and culture. The trick, if trick is the correct word to use, is how to get outside the present while still being in the present.
First is the premise that what is imagined is the map and not the territory. The image, if compelling, compels 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’. Next is the recognition that foresight generally, and the speculative imagination specifically, is compromised by a culture that is predominantly outward and materially focussed. Speculation can be rediscovered if the provisionality of what is uncritically thought as real is uncovered and challenged. By admitting the interior dimension of individual and collective life to play a role as well then inspiration and hope can emerge.

Another element is the recognition of the central role performed by symbols in the imagination of hopeful and inspirational images of the future. ‘Symbols constitute significant indicators of the outlooks and aspirations of the cultures which generate them’. 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 is threatening to 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 too 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 this 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 trialed. ‘It is in this second dimension of the study of symbols and future studies that the real worth of the exercise lies’.

The socialisation of the imagination

Humans share worldviews in order to create a ‘meaningful social world’ and to find their place in it. The acceptance of a society’s norms is the individual’s pathway of 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. 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 improvident norms and roles to future generations? The answer is that the individual has the responsibility of making the choice.

He must learn to trust the knowledge and insight of others and to be grateful for all that exceeds his own...He needs to consider seriously but critically his culture’s invitation to internalise its norms. He need not adopt them automatically but he needs to be aware of the reasons for their existence, the cost of breaking them and their power over others. He needs to accept the inescapable conflicts and contradictions of the requiredness within which he lives. He needs to accept the obligations to make
contradictions of the requiredness within which he lives. He needs to accept the obligations to make for himself a set of internalised norms sufficiently within his compass to be a useful guide; and not be more divergent from those of his neighbours than they can tolerate...He needs to take seriously the responsibility for his attitude to all his fellows, each faced with similar choices.\textsuperscript{49}

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 a point in time children have a clear image of themselves in the future as well as that of their environment, especially the natural environment, and that over time they seem to lose this ability to retain this clear image plus they become more influenced by the images that they see around themselves.\textsuperscript{50} 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 understood is why does this capacity seem to be available and then seemingly lost in the minds of the young? Is this a capacity that is obtained and then lost as part of a natural developmental process, or as part of a socialisation process? Is this loss of capability, however, something that is contributed to by factors external to the individual, in which case the focus should be on ameliorating those factors that precipitate the loss or enhancing those factors that sustain it?

Research shows that the young seem to be better a sensing ‘probable futures’ than many older people are.

The young expect new technologies to further entrench and concentrate power and privilege rather than create closer knit-communities of people and to lead 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.\textsuperscript{51}

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 previsions 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.\textsuperscript{52}

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’.\textsuperscript{53} What
ignorance, when people are made aware of alternative futures they become rather optimistic’. What recurs here is the idea that the young are 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 feel unable to know how to build a post-modern world.\textsuperscript{54} This is a tragic assessment. The young sense what their ‘betters’ do not appear to see and simultaneously they are 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 suitor Apollo. When she rejected his suit, however, he put a curse upon her that her 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 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 madwoman, who could not be heard or was it the Trojans who had within their society a person who saw their fate if they followed a particular path and yet they did not heed her warnings? Likewise is it the young who are cursed as adults seemingly disregard what they sense.

Still, there are signs of hope. The young, and older, could learn something from the very young. In the study of 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.\textsuperscript{55} 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.\textsuperscript{56} An area of useful research would be to see if the same developmental process might occur in adults too. Does the teaching of foresight, from practical through progressive and onto civilisational foresight\textsuperscript{57} promote psychological development from sociocentric/conventional viewpoints to worldcentric/postconventional viewpoints? The research in this thesis will make a contribution here.

Still there is always a contradiction that must be faced. A powerful imagination can give individuals the means to decide which of societies norms they will accept and which will the individual set for themselves. That choice can prevent the transmission of folly but can likewise prevent the transmission of wisdom too. 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’.\textsuperscript{58} 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 have 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 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
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 and 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.59

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 what they see 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 ‘defutured’ present.

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 the 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.60

Previously, it was pointed out that denying the future is a low-quality psychodynamic response to uncertainty. If the social processes operating 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’.61

The internal/external dynamic of foresight

To find an example of an external focus of foresight one only need look at the editorial in the very first issue of 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.62

Futures data was transformed through a futures methodology into futures thought. That futures thought 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 data quality and data collection methods as these would work to reduce error. Further improvements would follow from raising the veracity and skill with which methodologies were employed, promoting of increased use of computers to produce more comprehensive models and simulations with which to test decisions, and the more widespread use statistical and probability methods in qualitative methods like scenarios 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 much closer to the real world decision process’.63
Foresight was about reducing error and bringing stability, the keeping of chaos away from order. 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 quantitative manner. That error reduction and stability were sought after highlights that the clients were decision-makers and that futures thought was best approached by experts. Stability and confidence were the normative future states that underpinned this view of foresight. What was sought was the stability of the present into 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’. Yet even while that externalisation of foresight was going on, there were others who felt the immoderation contained within such a worldview. To those individuals foresight was less about the technique, data and technical interest of foresight 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.

The inward turn

It was suggested above that we do not think about the future, instead, that we are ‘dug into the trenches of the present’, and unable to observe anything else. Polak referred to this state as ‘defutured’, a retreat from constructive thinking about the future, instead only the scientific, technological and political sit at the centre of ‘today-centred realism’. 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. 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 egoic or existential pain and so solace was found in ‘substitute satisfactions’. 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.

While seeking comfort by distraction can be seen as an innocent action for someone to take, when this action was leveraged and promoted by powerful commercial interests then its consequences were 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.

In driving people towards being present-centred and to seek the ‘comforts of the unreality industries’, what followed was the tendency of individualism and technology to not allow people not find meaningful
interactions with other human beings.\textsuperscript{71}

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.\textsuperscript{72}

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’,\textsuperscript{73} and that as ‘morality is subordinated to individual interests [and] economy follows its own rules’.\textsuperscript{74} The conclusion here was that ‘humanity manifestly lacks the wisdom or means to mediate or control’ what technological change is bringing.\textsuperscript{75}

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’.\textsuperscript{76} Further to 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.\textsuperscript{77} Technological innovation and social impacts have been studied for some time in Europe and North America but foresight also had to consider ‘what are the consequences of new technologies or of social innovations in environments of which they know so little’.\textsuperscript{78}

As the inward focus of foresight highlighted the future consequences of emerging and unprecedented situations that externally focussed 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’.\textsuperscript{79} Traditional probability and risk based approaches were not thought appropriate to situations were the risks were dynamic, unprecedented, co-evolving, and changed by actions taken, especially with the tendency of traditional policy work to discount future factors like costs and benefits relative to present ones.\textsuperscript{80} 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.\textsuperscript{81}

Another contributing symptom was thinking that inculcated, in-group verses out-group, dominator-dominated ways of seeing the world in people from childbirth.\textsuperscript{82} What such thinking allowed was ‘large sections of humanity [to have] their ecological homelands and their livelihood pulverised and plundered by the dominant Western powers’.\textsuperscript{83}

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 preeminence 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.

\textbf{A hierarchy of foresight interests}
An entity without the ability to engage in future thought operates only in a ‘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 human’s have a ‘native’ form of futures thought. This capacity is more or less developed in each individual and it can be enhanced in by adopting the practices of futures thinking through data collection, data analysis, interpretation and prospection. In addition to elaborating what is innately human, finding ways to enhance anticipation and transcend the need for certainty the literature identified additional pathways that offered further development of foresight.

Foresight operates within levels of interest that themselves broaden, or narrow, future thinking. For example futures thinking can operate at the levels of the pragmatic thought, progressive thought and civilisational thought. 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 what emerges are two quite distinct hierarchies, one with a predominant external viewpoint and the other with a viewpoint moderated by inward reflexivity.

<table>
<thead>
<tr>
<th>Worldview</th>
<th>Interest</th>
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<tbody>
<tr>
<td>Immortal Foresight</td>
<td>Civilisational interest</td>
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<tr>
<td>Progressive Foresight</td>
<td>Progressive interest</td>
</tr>
<tr>
<td>Political Foresight</td>
<td>Pragmatic interest</td>
</tr>
<tr>
<td>(Creature present)</td>
<td>(present interest)</td>
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Table One: External viewpoint

The external viewpoint to foresight first held its interest at the scale of the ‘megamachines’ and the projection of a civilisations immortal power into the future (Table One). With the failure of Immortal Foresight the next major external manifestation saw the interest become more circumspect and the scale reduced to the progressive interest of ‘society’. With the passing of the ideas of Progressive Foresight then the interest was further circumscribed. Now foresight was about supporting the instrumental power interests of commercial organisations and political interests. Each of those external viewpoints still supported the notion of rational certainty although the scale of interest that certainty applied to was drastically attenuated. The attenuation process also operated to foreshorten the temporal dimension, bringing the ‘future’ point closer and closer to the present. As Table One suggests, that attenuation process can eventually give rise to an external viewpoint lacking any foresight and an interest solely focussed in the present. In effect the ‘defutured’ present described by Polak.

When the internal viewpoints are introduced then the hierarchy that emerges is an inversion of the previous one.

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<td>(Present Interest)</td>
</tr>
<tr>
<td>Revelatory Foresight</td>
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Table Two: Internal viewpoint

Table Two commences with the worldview of creature present. This is the state before internal consciousness is fully available and it brings forth the ever-present ‘present’. With the first major manifestation of reflexivity, Revelatory Foresight, then the level of interest is pragmatic, in that it is about how the individual should live with consciousness. This is the foresight of personal revelation. The original meaning of the word ‘religion’ (from relegere) meant ‘careful observance’ and is the opposite of ‘negligence’ (from neglegare) which meant ‘careless non-observance’. 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. With the present emergence of Integral Foresight, the scale of interest should 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 unmanifest, could be included also.

These two dynamics operate in all worldviews of foresight. The external viewpoints promote contextually framed views of rational certainty that are propitious to 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 these three levels:

1. pragmatic (helping organisations be more effective)
2. progressive (help the move towards sustainable practices and outlooks)
3. civilisational (consider the foundations of the next civilisation beyond the hegemony of techno/industrial/capitalist interests).

To practice 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’. To have future orientated institutions, leadership that links vision to action and organisational cultures that are responsive to futures would further embed and make ‘pragmatic’ foresight more widespread.

To practice progressive foresight would include gaining an understanding of social change at macro and micro levels along with the integration of quantitative and qualitative analysis and the partnering of the social, physical and analytical sciences. It would not treat information as neutral and it would actively question preconceptions in order to move towards a way of thinking that was non-predeterminative. It would not trust the dynamics of society to come up with correct form of institutions and responses but rather to have as the ambition to initiate foresightful action in every setting of society, to make the self-reliance of society under a range of conditions the cornerstone of the futures thinking. It would
deliberately seek the ‘conscious introduction of multiple perspectives’ 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.

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 the use of reason and imagination can be without any reflection or they can be used consciously. By taking these actions then humans would gain ‘a larger mirror for seeing the world’ via a mirror for seeing oneself.

To practice foresight is to try to consciously navigate through the influences of language, culture, ideology and worldview on futures thinking. 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 highlight that pragmatic foresight must operate within the broader context of progressive foresight. To do otherwise is not to practice foresight. Still what is progressive may not be leading us to towards the next civilisation, it may merely be making the present one sustain itself for a longer time than is appropriate. Western civilisation, while producing many the benefits such as political freedom is also hostile to ‘aliens’ and allows more than half the citizenry to live poorly while a comparative few live extremely well. Is a form of foresight that operates to ameliorate the impacts of this civilisation, but not to actively be working for its replacement with something better for humankind, properly called foresight? Futures thinking at this stage calls into question the moral dimension of the 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.

Futures 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 utilisation 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.

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 to place this awareness within an implicit concern for human welfare, to understand that all ‘presents’ cause some humans to suffer and the goal is to create futures were 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’.

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 that lead to such higher-order languages.

Foresight as a higher-order language

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 persistence needed for the participation in the conduct of democratic governance in a complex and ambiguous world.  

It is not surprising then that an unskilled populace would lead to ‘institutional inertia’ and ‘electoral short-sightedness’ that preferred narrow local and national concerns rather than global dangers. Under our cultural conditioning ‘one thinks less and less about the future because one thinks less and less’. 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’.

These 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. 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 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. What is necessary is that the thinking turns in on itself to examine its own epistemic foundations. 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.

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 creating the world.’ 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 ‘they need not be adopted automatically but we need to be aware of the reasons for their existence, the cost of breaking them and their power over others’. At the deep levels of excavation the futures archaeologist would find that:

those 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.

Foresight practiced without awareness of that outlook would largely be operating from the ideological basis of materialism, individuality and technological optimism. The literature was aware of that very possibility as the very first Journal of Futures also contained an article by Jungk that said:

no concept of vision of the future will be correct if we do not find a way to bring man into the
The curves of economic and technological forecasting do not yet take account of the species.¹⁰⁹

That awareness, however, was not widespread amongst the authorised/accepted experts of future studies 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.¹¹⁰

Future studies must acknowledge, and then seek reconciliation with, the likelihood that much of its efforts have operated, and to 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 the assumptions made to be noted and possibly renegotiated.¹¹¹ 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’.¹¹² Far from being neutral tools, technologies should be seen as ‘complex social artifacts which are embedded social interests and ways of seeing the world’.¹¹³ If technology is reinterpreted as an artifact of social interests then it begs the question “whose interest”? 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 gains a more controllable future.

Probing beneath the surface of the Western worldview also raises question, ‘why do we live in this world and not the other worlds that were once possible”?¹¹⁴ For within the idea of alternative futures must be the implication that the present contains choices that are not immediately apparent.¹¹⁵ Societies and cultures are held together by habits of mind, common understandings of the way the world works.¹¹⁶ Habitual thinking is a necessary evolutionary process as it conserves energy, increases skill, spares attention and it reduces the cognitive dissonance raised by the sense of strangeness. To challenge the habits of mind that hold together a culture is to threaten the stability of it.

Western culture...rests on systems of analytic classification which separates one class of phenomenon from another. Boundaries...give rise to dualities and opposites such that discourse swings wildly between extremes.¹¹⁷

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.¹¹⁸ As ethnocentrism is being unduly centred in one’s culture and tempocentricism is being unduly centred in one’s temporality, both provide the psychological security of an accustomed context.¹¹⁹ By pointing out that there are other contiguous contexts that exist can liberate thinking from ‘the straightjacket of common sense’,¹²⁰ however it can also see the society turn the shaman into an outcast.¹²¹
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 thought flawed. 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 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.  

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 point and a more dynamic use of energy and materials.  

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 are, in fact, real. If foresight can reach the right level of disturbance then transformation of mindsets, behaviours and eventually institutions could occur which would evolve the system to a new equilibrium point. 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 stage reached again. 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 new points of equilibrium.

The incompatibility of the individual drive for material comfort conditioned by the 'good life' cultural milieu and how its consequences are transforming the planet leading to the ideological contradiction of a special civilisation or the humanitarian ideal of equality for all.  

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’. There will be times where the concepts shared by individuals and their cultural workspace resonate with the perception of reality. These will be seen as ‘epochs of stability that allow some predictability’, however, they will be increasingly punctuated by periods of disturbance as limits are encountered. Equilibrium will be rediscovered as new patterns that bring order and comfort are discovered. 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’. 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 cultural correlates, are more resilient, able to withstand greater shocks and vicissitudes. Foresight that is focussed towards external social system transformation is complicit in transforming towards ultimately more unstable external
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 to be engaged in 'the noble pursuit of truth'. 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 has 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.

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'. 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 of 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, by only those who own the patent.

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 that 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’. 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. What follows is the conclusion that Western culture and its institutions are biased against future-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. 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. The more that naive certainty leaves and the more that a sense of personal responsibility is raised.

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. 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 on 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. All discourse is not neutral, it is
grounded in certain traditions. Galtung found that the questions asked and research styles and conclusions are derived from culture and over time these questions and styles 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 focussed 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. 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, conservative/academic. 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.

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. 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. So most of humanity sit on the beach, their mind focussed 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.

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, that 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 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 verses evil, of material verses spiritual, of the individual verses the collective.

Another suggestion 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 govern overall teleology.

A third suggestion 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’. 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 process of the social learning process.\textsuperscript{147} 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.\textsuperscript{148}

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.\textsuperscript{149} 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.\textsuperscript{150} 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.\textsuperscript{151}

This is a knowledge base to engender knowledgability and to moderate a predominantly external viewpoint of foresight. Understanding 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 possible futures. Seeing 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. To replace objectivity and neutrality with interpretation and critique in order to find, and then surpass, the limits of knowledge.

In discovering the limits of knowledge, what is also encountered is 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? The Gebser structures of consciousness suggest further mutations in consciousness are possible and hence further developments in foresight could eventuate. 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.

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 has examined foresight as a ‘structures of perception’ knowledge quest while some of the literature has taken another path to consider, 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 are seeing. Understanding reality is not a passive process of adaptation to a fixed reality outside but
Understanding reality is not a passive process of adaptation to a fixed reality outside but occurs through feedback between a search for without and a search within. Thus the individual stands to learn as much about themselves, their beliefs and worldviews, the interests they represent in this 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.

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

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 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 aspire 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. In earlier, hierarchical societies dissent was focussed around 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 then 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.

Dissent and foresight

This dissent, it seems, is necessary. There must be an open debate within our society about the challenge of the future and this can only happen where people have both the right and obligation to debate critically the future of their society. To do so is to focus on areas of contest and silence in the present culture and this in turn takes courage. This debate, this contest, is necessary for the young in any society. The young, for example, are not trained 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 do create their future for them. Dissenting futures 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, to not only employ different thinking about the future but to also 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, 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.\textsuperscript{162}

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

A significant evolution in thought is the cognitive evolution from stimulus/concrete/reactive thought to non-stimulus/abstract/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 on the world, a mode of thinking that has allowed homo sapiens to transform its environment. The threat to existence faced by the human species is thus largely the product of the point that:

\begin{quote}
most humans are unable to conceive of reality as a system and so are unable comprehend unintended consequences [therefore] there is a lag between technological achievement and human understanding of themselves and the world.\textsuperscript{163}
\end{quote}

Maruyama identified seven tensions in human reasoning that each can be seen as axis of thought that delineate that same evolution:

1. competition to cooperative sharing
2. techno-centrism to harmony with nature
3. material efficiency to cultivation of mind
4. hierarchy to reciprocal adjustment
5. leadership to human interaction
6. majority rule to mutuality
7. homogeneity to pluralism.\textsuperscript{164}

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

An evolution of thought coupled with an 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 led some to conclude that a:

\begin{quote}
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.\textsuperscript{165}
\end{quote}
Coupled to this was a further recognition that Western culture tended to employ a limited use of human brain capacities, predominantly focussing on the analytical neocortical brain functions, whereas other cultures deliberately suppress the neocortex and left brain to access other brain capacities. 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 would be an enabling activity.

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

when 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.

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. 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. It allows for the creation of a meta-conceptual understanding when individuals realise that their perception of reality is only one amongst many individual perceptions and that their thoughts or ideas should be seen as theories to be researched and tested, not burdens to be carried or territories to be defended.

**A social expression of foresight**

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

A 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 as part of the hierarchy. A healthy hierarchy has to reach co-existence...
endanger the health of lower levels as part of 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.\textsuperscript{172}

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.\textsuperscript{173}

What is described is foresight operating in cooperation. What then are factors that support co-operation? When there is 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.\textsuperscript{174} Given the dynamics of consciousness, culture and social learning to create multiple realities in the present, let alone considerations of futures states, then what possibly can individuals co-operate in their thinking of?

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.\textsuperscript{175}

To extend ‘human understanding and the extension of our concerns beyond the present has the effect of extending the ethical community beyond the here-an-now to our future selves, to our descendants and even to other species’.\textsuperscript{176}

Are there ideas that, if explored and embraced, would support foresight operating in cooperation? 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.\textsuperscript{177} The parent has a natural predisposition to be concerned about the future of their child. This is certainly a biological enhancement that is elaborated by custom and social learning. Concern for future children misses out on the biological advantage but a culture could still promote and enhance this. 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.\textsuperscript{178} 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 into the future, is not to act from an anthropocentric viewpoint but one that it is decidedly ethical and compassionate to all lifeforms.\textsuperscript{179}

Another idea that, if adopted, would promote cooperative foresight thinking is the idea of ‘good fortune’ and the ethics of enough. Individuals have wants, both innocuous and noxious. Fortune is regarded 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 like love, relationship, 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’.\textsuperscript{180} Self-interest, then, is seen to operates 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 the generations in the future. It is this common good that gives meaning to the act of caring for future generations.
future. ‘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.

An allied idea here is the idea of attainment. It is noted that personal motivation tends to evolve towards emotional rather than cognitive needs as individuals increase in maturity. Yet a culture that tends to equate wealth with the attainment of well-being 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 well-being remains elusive. If the focus was shifted to consciousness development, to the study of cultures that have placed a greater emphasis on consciousness and spirit rather than on the material world then the internal/external conflict would be minimised. Attainment would cease be the present conflict over scarce material resources that undermines cooperative thinking about the future. Instead cooperative thinking and attainment could work together to create widespread well-being.

A final idea to support cooperative foresight thinking is 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. It is estimated that while eighty percent of global consumption is limited to twenty-five percent of the world the position with regards to the environmental risks is a reversal of those numbers. The limits of scientific language to grasp 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 or taking more 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. None of that can be done unless cooperative thinking about the future is achieved.

While cooperative thinking about the future 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 scepticism: 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.

In organisations, individuals have to find a basis to interact and communicate. Each person carries with 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. 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 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.

Of a more fundamental nature is the role played by education. If the education system is seen predominantly as a supplier for organisation, necessary for producing individuals with the types of skills and attitudes that would 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’. At best this is an example of the former concern, producing organisable individuals for organisations, at worst this suggests and 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 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 futures thinking 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 became embedded in most forms of thinking about the future. The desire to create demands and desires as markets for short-term satiation is explicitly not futures focussed. 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 embargoed from. 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 is needed for it to grow.

The final factor 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).

A futures discourse would enable many more individuals to participate in, learn from and then embody 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 then. 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 save humanity on this planet.

Conclusion

The lineage of foresight has elaborated the following salient points about the expression of individual foresight and the possibility of a social form of foresight.

Foresight as an attribute of individual consciousness observes the low-quality responses that much of humanity adopts in light of the failure of rational certainty. Fear underpins 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 the limited prevailing interests.

Foresight can act to promote knowledgability in humans and as such it operates as a ‘higher-order’ language. Truly understanding the present is part of such a knowledgability. Acknowledging that many of the prior actions of foresight have served the interests of those in power is also part of such a knowledgability. 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 knowledgability. Noting the bias of Western institutions against foresight and the complicitness of science in the present situation is also part of such a knowledgability. Realising that discourse both constructs and describes the problem, that the West validates only a few select discourses and that language is not neutral tool is also part of promoting such a knowledgability.

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 enoughness 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 is granted within which it can flourish.

Endnotes

1 Paskins (1997) p259
2 Pirages (1994) p199
3 Slaughter (1994) p1078
4 Paskins (1997) p260
5 Landau (1976) p161
6 Hayward (2003) p8
7 De Jouvenel, p6
8 Slaughter & Garrett (1995), p95
9 Slaughter (1990) p801
10 Polak (1973), p1
11 Slaughter (2002b) p353
12 Jantsch (1975) p465
13 Jantsch (1975) p466
14 Jantsch (1975) p466
15 Michael (1985) p98
16 Slaughter (2002b) p353
17 Funtowicz & Ravetz (1994) p572
18 Polak (1973) p196
19 Slaughter (1991) p509
20 Masse (1972) p26
21 De Jouvenel (1967) p126
22 De Jouvenel (1967) p126
23 Markley (1983) p60
24 Novaky (1994) p759
25 Landau (1976) p161
26 Bell (1989) p131
27 Bell (1997) p234
28 Bell (1997) pp233-4
29 Fuller (2000) p151
30 Masse (1972) p28
31 Healy (1999) p657
32 Funtowicz & Ravetz (1994) p570
33 Slaughter (1987) p59
34 Jantsch (1975) p466
35 From a lecture by Zia Sardar at the Australian Foresight Institute on 5 August 2003
36 Jantsch (1975) p466
37 Landau (1975) p161
38 Nanus (1977) p195
39 Healy (1999) p660
40 Todt (2003) p246
41 Masini (2002) p255
42 Amara (1991) p648
43 Inayatullah (1993) p236
44 Slaughter (1998a) p999
45 Page (1992) p1062
46 Page (1992) p1063
47 Clark (1994) p183
48 Pirages (1994) p199
49 Vickers (1979) p30
50 Masini (2002) p643
51 Eckersley (1997) p247
52 Hicks (1996) p743
54 van Gelder (1999) p824
55 Page (1998) p919
56 Gidley (1998) p406
135 Slaughter (2002b) p350
137 Slaughter (1989) p451
138 Inayatullah (2002a) p481
139 Slaughter (1996a) p754
140 Slaughter (1987) pp65-6
141 Slaughter (1993b) p228
142 Inayatullah (1992) p868
143 Dator (1994) p90
144 Inayatullah (1988) p58
145 Inayatullah (1998) p383
146 Fuller (2000) p84
147 Hideg (2002) p288
148 Fuller (2000) p84
149 Giri (2002) p108
150 Tognetti (1999) p693
151 Slaughter (1996b) pp803-4
152 May (1997) p236
153 Dobbert (2000) p800
154 Rogers (1997) p766
155 Slaughter (2000a) p52
156 Echeverria (1999) p820
157 Slaughter (1999) p150
158 Ravetz (1999a) p249
159 Williamson (2001) p554
160 Kelly (2002) p568
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**About the author**

Peter Hayward is currently a part time lecturer at the Australian Foresight Institute. He has worked in many organisational environments including the Australian Tax Office and Transurban. His PhD explores the relationship between individual and social foresight. He can be reached at [phayward@swin.edu.au](mailto:phayward@swin.edu.au)