

# The Causal Layered Analysis (CLA) Reader

Theory and Case Studies of an Integrative and  
Transformative Methodology

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Published by Tamkang University Press  
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Inayatullah, Sohail, 1958 —.

The Causal Layered Analysis (CLA) Reader: Theory and Case Studies of an Integrative and Transformative Methodology

Includes index.

ISBN: 957-9078-85

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## Preface and acknowledgements

This book is divided into five parts. Part I introduces the causal layered analysis methodology — its historical and conceptual context as well as research and workshop case studies. Part II presents essays (by Slaughter, Turnbull, Bussey, Graham and Canny, Kelly, and List) that compare CLA to other methods, as well as essays that use and locate layered analysis generally (Galtung, Shapiro, and Sardar); to some extent these predate CLA. The third part — and the largest section of the book — consists of case studies applying CLA in a wide range of areas, including, for example, genetic engineering, poverty, racism, globalisation, education, aviation, the global media, Japan, cities, and theories of intelligence (by Fricker, Milojević, Wildman, Gidley, Bussey, Kelly, Jones, May, Hill, White, Wright, Daffara, and Anthony). Part IV presents essays which constitute CLA as an evolving methodology (by de Simone, Ramos, and Russo). This section also includes a bibliographic narrative and a response to critics of CLA. The final part of the book includes charts, tables, and slides.

My thanks go to colleagues, friends, and course and workshop participants around the world over at least two decades, who have helped CLA grow as a theory and as a methodology. Without their insights, provocations, and questioning, CLA would remain a static, instead of a living and lived, methodology. From the University of Hawai'i, James Dator, Michael Shapiro, Johan Galtung, and Peter Manicas. From the World Futures Studies community, Richard Slaughter, Felix Marti, Tony Stevenson, Ivana Milojević, Sesh Velamoor, Zia Sardar, and Marcus Bussey. From Tamkang University, Clement Chang, Kuo-Hua Chen, Tze-Yun Yen, Yu-Man Tsai, Yi-Lin Ko, Tai-Ling Hsu, Meng-Chun Shih, and Yu-Yi Liu. And in Australia: from the University of the Sunshine Coast, Robert Elliott, Steve Gould, Phillip Daffara, and Marcus Anthony; from Brisbane City Council, Jennifer Bartlett; from Fuji-Xerox, Jenny Brice; from the Futures Foundation, Jan Lee Martin and Peter Saul; from Mt. Eliza Business College, Robert Burke; from Swinburne University of Technology, Jose Ramos, Alex Burns, and Peter Black; and from Queensland University of Technology, David Wright and Patricia Kelly.

And I would especially like to thank all the contributing authors for their persistence and for allowing us to publish their work in this compendium.

My thanks as well to my children, who have lived with CLA since birth.

Acknowledgements for specific chapters that had earlier incarnations elsewhere are provided in the endnotes throughout the text. However, I would like to especially mention *Futures*, *Foresight*, and the *Journal of Futures Studies*.

Sohail Inayatullah, December 2004



# I. INTRODUCTION TO THE READER

# Causal Layered Analysis: Theory, historical context, and case studies

Sohail Inayatullah<sup>1</sup>

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Causal layered analysis (CLA) is offered as a new research theory and method. As a theory it seeks to integrate empiricist, interpretive, critical, and action learning modes of knowing. As a method, its utility is not in predicting the future but in creating transformative spaces for the creation of alternative futures. It is also likely to be useful in developing more effective — deeper, inclusive, longer term — policy. Causal layered analysis consists of four levels: the litany, social causes, discourse/worldview, and myth/metaphor. The first level is the litany — the official unquestioned view of reality. The second level is the social causation level, the systemic perspective. The data of the litany is explained and questioned at this second level. The third level is the discourse/worldview. Deeper, unconsciously held ideological, worldview and discursive assumptions are unpacked at this level. As well, how different stakeholders construct the litany and system is explored. The fourth level is the myth/metaphor, the unconscious emotive dimensions of the issue. The challenge is to conduct research that moves up and down these layers of analysis and thus is inclusive of different ways of knowing. Doing this allows for the creation of authentic alternative futures and integrated transformation. CLA begins and ends by questioning the future. In the words of James Dator:

*Inayatullah's 'Causal Layered Analysis' is the first major new futures theory and method since Delphi, almost forty years ago. CLA is a very sophisticated way to categorise different views of and concerns about the futures, and then to use them to help groups think about the futures far more effectively than they could by using any one of the 'layers' alone, as most theory/methods do.<sup>1</sup>*

## Conceptual context

Embedded in the emerging discourse of futures studies, causal layered analysis (CLA) draws largely from poststructuralism, macrohistory, and postcolonial multicultural theory.<sup>ii</sup> It seeks to move beyond the superficiality of conventional social science research and forecasting methods insofar as these methods are often unable to unpack discourses — worldviews and ideologies — not to mention archetypes, myths, and metaphors.

Causal layered analysis is concerned less with predicting a particular future and more with opening up the present and past to create alternative futures. It focuses less on the horizontal spatiality of futures and more on the vertical dimension of futures studies, of layers of analysis. Causal layered analysis opens up space for the articulation of constitutive discourses, which can then be shaped as scenarios. In essence, CLA is a search for integration in methodology, seeking to combine differing research traditions.

These traditions are in flux, in the social sciences generally and futures studies specifically. Futures studies has decisively moved from ontological concerns about the nature of the

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<sup>1</sup> An earlier version of this chapter appeared in the UNU Millennium Project's *Futures Research Methodology*, Version 2.0, edited by Jerry Glenn and Ted Gordon, Washington, DC, American Council for the United Nations, 2003 < <http://www.acunu.org/>>. Parts of this paper also appeared in Sohail Inayatullah, *Questioning the Future: Futures studies, Action Learning and Organizational Transformation*, Tamsui, Taiwan, Tamkang University Press, 2002, and in *Futures*, Vol 30, No 8, 1998, 815–829.



predicability of the universe to epistemological concerns about the knowledge interests in varied truth claims about the future.

This has led futures studies from being “the bastard child of positivism”,<sup>iii</sup> (prediction) to interpretation and ethnography (the meanings we give to data). And the field’s conceptual evolution has not stopped there. More recently, futures methodologies have been influenced by the poststructural thrust, with concerns for not what is being forecasted but what is *missing* from particular forecasts and images of the future. This is the layered approach to reality.

At the same time, the limits of instrumental rationality and strategic consciousness have become accepted, largely because of critiques of rationality by scholars associated with the environmental movement, the feminist movement, and spiritual movements — the new post-normal sciences — among others. Moreover, while globalisation has not suddenly developed a soft heart, the agenda now includes how we know the world and how these knowings are complicit in the disasters around us.<sup>iv</sup> This has led to calls to move from strategy as the defining metaphor of the world system to health, or inner and outer balance.

However, the move to poststructuralism, within the CLA framework, should not be at the expense of data–orientation or meaning–oriented research and activism. Indeed, data is seen in the context of meanings, within the context of epistemes (or knowledge parameters that structure meanings; for example, class, gender, the interstate system), and myths and metaphors that organise the deep beliefs, the traumas and transcendence that over time define identity — what it means to mean and to be. CLA does not argue for excluding the top level of the iceberg (see Appendix) for bottom–of–the–sea analysis; rather, all levels are required and needed for fulfilling — valid and transformative — research. Moreover, in this loop of data–meaning–episteme–myth, reconstruction is not lost. Action is embedded in epistemology.

Thus, I argue here for an eclectic, integrated but layered approach to methodology. The approach is not based on the idiosyncratic notions of a particular researcher. Nor is it a turn to the postmodern, in that all methods or approaches are equally valid and valuable. Hierarchy is not lost and the vertical gaze remains. But it challenges power over others and divorces hierarchy from its feudal/traditional modes. This eclecticism is not merely a version of American empiricism — “do whatever works, just solve the problem”. How myth, worldview, and social context create particular litany problems remains foundational.

This politics of epistemology is part of the research process. Politics is acknowledged and self-interest disclosed. Of course, not all self-interest can be disclosed since we all operate from epistemes that are outside of our knowing efforts. Indeed, episteme shapes what we can and cannot know. While eclectic and layered approaches hope to capture some of the unknowns, by definition, the unknown remains mysterious. Acknowledging the unknown is central to futures research. This does not mean that the future cannot be precisely predicted, but rather that the unknown creeps into any research, as does the subjective. Moreover, the unknown is expressed in different ways and different ways of knowing are required to have access to it.

Freeing methodology from politics is a never–ending task; however, it can be accomplished not by controlling for these variables but by layering them

### **Historical context**

This history section has two dimensions; first, the informal personal story of the method, and second, the formal contextual influences. While layered analysis generally, and causal layered analysis specifically, have numerous practitioners, this introduction presents the biographical context of my theorising and systematising of it.

As a student in the field of futures studies in the late 1970s and early 1980s at the University of Hawai’i’s Department of Political Science, I was struck by the tensions embedded in the Department. The empiricists were focused on data, seeking to make the study of politics far more

scientific, rigorous. The poststructuralists, on the other hand, were focused on the politics of meaning, seeing debates on electoral politics as trivial and empiricism as trite since it failed to account for culture, class, and language. The empiricists challenged approaches to the study of the future to be far more empirically based. The poststructuralists called for futures studies to be located in critical theory, not just based on superficial analyses of trends. The tension was not just between these two camps. A third, interpretive, school was interested in neither the disinterest of science (removing values and language from the truth of a position), nor the distancing of poststructuralism (challenging categories), but in creating shared discourses, in creating authentic meaning and conversation. This interpretive perspective saw the empiricists and the poststructuralists as extremes. Somewhere in this mix was Futures Studies, as taught and developed by James Dator, the head of the Alternative Futures Program in the Department. This fourth futures position was focused on applied knowledge, being well versed in theory — knowing empirical methods — but also having clarity on values (preferred futures) and learning by doing.

My efforts at the University of Hawai'i, as an undergraduate from 1975 to 1979, for my MA (1979–1981) and later PhD (1987–1990), were somehow to integrate these varying positions. Of course, this is all based on reflection. During those times, like other students, I was involved in the debates, changing position every few years, amazed at the strength of conviction held by the various actors.

Besides these schools of thought, tension existed between those who saw individuals and human agency as primary and those focused on actor-invariant, or structural theories of change (generally neo-Marxists). And there were the poststructuralists, seeing issues of social change at a deeper level, at the level of the episteme (historical and civilizational). Finally, there was the emerging New Age/Green spiritual perspective focused on change through creating new stories about what it means to be human.

In the 1990s, when I began to develop my own view of social research and futures studies, it was obviously not an accident that I employed these multiple perspectives, as they had become my intellectual context.

More formally, causal layered analysis grew out of numerous factors. The first was Johan Galtung's notion of deep civilizational codes, which he argues lie underneath the day-to-day actions of nations.<sup>v</sup> To truly understand international relations, stated Galtung, we need to go beyond official national positions and understand them from their civilizational origins. Thus, he compared American expansion with the rise of Rome. From this he argued that there were foundational similarities in terms of codes towards nature, others, and women, and a macrohistorical trajectory. Alternatively, Indic and Sinic civilizations have different codes. His task was to discover the traumas in history, the 'CTM syndrome' — civilization, trauma, and myth — and use it as a theory to explain the actions and identity formation of nations. I took this to mean that we need to go beyond the visible actions of nations, to the historical causes of action, to the cosmologies (or worldviews) that contextualize their behaviour, and the origin myths that explain and give the entire project meaning.

In terms of research, politics and methodology (or politics in methodology) are not only institutional but also civilizational. Galtung argued that the questions asked and the research style and conclusions realised are derived from culture (in evolutionary interaction with environment and historical structures) and over time become frozen.<sup>vi</sup>

Michel Foucault — largely through the interpretation of Michael Shapiro — was equally influential. His epistemes, or historical frames of knowledge, are primary in understanding how particular nominations of reality become naturalised.<sup>vii</sup> Genealogy explains why (for more on the genealogical approach, see Shapiro's chapter in this volume). Although Foucault saw his work as anti-methodological, I saw that by putting together deconstruction with genealogy, a multi-

layered methodology could emerge. Moreover, the methodology could be appropriately theorised within Foucault's framework.

However, even multiple perspectives seemed inadequate. Alternative futures and alternative renderings of reality are useful in opening the straitjacket of modernity, but only place research in the relativism of postmodernism — every frame is equally valued.

By contrast, the notion of reality as vertically constructed is far more appropriate than the poststructural notion of alternative horizontal discourses. This perspective is derived from Indian philosophical thought — best developed by the spiritual teacher P. R. Sarkar — which asserts that the mind is constituted in shells or *kosas*.<sup>viii</sup> Moving up and down the shells is a process of moral and spiritual enlightenment. Going deeper into the mind is an inward process through which truths are realised.

In futures studies, I was influenced by Richard Slaughter's elegant typology of futures studies into popular futures, problem-solving, and epistemological futures.<sup>ix</sup> I could see that the various typologies being offered could be developed into a methodology.

Thus, from the influences of Galtung, Foucault, and Sarkar broadly, as well as from Slaughter in the futures field, causal layered analysis was formed. As with all methods, there has been a continuous effort to improve and refine the methodology. Complexity theory has been particularly useful.

Complexity theory suggests that the future is patterned and chaotic; that is, it can be known and yet unknown, or explained but not accurately predicted. This 'both-and' perspective is especially useful in reconciling classical dichotomies such as agency (individuals can influence the future) and structure (structures define individuals and limit what is possible). The other important insight complexity/chaos theory contributed is that qualitatively different states can emerge from less complex states. Finally, to understand the future, we should not be lulled into a single variable approach (a theory of everything) but rather we must include many variables and — this is crucial — many ways of knowing. At the practical level of day-to-day university research operations, this means that along with traditional notions of expertise, we need to ensure not only that a futures research team has better gender and cultural representation, but that the research and discovery process is open to different ways of knowing.

While CLA is certainly relevant for all types of research, particularly in the humanities and social sciences (and certainly all policy research), it is grounded in research on the future.

Among other mapping schemes (by researchers such as Linstone, Masini, Sardar, Amara, and Bezold),<sup>x</sup> I have divided futures studies into three overlapping research dimensions: empirical, interpretive, and critical.<sup>xi</sup> A fourth emerging perspective is that of action research. Each dimension makes different assumptions about the real, about truth, about the role of the subject, about the nature of the universe, and about the nature of the future.<sup>xii</sup> The chapter, *Deconstructing and Reconstructing the Future: Predictive, cultural, and critical epistemologies*, later in this *Reader*, further develops this typology. However, at this stage what is important to note is that the CLA approach is unique in that it uses all four perspectives; that is, it contextualizes data (the predictive) with the meanings (interpretive) we give them, and then locates these in various historical structures of power/knowledge — class, gender, *varna*,<sup>2</sup> and episteme (the critical), along with the

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<sup>2</sup> *Varna* (or colour) builds on Marx's 'class' by including episteme (the boundaries of knowing) and social-psychological type. Traditionally *varna* referred to caste. Sarkar, however, has transformed it, taking it out of its Hindu framework and placing it squarely in macrohistory. Thus, Sarkar posits four historical types: the worker, the warrior, the intellectual, and the merchant. The goal in Sarkar's system is to ensure a rotation of elites, that any particular *varna* does not dominate for too long. These could also be seen as epistemes, challenging the linearity of pre-modern, modern and postmodern. See S. Inayatullah, *Understanding Sarkar: The Indian Episteme, Macrohistory and Transformative Knowledge*, Leiden, Brill, 2002.

unconscious stories that express, and to a certain extent, define the episteme. This entire process, however, must be communicative: the categories need to be derived through doing in interaction with the real world of others — how they see, think, and create the future.

However, even as it integrates multiple perspectives — science, social science, philosophy, and mythology — causal layered analysis<sup>xiii</sup> is best situated in critical futures research.<sup>xiv</sup> This tradition is less concerned with disinterest, as in the empirical, or with creating mutual understanding, as in the interpretive, than with creating distance from current categories. This distance allows us to see current social practices as fragile, as particular, and not as universal categories of thought. They are thus seen as discourse, a term similar in meaning to the more popular term paradigm but inclusive of epistemological assumptions.

Critical futures studies — as with other crucial social sciences — has emerged as the discourse of the future has, as already noted, decisively moved from ontological concerns about the nature of the predicability of the universe, to epistemological concerns about the knowledge interests in varied truth claims about the future.

In the poststructural critical approach, the task is not one of predicting a particular event (as in the empirical tradition; the future of population, for example), or of interpretation so as to better understand (the different meanings we give to demography, to population futures<sup>xv</sup>), but one of making units of analysis problematic (why is population being queried, for example?). Thus, the task is not so much to better define the future (forecast more accurately or gain definitional agreement) but rather, at some level, to ‘undefine’ the future, to question it. For example, population forecasts are not as important as how the category of ‘population’ has become historically valorised in discourse. For example, we might ask why is population being forecast instead of community? How might different futures appear if alternative units of analysis are used?

Thus, by taking a broader political view, in this example we can query why population is being predicted anyway. Why are growth rates more important than levels of consumption? The role of the state and other forms of power such as religious institutions in creating authoritative discourses — in naturalising and legitimising certain questions and leaving unproblematic others — are central to understanding how a particular future has become hegemonic. But more powerful than forms of power, are the epistemes or structures of knowledge which frame what is knowable and what is not, and define and bind intelligibility. Thus, while structures and institutions such as the modern state are useful tools for analysis, they are seen not as universal but as particular to history, civilization, and episteme (the knowledge boundaries that frame our knowing).

The poststructural approach attempts to challenge — leads us to question — trends given to us in the futures literature (and in the scientific and social science literature), as well as to discern their class basis, as in conventional neo-Marxian critical research. The issue is not only what are other events/trends that could have been put forth, but how an issue has been constructed as an event or trend in the first place as well as the ‘cost’ of that particular social construction — what paradigm is privileged by the nomination of a trend or event as such?

Using other ways of knowing, particularly categories of knowledge from other civilizations, is one of the most useful ways to create a distance from the present. For example, in our population example, we can query ‘civilization’, asking how Confucian, Islamic, indigenous,<sup>xvi</sup> or Indic civilizations constitute<sup>3</sup> the population discourse. Scenarios about the future of population are unpacked, since the underlying category of the scenario, in this case population, is contested. At issue is how enumeration — the counting of people — has affected people’s conception of time and relations with self, other, and state.<sup>xvii</sup>

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<sup>3</sup> The term constitute is used here as civilizations not only see or describe, but their social structure is complicit in how a particular category such as population is created. That is, the knowledge frame *precedes* the meeting of the knowledge category.

The goal of critical research is thus to disturb present power relations through challenging our categories and evoking other places or scenarios of the future. Through this historical, future, cultural, and civilizational distance, the present becomes not only less rigid, but remarkable. This allows spaces of reality to loosen and new possibilities, ideas, and structures to emerge. The issue is less what is the truth, than how truth functions in particular policy settings, how truth is evoked, who evokes it, how it circulates, and who gains and loses by particular nominations of what is true, real, and significant.

In this approach, language is not symbolic; it is constitutive of reality. This is foundationally different from the empirical domain wherein language is seen as transparent, merely describing reality in a neutral way, or as in the interpretive, where language is opaque, colouring reality in particular ways.<sup>4</sup>

Central to the interpretive and critical approach is the notion of civilizational futures research. Civilizational research makes problematic current categories, since they are often based on the dominant civilization (the West in this particular five hundred-year epoch). It informs us that behind the level of empirical reality is cultural reality (reflections on the empirical) and behind that is worldview (unconscious assumptions on the nature of the real).

While the postmodern/poststructural turn in the understandings of social and scientific knowledge has been discussed exhaustively in many places,<sup>xviii</sup> my effort is to simplify these complex social theories and see if poststructuralism can be used as a method, even if it is considered anti-method by strict ‘non-practitioners’.<sup>5</sup> In this sense, a poststructural ‘toolbox’ is possible. This serves as a context for CLA (and the questions have been used by practitioners such as Christopher Jones as part of the CLA methodology itself).

### **Poststructuralism as method**

The poststructural futures toolbox consists of five concepts. They are:

<b>POSTSTRUCTURAL TOOLBOX</b>
Deconstruction
Genealogy
Distance
Alternative Pasts and Futures
Reordering Knowledge

The first concept is deconstruction. In this we take a text (here meaning anything that can be critiqued — a movie, a book, a worldview, a person — something or someone that can be read) and break apart its components, asking what is visible and what is invisible? Research questions that emerge from this perspective include:

<b>DECONSTRUCTION</b>
<i>Who is privileged at the level of knowledge? Who gains at economic, social and other levels? Who is silenced? What is the politics of truth?</i>
In terms of futures studies, we ask: <i>Which future is privileged? Which assumptions of the future are made preferable?</i>

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<sup>4</sup> However, it is not that the pre-existence of reality is denied but that the communication of reality is through language, coded through civilization and history.

<sup>5</sup> Postmodernists would reject the idea that deconstruction should be seen as a method. It is considered an anti-method, focused on problematising not on providing recipes for policy. Moreover, there are no practitioners of postmodernity; if anything, the episteme of postmodernity practices on us.

The second concept is genealogy. This is not a continuous history of events and trends, but more a history of paradigms, if you will, of discerning which discourses have been hegemonic and how the term under study has travelled through these various discourses. Thus, for Nietzsche it was not so much an issue of what is moral, but a genealogy of the moral: how and when the moral becomes contentious and through which discourses.

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#### GENEALOGY

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*Which discourses have been victorious in constituting the present? How have they travelled through history?*

*What have been the points in which the issue has become important or contentious?*

*What might be the genealogies of the future?*

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The third crucial term is distance. Again, this is to differentiate between the disinterest of empiricism and the mutuality of interpretative research. Distancing provides the theoretical link between poststructural thought and futures studies. Scenarios become not forecasts but images of the possible that critique the present, that make it remarkable, thus allowing other futures to emerge. Distancing can be accomplished by utopias as well — ‘perfect’, ‘no’, or far away places — other spaces.

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#### DISTANCE

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*Which scenarios make the present remarkable? Make it unfamiliar? Strange? Denaturalise it?*

*Are these scenarios in historical space (the futures that could have been) or in present or future space?*

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The fourth term is alternative pasts and futures. Futures studies has focused only on alternative futures, but within the poststructural critical framework, just as the future is problematic, so is the past. The past we see as truth is in fact the particular writing of history, often by the victors. The questions that flow from this perspective are:

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#### ALTERNATIVE PASTS AND FUTURES

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*Which interpretation of past is valorised?*

*What histories make the present problematic?*

*Which vision of the future is used to maintain the present?*

*Which undo the unity of the present?*

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The last concept — reordering knowledge — brings a different dimension to the future and is similar to much of the work being done in civilizational futures research.<sup>xix</sup> Reordering knowledge is similar to deconstruction and genealogy in that it undoes particular categories; however, it focuses particularly on how certain categories such as ‘civilization’ or ‘stages in history’ order knowledge.

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#### REORDERING KNOWLEDGE

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*How does the ordering of knowledge differ across civilization, gender and episteme?*

*What or Who is othered?*

*How does it denaturalise current orderings, making them peculiar instead of universal?*

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These five concepts make up the poststructural futures toolbox. There is a strong link, of course, to other futures methods. Emerging issues analysis,<sup>6</sup> for example, at one level predicts issues outside of conventional knowledge categories but it does so by disturbing conventional categories, by making them problematic; it reorders knowledge. For example, the notion of the ‘rights of robots’ forces us to rethink rights, seeing them not as universal but as historical and political, as hard fought political and conceptual battles. It also forces us to rethink intelligence and sentience — posing the question, what is life? Thus, a futures method such as emerging issues analysis, conventionally used to identify trends and problems in their emergent phase, should not merely be seen as a predictive method; it can also be critical.

### Revealing analysis

CLA is derived from all five concepts, though deconstruction is the primary one, as deconstruction unpacks the litany. The other dimensions of the poststructural toolbox, however, are equally relevant. Genealogy provides the history for how certain discourses, ideologies, and worldviews have become dominant. Distance allows one to move away from the strength, the hegemony of litany and systemic levels of reality. Alternative pasts and futures open up the future, especially useful at worldview levels. And, reordering knowledge allows new possibilities of transformation, by challenging the known and the unknown — indeed, asking us to explore what we don’t know we don’t know.

However, as Peter Bishop has pointed out,<sup>xx</sup> by locating CLA within critical futures research, certain problems do arise. The most significant problem is that the deeper values are considered ‘better’ than the litany. There are multiple dimensions worth addressing here. First, within critical theory, certainly the present is considered problematic, not the best of worlds. At a macro level, the litany is the uncontested reality fed to us by the larger capitalist/sensate system, globally. In the former communist world, the litany was the official truth as developed by the Party–Military–Police. In the Islamic world, it is the particular interpretation of the Qur’an by feudal mullahs that is constructed as universal. However, this does not mean that if there is another type of society in the future — for example, a global–planetary–spiritual–ecological–gender–partnership society (the vision of deep sustainability as being developed by various world social forums) the litany will disappear. Rather a new litany will appear. It may be more ‘humane’ and planet–friendly, but the assumption of critical futures theory is that over time it too will become reified, congealed, closed to interpretation — hegemonic. Thus, every system creates its own litany.

So, even as the method challenges the particular world system and the worldview that sustains it, it is not explicitly for another particular type of system. However, for an actor who is deriving intellectual, financial or epistemic benefits from the current system, a method such as CLA will be uncomfortable, since it reveals his or her interests, including challenging the position that he or she is interest free! This method is not anti-empirical (or anti-interpretive, or anti- any layer), since empirical research can help in providing evidence of reality. For example, there is increasing evidence that health practices from other traditions (transpersonal, Indic, Chinese) offer benefits.

By and large, within the empiricist framework, the goal is to offer better litanies without challenging the overall project. For example, in terms of health research on quality and safety in the health system, the goal is to train doctors so that there are fewer mistakes. More recently, there have been efforts to investigate the health system in search of inefficiencies (level two within the CLA framework); there is far less concern for the deeper issue of the vertical relationship between doctor and patient that is at the heart of the quality and safety issue. In this

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<sup>6</sup> Emerging issues analysis is a method which identifies issues before they reach the trend or problem phase. It makes the assumption that issues follow an s–pattern growth curve from emerging to trend to problem. For more on this method, see the path-breaking work of Graham T.T. Molitor, [gttmolitor@aol.com](mailto:gttmolitor@aol.com).

sense, CLA quite clearly argues for a vertical approach, where deeper layers allow the litany to be contested, opened up, and questioned. However, for a strict empiricist, who seeks control for other levels of reality, this is difficult (inappropriate) since CLA seeks to contextually include these levels. This does not mean that bias is allowed in the actual experiment, but that in the design of the experiment other levels are used to develop more effective designs.<sup>xxi</sup> The postmodernist will also find CLA difficult since all levels are not equated; reality is not totally relativised. CLA does place a ‘higher’ value on depth, but does not call for ending up at the deeper levels. Movement — up and down levels — is the key. Remaining at the worldview or myth level without attention to the systemic or the litany is just as likely a recipe for disaster.<sup>xxii</sup>

In sympathy with Bishop’s concern, CLA can be used in ways not necessarily challenging to the current world problematique. For example, the litany can be seen as the visible characteristics. Take for example the complaint “Johnny can’t read”. At the system level, the issue is to interrogate the system that produces low reading levels, or low math scores. Information flows between parent, teacher, principal, and child can be tracked. At the worldview level, foundational views of education can be explored. These can remain industrial and system based (the view of government, the view of parents, teachers’ perspectives, for example), the globalisation position (schooling for competitive advantage in the global marketplace) or a more challenging aspect, such as the de-schooling movement. Finally, at the myth/ metaphor level, origin stories of education can be excavated. For example, is the student an empty vessel to be filled by the teacher? Or a blank slate to be chalked in by the teacher? Or a seed to be watered, or a flower to be nurtured? Or, even, a computer, with the role of the teacher merely being to help navigate the search for information, or to assist in the downloading process.<sup>xxiii</sup>

### The method

As with all methods strongly situated in theory, CLA has developed through doing. Through dozens and dozens of actual uses in a variety of settings — international organisations, universities, associations, non-governmental organisations, and business — the method has evolved, and has been refined in the process. For example, while a doctoral student may use the method to organise different sorts of ‘data’ — quantitative, qualitative, and critical, for example — a company may use it to develop different sorts of products and services, or to rethink its purpose. An institution may use it to articulate its strategy for different audiences (for example, students, professors, the community, the government, various boards) with different temporal expectations (immediate needs, mid-term needs, long term needs). A social movement may use it to challenge conventional policy formulations by states and corporations. Finally, it has developed through repeated action learning workshops in many nations (the USA, Australia, New Zealand, Malaysia, Andorra, Thailand, Taiwan, Singapore, Croatia, Serbia Germany, the Netherlands), and in meetings where the group comprised multiple cultures. Thus, over a decade, it has like any useful method survived the test of person, gender, culture, and institutional/organisational diversity. That said, there is a clear structure to the method.

CLA assumes four levels. The **first** level is the ‘litany’ — quantitative trends, problems, often exaggerated, often used for political purposes — (overpopulation, for example) as usually presented by the news media. Events, issues, and trends are not connected and appear discontinuous. The result is often either a feeling of helplessness (what can I do?), or apathy (nothing can be done!), or projected action (why don’t they do something about it?). This is the conventional level of most futures research that can readily create a politics of fear.<sup>7</sup> The litany level is the most visible and obvious, requiring little analytic capability.<sup>8</sup> Assumptions are rarely questioned.

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<sup>7</sup> The Club of Rome’s *Limits to Growth* and other studies are modern examples of this.

<sup>8</sup> Of course, those who were instrumental in developing the litany required not only great analytical capability but also the capacity to mould the system, the worldview, and myth/metaphor level. A litany is not a litany unless it has



The **second** level is concerned with systemic causes, including social, technological, economic, environmental political, and historical factors (rising birthrates, lack of family planning, for example). Interpretation is based on quantitative data. This type of analysis is usually articulated by policy institutes and published as editorial pieces in newspapers or in not-quite academic journals. If one is fortunate, the precipitating action is sometimes analysed (population growth and advances in medicine/health, for example). This level excels at technical explanations as well as academic analysis. The role of the state and other actors and interests is often explored at this level. The data is often questioned; however, the language of questioning does not contest the paradigm within which the issue is framed, but remains obedient to it.

The **third**, deeper level is concerned with discourse/worldview that supports and legitimates it (population growth and civilizational perspectives of family; lack of women's power; lack of social security; the population/consumption debate, for example). The task is to find deeper social, linguistic, and cultural processes that are actor-invariant (not dependent on who the actors are) and to some extent system-invariant. Discerning deeper assumptions behind the issue is crucial here, as are efforts to re-vision the problem. At this stage, one can explore how different discourses (ideologies, worldviews as expressed through civilizations, and epistemes, for example) do more than cause or mediate the issue, but constitute it. It investigates how the discourse we use to understand is complicit in our framing of the issue.

There are multiple levels here. The first is the stakeholder level — the different interests of actors, organisations and institutions. The second is the ideological, deeply held positions on how the world is and should be (Economism versus Sustainability versus Neo-Marxism, for example). The third is the civilizational as expressed through worldviews (Western, Islamic, and Confucian, for example). The fourth is the epistemic (postmodern, modern, and premodern, for example or cyclical/spiral/pendulum orderings of knowledge). Deciding which discourse to use (or a mix of stakeholder, ideological, civilizational and epistemic) is dependent on the situation.<sup>9</sup>

Based on the varied discourses, discrete alternative scenarios can be derived here; for example, a scenario of the future of population based on a Christian-Islamic perspectives of population (“go forth and multiply”) versus an ideological-cultural scenario focused on how women's groups imagine birthing and child raising as well as their roles in patriarchy and the world division of labour. These scenarios add a horizontal dimension to our layered analysis. The foundations for how the litany has been presented and the variables used to understand the litany are questioned at this level.

The **fourth** layer of analysis is at the level of metaphor or myth. These are the deep stories, the collective archetypes — the unconscious and often emotive dimensions of the problem or the paradox (seeing population as non-statistical, as community, or seeing people as creative resources, or the fear of being swamped by outsiders, for example). This level provides a gut/emotional level experience to the worldview under inquiry. The language used is less specific, more concerned with evoking visual images, with touching the heart instead of reading the head. This is the root level of questioning. Questioning, however, itself finds its limits since the frame of questioning must enter other frameworks of understanding — the mythical, for example.

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something to rest on. For example, the litany of economism rests on the world financial system, which rests on the worldview of capitalism, which rests on the myth of greed, the invisible hand, and self-interest.

<sup>9</sup> It is crucial here to not to be overly fixated on whether one should use stakeholder, ideology, worldview or episteme. The key at this level is to search for deeper positions that create notions of collective identity. Clearly, each of these meta categories would argue that the other is a lesser category, i.e., from an ideological, say a Neo-Marxist view, discourse is but postmodern ideology. From a civilizational view, discourse is part of Western ideology, or from a discursive view, ideology and worldview are but naturalised discourses. Even the notion of episteme is civilizationally based as the order of knowledge and societal stage differs (Islamic and Western classification of historical stages, the modern and pre-modern, for example, are dramatically different). And so forth. The key is to discern what deeper positions are shaping the systemic and the litany.

This fourth layer takes us to the metaphorical level of identity. This perspective takes a step back from the actual future to address the deeper assumptions about the future being discussed, specifically the non- or post-rational. For example, particular scenarios have specific assumptions about the nature of time, rationality, and agency. Believing that the future is like the roll of dice is quite different from the Arab saying of the future, “Trust in Allah but tie up your camel”, which differs again from the American vision of the future as unbounded, full of choice and opportunity. For the Confucian, choice and opportunity exist in the context of family and ancestors and not merely as individual decisions.

In workshops on the future outside of the West, conventional metaphors such as a fork in the road, the future as seen through the rearview mirror, or travelling down a rocky stream, rarely make sense. Others from Asia and the Pacific see the future as a tree (organic, with roots and with many choices), as a finely woven carpet (with God as the weaver), as a coconut (hard on the outside, soft on the inside) or as being in a car with a blindfolded driver (loss of control).<sup>xxiv</sup>

Deconstructing conventional metaphors and then articulating alternative metaphors becomes a powerful way to challenge the present and create the possibility of alternative futures. Metaphors and myths not only reveal the deeper civilizational bases for particular futures, but they move the creation/understanding of the future beyond rational/design efforts. They return the unconscious and the mythic to our discourses of the future — the dialectics of civilizational trauma and transcendence become episodes that give insight to the past, present, and future.<sup>xxv</sup>

Causal layered analysis includes this metaphorical dimension and links it with other levels of analysis. It takes as its starting point the assumption that there are different levels of reality and ways of knowing. Individuals, organizations and civilizations see the world from different vantage points — horizontal and vertical.

Thus, causal layered analysis asks us to go beyond conventional framing of issues. For instance, normal academic analysis tends to stay in the second layer, with occasional forays into the third, seldom using the fourth layer (myth and metaphor). CLA, while certainly calling for depth analysis, does not focus on or epistemologically privilege a particular level. Moving up and down layers, we can integrate analysis and synthesis, while horizontally we can integrate discourses, ways of knowing and worldviews, thereby increasing the richness of the analysis. What often results are differences that can be easily captured in alternative scenarios; each scenario in itself, to some extent, can represent a different way of knowing. However, CLA orders the scenarios in vertical space. For example, taking the issue of parking spaces in urban centres can lead to a range of scenarios. A short term scenario of increasing parking spaces (building below or above) is of a different order than a scenario which examines telecommuting, or a scenario which distributes spaces by lottery (instead of by power or wealth), or one which questions the role of the car in modernity (a car-less city?), or deconstructs the idea of a parking space, as in many Third World settings where there are few spaces designated “parking”.<sup>10</sup>

Scenarios, thus, are different at each level. Litany-type scenarios are more instrumental, social level scenarios are more policy-oriented, and discourse/worldview scenarios attempt to capture fundamental differences. Myth/metaphor-type scenarios are equally discrete but articulate this difference through a poem, a story, an image or some other right-brain method.

Finally, who generally solves the problem/issue also changes at each level. At the litany level, it is usually others — the government or corporations. At the social level, it is often some partnership

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<sup>10</sup> In Pakistan, for example, parking spaces are rare, so parking as a regulatory discourse is not active.

between different groups. At the worldview level, it is people or voluntary associations, and at the myth/metaphor it is leaders or artists.<sup>11</sup>

These four layers overlap. Using CLA on CLA we can see how the current litany (of what are the main trends and problems facing the world) is, in itself, the tip of the iceberg, an expression of a particular worldview.<sup>12</sup> Debating which particular ideas should fit where defeats the purpose of the layers. They are intended to help create new types of thinking not encourage debates on what goes precisely where.

Thus, CLA has a fact basis, which is framed in history, which is then contextualized within a discourse or worldview, which is then located in pre- and post-rational ways of knowing, in myth and metaphor. The challenge is to bring in these many perspectives to a particular problem, to go up and down levels, and sideways.

### **CLA and action learning**

For those engaged in conducting foresight workshops using CLA — whether for government, business, non-governmental organizations or other associations — basic how-to steps are important. Certainly, in this initial phase of using CLA, observing CLA in action is crucial. However, if this is not possible, there are some important how-to points for the novice:

- First, CLA can be used theoretically, for example, as a research method for a Doctoral or Masters thesis. Done this way, it is best located in critical futures research, in particular, and poststructural theory in general.
- Second, CLA can be used as a method in a futures workshop. This means using it alongside methods such as emerging issues analysis, scenario development, visioning and backcasting. As it manages information across layers, it should be used after a great deal of divergent information on the subject has been articulated. Participants generally at this stage are overwhelmed by the future.

The workshop leader then uses CLA to address and situate the information. But where to situate the various statements uttered by participants? Generally, statements that can be easily empirically verified are litany-type statements; for example, “water shortages are likely in our locality in the next three years”. Solution-oriented statements invoking actors and their structural relationships tend to generally fall in the systemic level two layer. Thus, typical statements are: “if only government would manage water better there would be no shortages”. The solutions at this level are legislation, partnership of the different actors (government, citizens, businesses, for example) or mediation, for example. Grander statements that are difficult to verify, that are Big Picture, that challenge the assumptions of the other levels, tend to be worldview level three-type statements: “We need a Left-Green water management system, instead of a market system!” The key at this level is to search for positions that reflect deeper, generally non-negotiable worldviews.

Of course, the workshop facilitator could ask participants to develop water futures based on various positions, ideologies. These could include the Green view (focused on sustainability and

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<sup>11</sup> Of course, there is some overlap here; the leader focused on the systemic level, for example. But generally the actor engaged in the policy tends to see solutions appropriate to his or her role. Leaders tend to focus on the litany and the myth/metaphor level. Managers focus on the litany and the systemic level, even as they use myths/metaphors — “the bottom line” — to convince others to act.

<sup>12</sup> Most policy thus merely reinscribes the modern capitalist worldview. However, noticing how a particularly litany is shaped by a particularly worldview allows us to enter alternative worldviews and articulate different policy statements based on them. At the same time, CLA in itself is part of a worldview — one committed to methodological eclecticism but in the framework of a layered, post-postmodern view of reality. It thus not only challenges the “totalising nature of the empirical paradigm” (to use Paul Wildman’s phrase) but also the horizontal relativism of postmodernism.

recycling); the traditional suburban view (water for development, golf courses); the Feminist view (issues of gender equity and access, especially in villages); the techno-utopian view (redesign humans so they need less water, rethink cities, develop technologies to increase rain, for example), the Gaian view (humans have gone beyond the limits set and thus must suffer), and so forth. Thus, positions are developed based on ideology. As well, positions can be developed based on the strongly held — at times unconscious — position of stakeholders (water board, citizens, water corporations, for example)

Myth and metaphor type statements tend to be folk sayings, even marketing slogans, deep archetypes and ancient stories.<sup>xxvi</sup> With water, one story is certainly that of Abundance. God gave earth to humankind to do as they wish. A second story is that of scarcity, of drought, of starvation, of a waterless world. A third story is that of water and progress, of humanity's ingenuity solving the challenges Nature gives.

Scenarios can be developed at any of these levels, that is: empirically-oriented scenarios (from drought to water abundance futures); systemic scenarios (water management futures); worldview scenarios (Green versus Progress versus Techno-Utopian); and, myth/metaphor scenarios (here best told as drama or art).

CLA can also be used just after scenarios to ensure that scenarios have depth. The scenario structure thus needs to have four levels: the visible characteristics, the systems (society, technology, economy, environment and polity), the worldview (which perspective dominates in the particular scenario) and the myth-metaphor (what is the underlying story).

Other important how-to indicators fall into three areas: temporality (short to long term), complexity (simple to complex) and actionable steps (easy to implement versus difficult to implement):

- The temporal dimension expands as one moves down the levels. The fourth level is indeed temporal, focused on notions of primordial identity. The first is immediate, the second more historical, and the third much longer term (required for a worldview or deep paradigm to form).
- The complexity of the problem or issue to be dealt with also increases with depth. Thus, simple solutions tend to be focused on the first two layers and more complex solutions the last two layers.
- Actionable steps again are easy to note at the first two layers but more difficult in the latter two (involving foundational changes in worldview and identity formation). However, and this is crucial for measuring policy change, within the CLA framework there needs to be layered action steps. Some of these steps are immediate (water rationing or management), and some longer term (for example, changing consumption patterns, rethinking the relationship between agricultural and urban development), and some very long term (rethinking water and biology, for instance).

While anyone should be able to use CLA, acceptance of the basic assumptions (that the real is layered) will certainly make the process easier. Finally, the facilitator's capacity to move from inside-the-box to outside-the-box statements can make the process far more effective. The theoretical framework of CLA — critical futures research — will certainly help, but it is not a foundational necessity in using CLA (although crucial in explaining it), especially in an organisational setting. One can use CLA without needing to explain the basis of critical theory.

For example, one can simply ask questions exploring causation. What are the main problems facing the organization? What are some of social and economic — the systemic — factors that explain these problems? What might be some deeply held perspectives that explain these factors, the values?<sup>xxvii</sup>

In a workshop for a local city council on ageing futures, the facilitator asked four questions. The first two were:

1. What are the news headlines? — Write the headlines about ageing.

2. Why did you write those headlines, what was the trigger behind the headline?

She proceeded to divide participants into four groups, each taking a different perspective on ageing based on generations. These were: Mature age; Baby boomers; Generation X; and Generation Y. She then asked two final questions:

3. Look at headlines from the perspectives of generations. Tease out issues from their age group.
4. How do they feel as generations? (Each generational group answered differently, from: “I’m out of here”, to “Cool Running”, to “Disenchantment”, to “The future is ours”).

Each question was designed to access one of the CLA layers, without need for using the language of critical theory.

CLA can thus be used in academic settings, for more comprehensive research, and in action learning settings, where learning from doing is more important than theory development.

Concluding this section, CLA brings in these different epistemological positions<sup>13</sup> by moving up and down levels of analysis, but sorts them out at different levels. This movement up and down is critical, otherwise a causal layered analysis will remain only concerned with better categories and not wiser policies. By moving back up to the litany level from the deeper layers of discourse and metaphor, more holistic policies result. Not only are they more holistic but also, by tapping into deeper levels of ‘reality’, they lead to solutions focused on the long term.

What makes layered approaches different, then, is that the vertical gaze is not lost sight of in the move to complexity and eclecticism. Hidden meanings and ideologies, structure and consciousness, and myth and metaphor are not seen as outside of foresight but as part of the enrichment process. They are not included randomly but in a disciplined manner. This discipline comes from layering.

### Case studies

The *Reader* is packed with case studies from those who have applied CLA. This section presents my own applications of CLA, which are generally of two types. The first is of the analytic type; that is, using CLA as a research framework. The second is action learning based, wherein CLA is used in an interactive participatory environment, with an organization for example, to produce a more effective policy, strategy or a more inclusive vision statement.

Case studies are presented in chronological order, largely to show the method’s evolution.

#### **1. UNESCO/World Futures Studies Federation course, Asian Institute of Technology, Bangkok, 1993 — Bangkok traffic futures**

This first example is based on an actual futures–visioning workshop — where CLA was invented, if you will.<sup>xxviii</sup> A CLA was conducted at a 1993 UNESCO/World Futures Studies Federation workshop in Thailand on the futures of ecology, where the issue of Bangkok’s traffic problem was explored. Here are the results.

At the litany level, the problem was constructed as Bangkok’s traffic nightmare and related pollution. The solution was to hire consultants, particularly transportation planners, at local and international levels.

At the social causes level, a lack of roads was seen as the problem, with the solution that of building more roads (and purchasing mobile phones in the meantime). Scenarios at this stage would focus on alternative traffic patterns and on which transportation modelling software to use.

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<sup>13</sup> For example, that there is one truth, that there are multiple truths, that there is no truth, that truth is situationally constituted. CLA differs from critical realism in that critique is layered and truth is constituted by the level of analysis being employed.

At the worldview level, it was argued that the problem was not just lack of roads but the model of industrial growth Thailand has taken.

At the myth level, this was the ‘Big City’ outlook that had come down through colonialism: the city is better and rural people are idiots. Wealth is in the city — especially as population growth creates problems in the rural areas. The solution then becomes not to build more roads, but to decentralise the economy and create localism; that is, where local people control their economy and feel they do not have to leave their life and life style.

Psychologically, this means valuing local traditions and countering the ideology and myths that “West is best” and “Bigger is Better.” New leadership and new metaphors on what it means to be Thai emerged as the solutions at this level. These, of course, are long term identity issues. Specific medium term actionable issues include decentralising Bangkok, revaluing the role of agricultural life styles — in particular farming — and developing economic and political strategies to stem the demographic tide into Bangkok. In the short term, a version of Singapore’s effort at integrated transport planning was favoured. Thus, by using CLA, multiple actionable steps with different time horizons can be developed.

<b>Bangkok traffic futures</b>	
Litany	Bangkok traffic, pollution, waiting time (hire consultants)
Systemic causes	Not enough roads (build more roads) (mobile phones)
Discourse/worldview	Industrialism, Big City Outlook, Colonialism (decentralise economy, localism)
Myth/metaphor	West is Best, Bigger is Better (leadership and new metaphors)

## **2. Faculty of Work, Education and Training, Southern Cross University, Lismore, Australia, 1994 — Enrolments**

CLA was used at the Faculty of Education, Work and Training at Southern Cross University in 1994, as part of a series of lectures on ways of knowing and the future. The topic was the future of enrolments.

At the litany level, the problem facing the University was declining enrolments. University professors saw it as an external problem. They believed that the government should do something about it, by, for example, increasing the number of government subsidised places or scholarships.

At the social level, alternative positions were explored. Among them, that the faculty was too busy doing research, that there was a jobs boom and students preferred to work rather than sit in institutions. It could also be that the pool of students had declined, suggested participants. The solutions that tend to result from this level of analysis are often those that call for more research to investigate the problem — or to create a partnership with industry. A precipitating action in this case study was the changeover in government federally from Labor to Liberal,<sup>14</sup> with the new government seeing education less as a social concern and more in economic terms.

At the next level, we explored how different discourses (the economic, the social, the cultural) do more than cause the issue but constitute it; that the discourse we use to understand is complicit in our framing of the issue. At this third level, participants discussed how conventional education no longer fits the job market and students’ experience of the world that they might gain from community associations or the emerging multimedia technologies. The solution that emerged from this level was the need to rethink the values and the structure of the educational institution, to re-vision it — a solution quite different from the litany level where the issue was more student aid, or the second level where the solution was partnerships between the university, government and industry. At this level, one could develop a horizontal discursive dimension investigating how

<sup>14</sup> In the US system, Australia’s Labor equates to Democratic and Liberal to Republican.

different paradigms or worldviews (and related ways of knowing) would frame the problem or issue. How would a premodern world approach the issue of teaching and learning?<sup>15</sup> How might a postmodern?<sup>16</sup>

At the fourth level of myth and metaphor, issues that arose are: does schooling free us or is it merely social control? Should education still be based on the Newtonian Fordist model of the factory, or is education about transcendence, the return to mission, the re-enchantment of the world? At this level, the challenge is to elicit the root myth or metaphor that supports the foundation of a particular litany of issues. In this case, the metaphors used were that of the university as prison versus the university as a garden of knowledge. This latter root metaphor was then used to aid in the visioning process, of imagining and creating the futures that participants desire.

<b>Enrolments at SCU</b>	
Litany	Declining enrolments, beyond the university's control — government should provide more subsidised places
Systemic causes	Work more attractive than institutional learning, lower potential market — solutions in more research, more industry partnerships
Discourse/worldview	Rethinking the values and structures of institutions. Asking how other epistemes (premodern or postmodern) might frame the issue
Myth/metaphor	What models underlie schooling: social control and the factory or transcendence and re-enchantment? And what underlies the university: the prison or a garden of knowledge?

### **3. Senior Management, Southern Cross University, Lismore, Australia, 1995 — Budgets**

At a later workshop at the same university, but with senior management, the issue again was financial: in this instance a drop in government funding for education. The solution that emerged from the social analysis (focusing on the history of the state and education) was to diversify the funding source, to ask from where else money could be sourced. This approach is in contrast to the litany level where the focus was on how to convince the government not to change its policy, or to hope that the Labor government would once again be elected. At the discourse/worldview level, discussions revolved around the changing nature of education — on the decreasing importance of traditional education, and increased emphasis on skills for a global economy. It was the change in worldview from knowledge as sacred — the idea of the scholar, and the idea of the scientist — to that of education to create better skilled workers in a global competitive marketplace that became the focus of discussion. It was believed that it would have to be individual citizens who lobbied the government to rethink its educational policy, not just universities. At the last level, the issue became that of rethinking money and exchange as well as finding other ways to manage and fund a university.

Of the many causal layered analyses done, this was the most difficult and least satisfying, largely because it was challenging to see money in layered terms. It was nearly impossible to move

<sup>15</sup> Perhaps: community learning, through more spiritual approaches that revive the ideas of initiation into meaning and culture systems that current educational institutions lack, wherein merely an application form suffices. See: [www.gurukul.edu](http://www.gurukul.edu)

<sup>16</sup> Perhaps: focused on distant learning or interactive learning where boundaries between student and teacher, text, and context disappeared.

outside the administrative–capitalist discourse — the jobs and futures of all present depended on that discourse. In this sense, spending more time on emerging issues that might change the funding nature of the university (or on what–if questions) might have been a better approach as this would have challenged the hegemony of economic rationalism. Still, some important scenarios were developed from the analysis:

1. The collapse of the university system in Australia.
2. A corporate/industry aligned university.
3. A virtual university (expanding its customers and reducing its overheads).
4. A return to core Enlightenment values.

These scenarios helped clarify alternative futures ahead, as well gain consensus on the preferred vision held by participants (a mix of a virtual university and core enlightenment values).

<b>SCU budgets</b>	
Litany	Less government funding for education — change government's mind, or change government
Systemic causes	Seek other funding sources, diversify
Discourse/worldview	Changing role of education — institutions need to adapt to the global market and more lobbying to the federal government from others who have a stake in the university - citizens, for example.
Myth/metaphor	How do we perceive and use money? Is there only this way to manage and fund a university? Need for stories outside of economic rationalism and academic feudalism.

#### **4. Queensland Advocacy Incorporated, Brisbane, Australia, 1995 — Housing persons with disabilities**

This case study is based on two seminars conducted in September and November 1995 for Queensland Advocacy Incorporated, Australia, a systems advocacy organisation for people with disability. The broad issue under discussion was the practice of housing people with disabilities in institutions. At the litany level, the issue was framed as abuse and neglect within institutions. According to participants, the state's solution is often to prosecute offenders and to create better institutions for those with disabilities. The locus of action has been government, with the media providing images of positive action the state is taking for people with disabilities.

At the social causes level, the key issue facing the disabled has been the anxiety and frustration resulting from an imbalance of power within institutional settings. Here the solution is focused on the individual rather than the social structure, taking the form of therapy for individuals, with professionals providing the solution.

At the worldview level, fear of difference and individualism was the central problem. People with disability are 'othered', seen as separate from 'normal' communities. At this level, the solution offered was consciousness raising, a softening of individualism and a strengthening of community. The actors who could make this change are people with disabilities themselves — particularly through their various organisations.

Finally, at the myth and metaphor level, it is the story of inclusion/exclusion, of who is normal and who is abnormal, that was paramount, said participants. The negative story is that of the Cyclops — the image of the one fundamentally different from us, and thus to be feared and loathed.

The scenarios that resulted were:

1. Society changes so that people with disability feel welcome;



2. Genetic technology eliminates ‘disabilities’ — a negative scenario for people with disability since this continues the location of their body in the space of non-acceptance.
3. Continued ghettoisation with occasional feel good, media–led campaigns.

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**Housing persons with disabilities**

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Litany	Institutionalisation links with abuse/neglect — government solve the problem with legal and architectural measures; media present positive images
Systemic causes	Imbalance of power within institutions — solution in individual therapy, professionals
Discourse/worldview	‘Othering’ of people with disability — solutions in consciousness raising and community building, led by people with disability
Myth/metaphor	Normal/abnormal dichotomy — solutions in new stories of deep inclusion

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**5. UNESCO Futuresco Report, 1996 — Futures of the United Nations**

We now turn to research developed for Futuresco, UNESCO’s Environmental Scanning Project.<sup>xxix</sup> Taking the futures of the United Nations as an issue, at the litany level, the efficacy of the United Nations was the central concern (in particular, the UN’s financial problems and its failure to produce anticipated and desirable outcomes in Bosnia, Somalia and Rwanda).

At the second level, causes include lack of supranational authority, no united military, and the perspective that the UN is only as good as its member nations. Solutions that result from this level of analysis are often those that call for more funding or more centralised power. In this case, the UN needs more money and power. Often, historical reasons — such as the creation of the UN by the victors of WWII — are articulated as factors impeding structural change.

At the third level, the analysis of current UN problems shifts from the unequal structure of power between UN member states to the fact that eligibility for membership in the UN is based on acquiring nation status. An NGO, an individual or a culture, cannot join the National Assembly or the Security Council. Deeper social structures include centre–periphery relations and the anarchic inter–state system. The solution that emerges from this level of analysis is to rethink the values and structure behind the United Nations, to re-vision it. Do we need a super-ordinate authority or are market mechanisms enough to manage our global commons? One could, at this level, develop a horizontal discursive dimension investigating how different paradigms or worldviews frame the problem or issue. How would a premodern world approach the issue of global governance (empire, for example)? How might a postmodern (global electronic democracy)?

At the fourth layer of myth and metaphor, factors that could lead to an exploration of alternative metaphors and myths include issues of control versus freedom, the role of the individual and the collective, family and self, the overall governance of evolution, and humanity’s place on the Earth. Are we meant to be separate races and nations (as ordained by the myths of the Western religions) or is a united humanity (as Hopis and others have prophesied) our destiny? At the visual level, the challenge would be to design another logo for the UN, perhaps a tree of life or a circle of beings (instead of just flags of nations as currently displayed outside the UN headquarters or the official symbol of the world in a wreath of peace).

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**UN Futures**

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Litany	Perception of UN as ineffective, financially complex
Systemic causes	Structural weaknesses: only as good as its constituents, need for overarching authority — more money and centralised/equalised power are possible solutions

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Discourse/worldview	Power shared by the already powerful, exclusive — solution in rethinking values and structure based on other civilizational or epistemes?
Myth/metaphor	Control versus freedom, humanity's place on earth — begin with new symbols (flag, for example)

## 6. International Management Centres Association, 1999 — Questioning and action learning

In work with the corporate university, the International Management Centers Association, and in association with colleagues — Paul Wildman, Robert Burke, and Gordon Wills — the notion of questioning the future was developed.<sup>xxx</sup> Many managers — in the action learning General Electric framework — are trained to question the product or process but rarely to contest the paradigmatic (the culture or worldview) basis of their questioning. Moreover, the questioning remains problem-oriented. The goal of questioning production, product or process is to improve effectiveness and efficiency. What are rarely addressed are discontinuities, what might change, and, generally, people's explicit and implicit beliefs about preferred, probable and possible futures.

This approach avoids confronting the deeper and broader basis of the questions. Alternatively, underscoring the cultural and ideological basis of questioning offers depth, as it turns the analytic gaze on the questioner herself. Why are certain questions being asked? Is it because of pressures caused by globalisation, for example, a concern for efficiency and profit? If so, why?

Questioning futures	
Litany	Questioning the product. Solution in developing new and better products
Systemic causes	Questioning the system, the process of product creation, distribution and management.
Discourse/worldview	Questioning the paradigms - the cultural and institutional frameworks - that create the system.
Myth/metaphor	Questioning the stories — questioning to enhance profit? To liberate?

If you transform the question, then the solution, as well as the types of possibilities of transformation that arise, also changes. For example, at a litany level the answer to the question about the futures of managers is how many managers will be needed in 2010? At a deeper level, one might ask what type of skills and education managers would need (the social level). At a deeper level, one might question whether we will need managers. This could be because of disintermediation — the end of the middleperson — and networking transforming capitalism. At the myth/metaphor ground level, we might ask why and how do we organise societies in which command and control are central; that is, why have managers at all? What are other ways to organise? What other sources of ideas can we draw on? What would be the operating myths in any such organisational structure? How then might the future differ?

Much of futures research and policy planning stays locked at one level (either too narrow as in the number of managers needed, or too deep as in societal transformation), and thus results in ineffective policy. Solutions generally only touch upon superficial levels (especially when the project is government or private sector funded) or on grand universal levels (especially when the project is social movement funded). The research itself is, if not faulty, then simplistic, since different levels of reality are not accessed — it is uni-level, not multi-level.

Questioning management
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Litany	How many managers will we need in the future?
Systemic causes	What skill sets, core competencies will be needed?
Discourse/worldview	Will we need managers?
Myth/metaphor	Why manage? What are futures beyond managerialism?

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### 7. Unpacking Population: *Futures*, Special Issue, prepared in 2000<sup>17</sup>

This analysis was conducted as part of a special issue on layered methodologies for the journal *Futures*. Among the favourite problems that futurists, particularly the Club of Rome variety, list in their “why the world is ending” catalogue is over- population. Clearly this is not a minor issue; however, the problem in itself is nested in a particular worldview (humans seen as resource eaters instead of minds that create new solutions). Yet the problem is stated as if it is universally accepted, acultural, apolitical, an issue of technique. But, with even a smattering of knowledge of others, we would understand and appreciate that Islamic perspectives, for example, are dramatically different: people are seen not as populations but as families.

If we analyse overpopulation from a layered view, we gain alternative ways of viewing this issue and thus alternative solutions and strategies. Generally, when overpopulation is considered the problem, the solution is to “reduce the birth rate”. Governments are generally considered the best means of solving this problem. Family planning clinics are set up (in South Asia, for example), with occasional periods of enforced sterilisation (as occurred during Indira Gandhi’s rule in India). Other severe solutions include China’s one-child policy. Radio and television ads exhort individuals to have fewer children, as this will make the nation richer, and the World Bank provides extensive finance for such projects.

The worldview behind this is that smaller populations mean fewer people fighting for limited resources at the national and global level. But at the myth level, there are two operating myths. First is the liberal (and Christian-informed) notion of helping those less fortunate — caring for others. The second myth is the fear of the other — of teeming masses of Asians and Africans entering the OECD islands of prosperity. If there were fewer people, this myth runs, Asian nations would swiftly develop, and thus rapidly create a world liberal culture and an efficient and rational interstate system (without requiring a transformation in the nation-state system or multiculturalism in the West).

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<b>Unpacking population futures — too many people</b>	
Litany	More people means less wealth per person; solutions in reducing the birth rate
Systemic causes	Governments and World Bank measures needed to control population growth
Discourse/worldview	Economic growth — fewer people mean fewer battles over resources
Myth/metaphor	Duty of care versus Fear of the ‘other’ and teeming masses. The ‘other’ helped by decreasing population pressures that retard development

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If we see the problem not as overpopulation but as lack of women’s power in the public and private sphere, our solutions become quite different. If we see how patriarchy works to construct women as the nation, the mother of the country, and the repository of men’s dreams, then issues

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<sup>17</sup> This was published as: Sohail Inayatullah, "Layered Methodology: meanings, epistemes and the politics of knowledge," *Futures* (Vol. 34, No. 6, August, 2002), 479-493. Special issue: Layered Methodologies. However, the essay — analysis - was first written in 2000.

of power and social organisation quickly enter the analysis. Is it better to have commercials on family planning or to change laws so that women have more power? Or both? Is development merely an issue of increasing productivity or that of transforming feudalism?<sup>18</sup> If the issue of overpopulation is constructed as one of gender and power, then the social and economic analysis changes. It becomes focused on equal opportunity and representation in local and national power. At the worldview level, the issue becomes that of challenging patriarchy and current notions of the nation–state, as well as challenging economic models that do not see people as families or as an investment. At the myth level, the issue becomes one of imagining a future where women and men live in a sustainable partnership society.

Alternatively, the issue can be constructed not as overpopulation but as the use of scarce resources. Given the disparity in terms of which nations actually use the world’s resources, the issue is no longer that of overpopulation, but that of questioning environmental policy in OECD nations. At the worldview level, the problem becomes that of challenging growth notions of progress, of economy. It is not people that are the problem *per se* but the organisation of capitalist (and previous communist) economies. At the myth level, this is about contesting limits and searching for justice and balance.

<b>Unpacking population futures — issues of women’s power</b>	
Litany	Women lack control over their own lives
Systemic causes	Equalise access to power
Discourse/worldview	Challenge economic models of population/individual. Equitable distribution plus innovation leads to collective wealth.
Myth/metaphor	A sustainable partnership society

  

<b>Unpacking population futures — unequal resource sharing</b>	
Litany	Resources not adequately shared
Systemic causes	OECD environmental policy at fault — footprints versus population
Discourse/worldview	Sustainability versus Economism
Myth/metaphor	How do we determine limits? Justice for all, not just the resource-rich

A layered analysis also helps us uncover why specific policy prescriptions do not work. For example, all the media campaigns in the world are ineffective unless they use language that negotiates with other cultures’ notions of the ideal family (in traditional society, for example, large, extended, and mutually supportive), or that addresses social security. We know that birth rates fall when individuals believe their future is secure, and there is social security (as evidenced by the Indian State of Kerala). Policy without its roots in the worldview level (traditional society) or the myth level (the image of a secure future) is often useless.

This analysis shows that how and at which level one constructs the problem changes possible solutions as well as the scenarios that derive from them. Each problem and solution is based on an alternative notion of policy analysis (the social and the political), as well as worldview (issues of grand structure, power) and myth (unconscious assumptions of how the world is or should be).

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<sup>18</sup> And, of course, what should be obvious is that the stating of these questions can themselves be deconstructed; that is, how I — as the author of this piece — am complicit in this particular use of CLA.

So, depending on which problem is of concern and which level one employs, scenarios of probable, preferred and possible futures change. If the issue is overpopulation, then we imagine scenarios such as:

1. Population over-run, Asia marches into the First World.
2. Fortress Europe/America.
3. Overpopulation solved as UN/national policy works and Asian nations become richer.

If the issue is women’s empowerment, then the scenarios that result from research on the future of population look quite different:

1. Women become empowered, work in the public arena, and birthrates drop.
2. Women develop local economies wherein population density becomes a resource as individual labour increases productivity, since the yoke of feudalism is lifted. Economic and cultural depression decreases.
3. Women’s power reduces the burden on men to prove their masculinity through propagation of species (or religion or clan, or ...). Thus, a future not defined by the nation–state, religion and territory results. The policy implications change as well. Instead of pushing condoms and structural adjustments (which reduce security for the aged), World Bank dollars might be better spent on human rights and gender adjustments as well as provisions for security for the ageing in culturally appropriate ways.

**8. Australian Pharmaceutical Manufacturing Association, Sydney, September 2001 — Industry futures**

This project conducted in 2001 saw Managing Directors of various organisations associated with Australia’s pharmaceutical industry use CLA to develop scenarios for the industry. CLA was adapted here by replacing worldviews with the competing interests of stakeholders. The litany level consisted of an event — such as a child not being able to receive appropriate medicine — and the corresponding systemic view was the nature of the Australian medical system (balancing equity with market). However, it was at the worldview level that the various organisations began to see their divergent and competing interests. Since the project brief was not to enter alternative worldviews (the naturopathic, for example), the worldview level was redefined to consist of stakeholder interests. Thus, we inferred how the generic drug companies would see a particular litany (a child not accessing medicine). For the generics, it was that drugs were too expensive, and alternatives were not being promoted enough by government. For biomedical start-ups, the issue was that there were not enough incentives — market based as well as in the education system — to promote innovative science. Funds were going toward equity solutions and not toward creating new types of drugs. For the pharmaceutical companies the problem was government control of which drugs were subsidised. From the government view, the issue was that the system was too focused on profits and not enough on basic needs. The underlying myths included: “drugs for all”, “tailored drugs”, “drugs can solve all health problems”, and “fair prices for products”.

<b>Pharmaceutical industry futures</b>	
Litany	‘Hiccups’ in getting appropriate treatments to public
Systemic causes	Imbalance between equity and ‘the market’
Discourse/worldview	Generic (drugs too expensive), Government (balanced system); Biomedical (lack of incentives for innovation); Pharma (government control of subsidies flawed)
Myth/metaphor	Interest groups each with competing myths — from drugs for all, to need for profits, to tailored drugs

The methodological improvement in this project was that the category of discourse/worldview became that of stakeholder. This is one of the benefits of CLA when used in workshop situations: alternative readings of the method can lead to methodological innovation.

However, for the project to have gone beyond drugs as foundational to the future (a content change), more stakeholders were needed — citizens, wellness associations and alternative medical practitioners, to begin with.

### **9. Globalization Research Centre, Honolulu Hawai'i, January 2002 — Globalization, farming, and fairness**

This analysis was presented as a part of a dialogic meeting in Honolulu, Hawai'i at the Hawai'i Centre for Globalization.

The litany level of fairness was generally expressed at the individual level in terms of “how I am mistreated and how globalisation has lead to losses for my farm, and how the government is not doing anything about it”. These are front-page stories that highlight individual, and indeed, national plight. Success stories abound, too, of how individuals have done well in globalisation, found new exports, new trading partners, and how local economic development offices have, in fact, been helpful.

The second mode is the system level, focused on societal, technological, economic, environmental, and political drivers. Thus, changes to public institutions are accomplished through systemic changes in policy — a new law, a new procedure, new modes of access. Farmers in the USA — indeed in most OECD nations — have made this case, and are succeeding in gaining subsidies.

At the third level, there is a range of active and emergent ideological positions. An emergent one is that of the PROUT model of Indian philosopher P. R. Sarkar, who argues that globalisation is best when conditions of equality — cultural, political, and economic exist.<sup>xxx1</sup> In conditions of inequity, globalisation can hurt individuals and businesses. Thus, agriculture should be self-reliant and developed via producer and consumer cooperatives using a mix of organic, high-tech genetic and industrial. The issue of subsidies is resolved partly by developing economies that ensure each nation is self-reliant. However, the real unit of the economy should not be only local in time but global. If this is the case, then food ceases to be a national commodity but a global right. The main point, though, is that Sarkar argues for an alternative model of political-economy, which leads to different solutions, among them changing the organisational structure of farming.

Beyond the worldview level is the myth and metaphor. For Sarkar, this is the family travelling on a lengthy journey, there is a collective direction and if someone falls behind they are to be picked up, cared for. However, from the globalised view, subsidies only increase inefficiency. Farming production and prices are best determined by the market. Location farming at the national level in one nation, hurts farmers in other nations.

The story behind this is the free movement of goods and services to the eventual benefit of all. Those who can produce the best and cheapest food, should; others should do something else. For Sarkar, however, food is too essential to local economies to totally globalise.

A third ideology is that of the new Left, who call for *fair* trade not *free* trade. For them, global trade is skewed toward the rich and powerful and against small farmers from Third World nations. Farming is essentially about power. The powerful should enter new relations with those whose relative (commodity) prices fall in relation to the prices of manufactured goods and services. Farming is structurally unfair, but subsidising rich American farmers may also not be the best policy.

From a fourth ideological position, the issue is not about farming *per se*, but about local politics. There is agreement to subsidise farming nationally, knowing full well that this will gain domestic

votes and that the WTO will uphold protests against subsidies. The story behind this is strategic politics — do whatever you can to stay in power. Each ideological position seeks out litany data statistics as well policy prescriptions to support their worldview. They are living their story. They use public institutions to realise, via the systemic level of analysis, their worldviews.

For productive pedagogy and analysis, the key is the capacity to move up and down levels, seeking to understand divergent worldviews and the policy and litany statements that result from them. For long lasting change, however, interventions need to be at every level. This might mean an understanding that farming, to be fair, needs to be local (local community and capacity building) and global (food as a human global good and right), and that a global regime for food production and consumption is needed. This may mean moving toward a ‘what works’ paradigm: which institutional structures work best for prosperity, planet, people, and future generations across civilizations.<sup>19</sup>

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**Globalisation, farming, and fairness**

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Litany	Is globalisation really creating fairness for all food producers?
Systemic causes	OECD policies foster ‘free’ movement of goods, production in the hands of few; but local economies also built on food production
Discourse/worldview	Farming about power, not providing — solutions in sharing power and in self-reliance
Myth/metaphor	Food as global human good and right

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**10. Office of the Correctional Services Commissioner, Victoria, Scan and Workshop, May–June, 2002 — Correctional futures**

This CLA was conducted as part of an environmental scan for the State of Victoria’s Office of Corrections. The CLA was used in a foresight workshop, as part of an exercise to develop alternative futures and a preferred vision for Corrections. The following illustrative causal layered analysis was presented to stakeholders.

The litany for Corrections was media reports and magazine representations. It included phrases such as: (1) Parolee escapes; (2) Funding for prisons to go up; (3) Overcrowding impacting human rights of prisoners; and (4) Victims decry lenient sentencing.

The systemic causes were: (1) resource–poor neighbourhoods, lack of income, income inequality; (2) hormonal imbalance or genetic or environmental conditions; and (3) corrections not properly managed, or under budgeted.

At this level, solutions that were offered included public education, privatisation, public–private partnerships, professional management and training in corrections, more evidence–based interventions in corrections, alternatives to prisons (including community prisons, restorative justice, electronic monitoring), and so forth.

Six basic criminological ideologies emerged. These included: (1) Rehabilitation (Humanist–Left); (2) Punishment (Right); (3) Bio-correction (right plus science and technology); (4) AI surveillance (mix of basic rights but protect community); (5) Quarantining — fear of the ‘other’ (Postcolonial); (6) Inequity (Left–Socialist); and (7) What works — Pragmatism (action learning). Generally, there has been a pendulum shift between rehabilitation and punishment, with “What works” and “Bio-correction/AI surveillance” swiftly emerging as new contenders for hegemony.

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<sup>19</sup> However, as Susan Leggett rightly argues, if we take other species’ perspectives then certainly what is good for humans is not necessarily good for them — this is the deep Gaian perspective.

The underlying stories respectively were: (1) Anyone can change; (2) They deserve what they get; (3) Technology can solve everything; (4) Kind father needs to help those that can't help themselves; (5) We project what we fear; (6) The world is not fair; and (7) Just solve the problem!

From this process, alternative futures of Correctional Services were developed. These were (1) the smart adaptive organisation, (2) media sensationalism, and (3) punishment plus. The CLA showed that to create their desired future — smart adaptive organisation — the deeply held fears of the community (as sensationalised by the media) had to be more than strategically 'managed'; they need to be transformed. Providing more scientific information would not be enough as it was the myth level that was most active. New stories of prisons had to be told.

Correctional futures	
Litany	Current corrections getting bad press — too much crime, overcrowding, sentencing issues
Systemic causes	Income inequity and human frailty — solutions in better management, alternative corrections, or rehabilitation and medical answers
Discourse/worldview	Offenders seen as the 'other', solutions shared between rehabilitation and punishment
Myth/metaphor	Mix of blaming, society as disciplinarian/kind parent, and crime as reflection of inner fears

#### 11. The Futures Foundation, Brisbane, August, 2002 — Queensland as the 'Smart State'

A public, two-day workshop, titled "Using futures tools and methods: the futures of the Smart State", sponsored by the Futures Foundation was held in Brisbane. The purpose of the course was to present futures tools and methods and to unpack the official vision — the *Smart State* — of the state government of Queensland, Australia. The analysis was conducted in a workshop framework. The litany level of the Smart State was framed around the following three issues: (1) increased privatisation of industry, in order to enhance competition; (2) cyber-education throughout Queensland to prepare students for a high-technology economy; and (3) competing and preparing for dynamic and uncertain futures, that is, working smarter and being smarter.

The systemic level had three dimensions: (1) integrating education with science and public policy, that is, ensuring that education and knowledge accumulation were science based; (2) coordinating government activities (along with other actors, international players, small business) to achieve competitive advantage in an emerging knowledge economy; and (3) developing citizen-based consultation so as to articulate a shared vision of a smart future for the State.

Four worldviews were explored. The first was the dominant postindustrial educational — globalisation. In this the Smart State was about seeing education as a resource, to use it to prepare for changing bio-tech and net-led futures. This shift is part of a transition for Queensland from a commodity driven economy to a tourist driven economy to a knowledge driven economy. 'Smartness' in this future is ensuring that new technologies are embedded in all processes, production, delivery, and education. Education is seen as continuous learning. The underlying myth in this story was: "We have to innovate and compete or risk being irrelevant!"

Directly challenging this worldview was the Spiritual. In this, the smart state is not about bio-tech, but about seeing smartness as a mind-body integration and about balancing community-state-business in a smart *and* balanced society. Smartness was spirituality derived — meditation enhancing IQ. The key policy would be that of regular meditation (systematic inner exploration) by school children and time set aside for spiritual practice in all organisations. In this view, community learning is far more important than focussing only on individual, life-long learning. The underlying myth in this story was: "Smartness is about wisdom, letting go of narrow dogmas and caring for future generations. Yin and Yang".



Related, but certainly not as radical, was the traditional humanistic perspective. Here, smartness is about cultivating the mind, the return to the Classics. Smartness is about social inclusion, and not economic growth at all costs. Competition does not create a good society, whether economic or intellectual. Policy issues should thus be focused on curriculum content and not necessarily on a computer for all. The underlying myth was: “Children are our future”.

An alternative extreme position that was considered a rapidly emerging challenge to the dominant worldview, was that of the bio-utopian, the geneticist. Here, smartness will eventually be engineered through gene therapy and eventually germ line intervention. At the very least, the new technologies promised more evidence-based ways to enhance smartness. A Ministry of Intelligence would be the next step. The underlying myth was: “Smartness is about governing evolution”.

An important myth that emerged — but was not tied into the worldviews — was that of the bureaucratic/traditional. The guiding phrases were: “Yet another ploy”; “Coal now, coal forever”; and “Teachers need to dress better”.

The analysis suggested that the Queensland Government needed to expand the definition of smartness/intelligence to include other ways of knowing — spiritual, for example — and deepen learning to include social and community learning.

<b>Smart State</b>	
Litany	Preparing for a high-tech, technological, uncertain future
Systemic causes	Education for competitive advantage
Discourse/worldview	Globalised versus Spiritual versus Humanistic versus Bio-utopian.
Myth/metaphor	Competing stories: Children are our future; Smartness is wisdom; Smartness is IQ enhancement; Yet another ploy.

## 12. Queensland Department of Transport. Brisbane, October, 2002 — Transport futures

This CLA was part of a research report on transport futures for a Queensland government (Transport and Main Roads) conference on Integrated Planning.

CLA was presented along with other futures methods — the futures triangle, and scenarios. The images of the future that were explored included: (1) From triple bottom line to Gaian — the emerging sustainability perspective; (2) From industrial realism to likely collapse, the modern image; (3) Global technologization leading to Artificial Societies — the technological bifurcation future (automated roads, for example); and (4) Localisation leading to the Return of the Past (the search for slower times, simpler futures). Following an analysis of these images, a CLA for transportation futures was developed.

The litany consists of forecasts of the number of cars, pollution levels, population growth, and the plethora of new technologies that will save the day.

Second is the social, political, technological level — the systemic view. This is the integrated level, where different parts of the system interact in ways that meet the needs of stakeholders. Bus and rail, for example are linked. Transport planning goes beyond merely adding roads in response to congestion, but looks at overall transport solutions and their impact on the community.

The third level of analysis, the worldview level, is often forgotten in transportation policy, which is dominated by industrial realism. It appears that cars and roads have no worldview. Thus, most policy ignores this level of analysis, seeing it as stable and unalterable, or as unimportant or inaccessible. However, with demography and notions of ‘we’ in flux, worldview is quite crucial. At a far less grand level, there are the worldviews or cultures of the different players in transportation futures: the automobile industry, urban planners, federal, state and local

governments, citizens, to mention a few. Their cultures may or may not be aligned. Each tends to see the litany quite differently; for example, is the solution smarter cars or car free cities? Should funding go to create light rail and bikeways or to expand highways? And in the longer term, is the solution in safeguarding remaining oil fields or searching for alternative sources of energy?

At the myth/metaphor level, the car represents not simply transport but individual freedom — the Western way of life. At this level, roads are not only about communication and trading, but also about ‘citifying’ the earth, about man (sic) making his mark, accessing and conquering nature.

Thus, merely adding more roads as a solution to the problem of traffic jams is likely to only create more congestion in the long run. Integrating highways with trains, with work schedules, again will alleviate the problem in the short term; but the deeper issue is of city design, of suburbs, of sprawl. At the worldview level, policies can be based on different assumptions: for example, the images of the future presented above. Each one constructs the litany differently — a car-free solution; an integrated planning solution; a high-tech car solution; and a connected villages solution.

The image of the future thus is foundational to unpacking current and future policy choices and in determining what is valued as transport.

<b>Transport futures — Queensland</b>	
Litany	Car numbers increase, pollution and congestion issues
Systemic causes	Integrated transport planning.
Discourse/worldview	Contesting worldviews: Western individualism; Efficient city; Eco-city
Myth/metaphor	Car represents individual freedom, Man makes his mark; Car as cancer, destroying community.

### 13. Queensland Department of Families, Brisbane, April 2003 — Ageing futures

The purpose of this project was to “encourage whole-of-government and community debate on the structural ageing of the population and the interconnected needs of all generations”.<sup>xxxii</sup>

I used CLA as one of the futures studies methodologies for a report titled, “Ageing: Alternative Futures and Policy Choices”.<sup>xxxiii</sup> CLA was used in the context of inquiring into the multiple uses of the future. First was the strategic level: what are the opportunities and challenges for ageing? Second was the citizen dimension, that is, developing a strategy for ageing that was broad-based, using community visioning exercises. Third was the future as educational: using futures tools and methods to train government employees, citizens, and leaders how to think more effectively about the futures of ageing. Education goes beyond training to question the industrial model of career, work, and life expectancy. Fourth was capacity enhancement: empowering individuals to make better choices about trends in ageing, to consider the alternative futures of ageing, essentially not focused on getting a forecast right but about becoming a learning community. The learning community approach is about being flexible, responsive, anticipatory, and innovative. Fifth, the future could be used to create new social structures and social innovation: the future as emergence. Sixth, the future can be used to create new memes: some of these include active ageing, conscious ageing, and productive ageing. All challenge traditional memes of ageing as retirement or poor health or the final step before death.

In the context of multiple uses of the future, six CLAs were conducted. From this analysis, scenarios for ageing were developed. They are the dominant model; the emerging technological model (5–50 years); the contesting model (contesting the dominant model); the emerging societal-governmental model; the worst case future; and the easy fit (that is, ageing is not a real problem). The six CLAs are presented in the tables below.

<b>CLA 1</b>	<b>Dominant model</b>
Litany	Alone, sick and aged — powerless, a nuisance??
Systemic	Change taxation regimes. Import labour. Enhance productivity. Reduce health costs, if possible
Discourse/worldview	Ageing as a Collective Burden
Myth/metaphor	Baby Boomers are the Problem. They have stolen from future generations <sup>xxxiv</sup>
<b>CLA 2</b>	<b>Emerging technological model</b>
Litany	We can win the war on ageing.
Systemic	Funding for bio-tech companies. Funding for Ageing research. State plus corporations plus universities
Discourse/worldview	Techno-utopian
Myth/metaphor	The Fountain of Youth — Living Forever Just another frontier to conquer/battle to win over nature?
<b>CLA 3</b>	<b>Contesting model</b>
Litany	Productive, Conscious and Active Ageing. Ageing can be the second youth — revitalisation
Systemic	Whole-of-government with professional associations and activist organisations, locally and globally Use evidence-based information to develop proactive whole of life cycle policies. This includes social inclusion, low-fat diets, exercise, and meditation/relaxation, for example
Discourse/worldview	Complexity; Indigenous cultures; Non-West (Wise Elders); Transmodern
Myth/metaphor	Healthy, Wealthy and Wise, Respected
<b>CLA 4</b>	<b>Emerging societal model</b>
Litany	Ageing is a problem
Systemic	Find political will. Establish office of Ageing. Nominate commissions.
Discourse/worldview	Bureaucratic
Myth/metaphor	Experts within government can solve the problem
<b>CLA 5</b>	<b>Worst case</b>
Litany	Intergenerational conflict — old people won't 'go' and youth are 'destroying the city'
Systemic	Gridlock as system cannot deal with crisis. Best jobs are held by aged. Few entry level jobs for youth
Discourse/worldview	Conflict — class based. Young versus old
Myth/metaphor	Every age for themselves, survival of the fittest
<b>CLA 6</b>	<b>Easy fit</b>
Litany	More old people but no major problems
Systemic	System can accommodate
Discourse/worldview	Short-termism
Myth/metaphor	Incrementalism always works, "she'll be right"

#### 14. Brisbane City Council, July 2003 — Multicultural futures

This CLA was based on a lecture presented at Brisbane City Council on the futures of multiculturalism providing input into discussions on Brisbane's multicultural policy.

The lecture focused on four main policy contexts: uni-culturalism (let other cultures adjust to the dominant culture); bi-culturalism (there are two main cultures, the rest are marginal); multiculturalism (numerous cultures, governmental policy needs to be broad and deep); and the emerging trans-culturalism (there are many cultures, but there are global ethics that can be used to define shared futures).

The litany of multiculturalism was framed around three issues: migration, marriage and markets — that is, migrants moving to a new nation (for economic reasons); host nation individuals marrying those from other cultures, and markets, new consumers with new tastes and market segments.

The systemic response was governmental; ensuring that society is fair through translation services, for example. However, there is constant debate over whether migrants are getting too much of the economic pie or if government policies favour them over others who are economically disadvantaged.

Underneath this debate are a variety of discourses, some of which are consciously reflected upon, others that remain invisible to most. The dominant discourses include the Evolutionary (society is moving toward complexity, there is no pure race from a scientific perspective), the Nationalist (the search for the pure group, ethnicity, even race, those who were here first, the host culture), Globalisation (the world is a market, the first phase is the free movement of capital and the second the free movement of labour — multiculturalism is considered an economic asset, it makes one more competitive, create innovation throughout society), and the Feudal (the world is structured in an hierarchical manner, every country and ethnicity has a place in the world division of labour).

Underneath this are foundational myths. The main conflict is between the Family of Man, the Human Family myth and the Fear of Other Tribes — cannibalisation. The challenge at the mythic level is to create a new story of culture.

CLA analysis suggested that migration policy is shaped not by social or economic factors but the confluence of political with myth factors — it is the fear as used by national leadership which is defining.

<b>Multicultural futures</b>	
Litany	Migration (nation), marriage (families), markets (new consumers)
Systemic causes	Translation services, equal opportunity employer, breaking through ceilings
Discourse/worldview	Competing discourses: 1. Evolution, toward complexity, ethnic mixing; 1. Nationalism, search for the pure self, culture 2. Globalisation, world as market, multiculturalism as economic asset, enhances competitive capacity 3. Feudalism, everyone has their place, global and vertical map of cultures, Europe ahead, Asia in the middle, and Africa behind. USA as nouveau riche
Myth/metaphor — stories	Stories of self/other boundaries: 1. Fear of other tribes 2. Family of “Man” 3. Move from fight or flight to relaxation response to transcendental response, creation of a new story.

### 15. E-mail Discussion Group, July 2003 — SARS futures

This CLA was conducted during the SARS crisis via an e-mail discussion group.<sup>xxxv</sup> The litany was seen as the media representation of the virus — of deaths, of possible cases, of cities to be quarantined, and of losses to national economies.

There have been numerous systemic changes to deal with the litany. These include: enhanced cleaning of aircraft; changes in personal hygiene (especially in human and animal boundaries as with exotic animal markets); and changes in hospital procedures. The systemic, however, is based on a particular worldview.

This is level three; that is, modern medicine and its evidence base argue that avoiding viruses is best done through hygiene. The argument behind this is that amazing progress in societal health indicators are the result of changes in sanitation and the removal of agricultural era practices from the city. However, a switch of worldviews might suggest that the solution to SARS may partly be found in systemic hygiene processes, but that questioning current industrial meat farming practices, what kinds of meat are desirable, or eating meat itself, may also yield solutions. A vegetarian worldview would certainly lead to quite a different systemic change, shifting human–animal boundaries.

A postmodern discourse would instead analyse the ‘media-isation’ of this event, how it is has been constructed by the media to create such a politics of fear that Japanese hotels did not accept Taiwanese guests.

A techno–utopian worldview would suggest that while hygiene changes are needed, the focus should be on new drugs, genetically made, to battle SARS.

The fourth level touches on issues outside the rational — no level of risk assessment or communication touches this. It is: the plague as threat.

What then is the best policy? This depends partly on the discourse one lives in, and partly on what systemic interventions are possible. Certainly, short term changes focus on stopping the spread of the virus (temperature screening), medium term on changing the system of hygiene that has led to SARS, while the longer term is focused on dietary and farming shifts. Other stories are needed so as to avoid the Plague, and the fears that accompany it.

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<b>SARS futures</b>	
Litany	International panic over ‘new plague’
Systemic causes	More careful animal and human hygiene procedures
Discourse/worldview	Competing discourses: medical, vegetarian, postmodern and techno-utopian.
Myth/metaphor	Ancient fear of plague as threat to civilization

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### 16. Australia Communications Authority (ACA), Melbourne, March 2004 — Regulatory futures

Two different CLAs were done for this regulatory authority in March 2004. The first was done as a research paper, and the second in a workshop format with a variety of stakeholders.

In the research CLA, the litany consisted of policies and rules to negotiate the rapidly changing economy and communications technology. The three main social, economic, and political causes were: (1) to ensure universal access; (2) to ensure fair prices; and (3) to ensure competition. The two main ideologies (left and right) underlying these were the need to create a fair economy that did not favour any particular player (and was especially fair to consumers), and an innovative economy that would use regulation to encourage appropriate investment, that is, to create growth.

However, a third perspective — that of the New Economy, focused on long-run dynamic efficiency, and creative destruction in the short term. For example, in the short term it may be best to favour one actor so as to ensure standardisation, even if this stifles competition. In the long run, any such lock-in may close off other futures. All three perspectives saw the regulator as not outside the political-economy but embedded in it. The deeper stories behind regulation were: (1) as Father (wise, with authority, who could punish) and child (in need of regulation); (2) as Judge, neutral understanding that all sides (business, consumer, and even government) had valid perspectives — the key was creating a fair play ground; (3) as Light Visible Hand, helping innovators with incentives but ready to punish if they should become too greedy or dodgy; and (4) as Gatekeeper of futures, letting some in and holding back others.

A plenary lecture on these issues was followed by a workshop on CLA and regulation. The workshop had participants from the ACA, from Internet providers, telecommunications players, computer companies, civil society, and even one who was sympathetic to the ‘hacking’ community. Having these diverse perspectives made possible a CLA with creative tension.

The key issue that emerged was the dramatic increase in hacking attacks on the ACA system. The litany response was more firewalls.

There were many systemic reasons for this. These included, at the cultural level, the analogy of graffiti writing: hackers need space to express themselves. The technological level called for increased bandwidth and increased access to technologies for more individuals. At the economic level, since the costs of hacking were low/minimal, this could be done with relative ease.

Varied worldviews were expressed. From the regulators’ view, the hackers were criminals, evil, often young people who had been badly brought up, and lacked community values. From the view of civil society — in this case an association of older people — the costs to them in virus protection and downtime, were high. However, the hackers and others perceived themselves as protecting their individual rights: the net should not be regulated but remain an open space. They see themselves as the best and brightest for whom firewalls are merely a hurdle to jump. For providers, costs were already built in, accounted for. For the economy as a whole, as with industrial waste, hacking increased GNP.

Individuals at the workshop believed that foundational myths explained behaviour best. For hackers, it was *terra nullius*, virgin territory, a future to explore. For the regulator, this was either Father or Judge or Light Visible Hand. For civil society, this was about creating a public good, hackers having rights but not yet responsibility. Academics felt that this was akin to the Wild West; the regulators were the sheriffs. The one story that did not emerge was that of the Information Highway. That prophesied future was no longer current.

The outcomes were that more than firewalls were needed to challenge hacking. Understanding the worldviews and stories of hackers was crucial. Just as important was that hackers needed to appreciate the stories of other players. This could mean an action learning research project to further explore the myths of hackers and government so as to create the possibility of the co-creation of mutual arenas — a hacker/government DMZ. The ultimate use of the CLA work was feedback into ACA scenarios.

<b>Communication technology — regulatory futures</b>	
Litany	Hacking and ‘need’ for firewalls
Systemic causes	Increased bandwidth, lower economic costs, and freedom of expression. Solution in economic and political changes
Discourse/worldview	Regulator versus hacker versus civil society perspectives. Conflicts between rights of various players: Where is the interface between freedom and responsibility?
Myth/metaphor	Hackers see the Net as virgin territory — a new frontier;

### 17. Doctoral research, Helena Pederson — Animal ethics

This final case study represents research conducted by Helena Pederson for her doctoral dissertation on animal ethics. Informed by moral philosophy, critical pedagogy and ecofeminist social analysis, Pederson intends to: “challenge the current order of anthropocentrism, human-centredness in education, and explore the rationales for an alternative approach to values educational research and practice that is more inclusive in character”.<sup>xxxvi</sup> Her research is based on the *humane education* approach, contextualising human–animal relations within a broader framework of social justice and empirical data material from a pilot study, focusing on the nature of human–animal relations within a Swedish primary school. I quote extensively from her analysis:<sup>xxxvii</sup>

At the *litany* level, we have seen that a number of issues, or ‘weak signals’, concerning animal ethics in education have recently emerged. In Sweden, one example is the Ministry of Agriculture’s discussion materials on animal ethics. It appears as if this material has been produced as a superficial response from the authorities to a driving force at the *systemic* level; namely, a growing awareness among young people about animal ethics, that may have created a pressure on schools to address the issues. At the *worldview* level, there are different competing discourses: We may consider the debate concerning the role of the school as a value fostering actor in society rather than just an institution for transmitting knowledge, and, since democratic values are highly esteemed in this context, how the position of the student has changed accordingly, making student influence an impetus for change at schools.

Pederson then brings in an alternative discourse — the liberal market ideology — and argues that the animal ethics discourse is a compromise outcome of these two discourses.

She writes:<sup>xxxviii</sup>

Another discourse is a liberal market oriented ideology that places responsibility on educational institutions to educate primarily for the job market, and also to find their own sponsors; thereby restricting the space in which paradigmatic critique can take place in schools. The animal ethics discussion material may be the compromised outcome of these two competing discourses.

At the level of *myth*, underlying metaphorical statements may be constructed, such as 1) ‘The School as a Panacea’: The school as a main socialisation instrument by which to achieve various desirable aims (notably aims of certain powerful actors in society, be they an elitist, patriarchal church, a government, or multinational corporations); and 2) ‘The Cartesian Heritage’: If animal exploitation is abolished, human welfare will be jeopardised, since the advancement of humanity is, and will continue to be, built on this exploitation.

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#### Human education futures — Sweden

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Litany	Animal ethics in education — Ministry of Agriculture
Systemic causes	Animal welfare movement
Discourse/worldview	Humane education plus democratization versus liberal market ideology.
Myth/metaphor	School as Panacea, the Cartesian heritage

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Along with the Swedish case study, she offers an example from a charter school in California:<sup>xxxix</sup>

Another example of a *litany* level issue is the Humane Education charter school that is currently being established in California. At the *systemic* level, this school has been spearheaded by the animal welfare movement together with teachers. The level of *discourse* may in this case involve an increased awareness of ‘the violence link’ according to which animal abuse has desensitising effects and may also lead to violence also toward humans; as well as an increased awareness of relations of power and oppression related to the idea of ‘the other’, be they humans or animals. One possible *metaphor* here is ‘The Web of Life’: All beings on Earth are mutually interconnected and interdependent on one another. However, for certain parties to whom the establishment of this school is controversial, there may be a fear that the human privileges that follow from the *discourse* of anthropocentric hegemony are threatened. The dominant *metaphors* in this case may be 1) ‘The Creation’: Human beings’ supreme role as masters of the world have been ascribed to us by some omnipotent, religious authority; 2) ‘The Food Chain’: Since human beings are predators at the top of the ecosystem, it is natural (or even inevitable) for us to use other species for our own purposes; or, alternatively, 3) ‘The Zero–Sum Game of Ethics’: Ascribing moral status to animals undermines the value of human beings proportionally.”

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**Human education futures — California**

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Litany	Humane education charter school
Systemic causes	Animal welfare movement plus teachers
Discourse/worldview	Humane Education plus peace studies
Myth/metaphor	Web of Life; the Creation; the Food Chain and Zero–sum ethics

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From these CLA sketches, she suggests resultant scenarios:<sup>xl</sup>

Scenarios could range from shorter–term *empirical–systemic* levels, such as the widespread implementation of humane education in national curricula due to student pressure and alliances between new social movements and politics; to the longer–term levels of *worldview* and *myth/metaphor* where a ‘wild card’ scenario could lead to the concept of speciesism completely losing relevance and being replaced by new, hitherto unimagined forms of ‘otherness’, since technological development, unexpected global disasters and evolutionary forces may result in the existence of only one single species on Earth. A relevant *myth* here may be ‘Nature’s Revenge’: A fear that morally wrong behaviour will strike back at ourselves in the end.

**Concluding remarks on the case studies**

These case studies illustrate the variety of sites that CLA can be used, as well as the different ways in which CLA has and can be used, and how CLA can be linked to other methods. While formally structured, CLA is best seen as an evolving methodology, being informed by theory but as well by each case study. Part three of this volume presents additional case studies

**Strengths and weaknesses**

We now turn to an evaluation of CLA, particularly of its strengths and weaknesses.

The strength of CLA is its capacity to move beyond the superficiality of conventional forecasting methods, insofar as these methods are often unable to unpack worldviews, ideologies, and discourses, not to mention archetypes, myths and metaphors. They give ready–made futures, forgetting the institutional practices and values that go into making them. While CLA is not



concerned with predicting a particular future, it does open up space for the articulation of constitutive discourses, which can then be shaped as scenarios.

Richard Slaughter considers it a paradigmatic method that reveals deep worldview commitments behind surface phenomena.<sup>xli</sup> Writes Slaughter, “Causal layered analysis ... provides a richer account of what is being studied than the more common empiricist or predictive orientation which merely ‘skims the surface’”.<sup>xlii</sup> However, “because mastery of the different layers calls for critical and hermeneutic skills that originate in the humanities, some futures practitioners may find the method challenging at first”.<sup>xliii</sup>

Andy Hines and others from the Association of Professional Futurists have commented that in arenas where the corporate cultural is homogenous or where hegemony is strong, CLA is far more difficult to use.<sup>xliv</sup> Where empiricist perspectives dominate (and discussions of worldview are rejected), then certainly CLA will lead to cognitive dissonance. The key here is to engage in a discussion on the perspectives of the other — a conversation that has become far easier with globalisation.

This cognitive dissonance is often expressed as rejection of the levels of the method.<sup>20</sup> This is largely because from a strict empiricist perspective there are no levels to reality. There is truth as discovered through the scientific method, and falsehood based on interest. Truth is thus clouded by worldview and values, not revealed by it as argued in CLA. Science calls for disinterest so that the empirical can be made apparent. CLA, however, does not seek to hold in abeyance — to control for — worldview or myth and metaphor but rather seeks to layer them.

In corporate settings, executives tend to be systems thinkers who excel at implementation. They have risen up the ranks because of their capacity to solve litany problems and understand their systemic context. Suggestions that their journey is just beginning are likely to meet initial resistance. However, by mapping the organisational myth (for example, in the case of many branch organisations that of parent–child, with the central office as the adult and the branch office as the child), and showing how that is creating many of the litany problems, change is possible. As well, by reframing the worldview as stakeholder (customer, other companies, government), a capacity for understanding the multiple values creating problems and opportunities can be explored. Essentially this assists the managers in her or his transformation to leader, in understanding not just the litany and the system but the bigger picture and the underlying story of why they do what they do.

Even though CLA challenges the dominating empiricism of litany, it has been successfully used in a variety of workshops and futures courses in the last twelve years. It is especially useful in workshops with individuals either of different cultures or with different approaches to solving problems. It is best used prior to scenario building, as it allows a vertical space for scenarios of different categories. CLA is now beginning to be used in policy development and in non-governmental and corporate strategy.<sup>21</sup>

Moreover, CLA for those not committed to what Slaughter has called the flatland<sup>xlv</sup> view of reality, can be quite easy. As Ryota Ono writes about his course in Futures Studies at Nanyang Technological University, Singapore:

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<sup>20</sup> Remarkd one anonymous reviewer, “I perused the CLA paper and find it remarkably obtuse and only partly comprehensible. It is at such an abstract, philosophical, mythic level that coming from a science/technology background, I certainly cannot hope to give it an objective evaluation”.

<sup>21</sup> This is work in Australia, for example, for the Queensland Department of Tourism, Fair Trade and Racing, Maroochy Shire Council, Brisbane City Council, Victoria Department of Justice (Corrections and Judiciary), Australia Communication Authority, CRS Australia, Catholic Education Queensland and numerous associations including the Australasia Association for Health Quality Care and corporations such as Fuji Xerox Australia.

To explore alternative futures, they used the Causal Layered Analysis (CLA) as a method. It is a very useful method to explore possibilities from different dimensions and I find that it can be used with a little help even by the first time students.<sup>xlvi</sup>

One first year undergraduate student exposed to CLA by Professor Ono at Aichi University, Japan wrote:

Regarding CLA, I feel that it is the most useful tool I learned during this course. It sort of integrates all we have learnt. ... I feel that this course taught us something that is very personal and valuable to our lives — to dare to dream for our future. Futures studies has, subtly, taught me that I should have the guts to dream what I want to do in my life and taught me what I should do now so that I can achieve my vision. Another thing that futures studies has taught me is that an individual's effort can be significant in eliciting a change that can affect the world.

And a second writes:

There is always more than one answer or solution to anything and I should not be quick to jump to a conclusion soon after I have digested a situation. Generally speaking, futures studies has forced me to weigh my options more carefully, made me realise that I do have options in the first place and to help me temporarily put aside my mindsets and free my imagination. I must admit that at times it was much easier to resort to quick-fix solutions and also more comforting to return to tried and tested methods. But exercises like scenario development and CLA all trained me to free my imagination and be a more flexible person.

Some of the benefits of CLA are:

1. Expands the range and richness of scenarios (the CLA categories can be used in the incasting<sup>22</sup> phase of scenario writing).
2. Leads to the inclusion of different ways of knowing among participants when used in a workshop setting.
3. Appeals to and can be used by a wider range of individuals as it incorporates non-textual and poetic/artistic expression in the futures process.
4. Takes recognition and layers participant's positions (conflicting and harmonious ones).
5. Moves the debate/discussion beyond the superficial and obvious to the deeper and marginal.
6. Develops more comprehensive strategy.
7. Allows for a range of transformative actions by various actors.
8. Leads to policy actions that can be informed by alternative layers of analysis.
9. Leads to policy actions that are sustainable, that is, authentically solve problems instead of merely reinscribing current issues.
10. Reinstates the vertical in social analysis, that is, from postmodern relativism to global ethics.
11. Develops organisational leadership — problem solvers, managers, leaders and story tellers.
12. Develops community capacity — helps citizens ask questions of their leaders — political, business and community.

The utility of causal layered analysis is that it can categorise the many different perceptions of realities while remaining sensitive to horizontal and vertical spaces. Often, individuals write and speak from differing perspectives. Some are more economic, others are concerned with the big

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<sup>22</sup> Wherein the details of the scenario are developed.

picture; some want real practical institutional solutions, others want changes in consciousness.<sup>xlvii</sup> CLA finds space for all of them. It does so by pushing those focused on the litany to deeper levels as well as by helping those immersed in depth to see the utility of developing quantifiable indicators, visible characteristics, of their preferred future. While individuals may not change the level they feel most comfortable in, CLA gives strategic reasons to understand other levels; policies are more likely to be successful if participation is broad based (not just stakeholders but worldviews) and transformative.

The layered approach largely resolves the classic contests of empirical versus theoretical, scientific versus non-scientific, leadership versus participation and qualitative versus quantitative. Its ‘both–and’ position respects civilizational ways of knowing, cultures’ different research traditions and individual proclivities as well as the structures of power and knowledge they intersect with. The result can be methodological renewal. In essence, CLA seeks to integrate different methodologies, and to combine differing research traditions.

Like all methods, CLA has its limits. For example, it does not forecast the future *per se* and is best used in conjunction with other methods such as emerging issues analysis, scenarios, and visioning. It could lead to a paralysis of action — too much time spent on problematising and not enough on designing new policy actions based on the layers. Moreover, as CLA is a new method, while there are dozens of articles using the method and a dozen plus doctoral and MA theses being written on the method, empirically based case studies that demonstrate that CLA is a more effective tool in policy making have yet to be completed; this *Reader* is part of that process.

For newcomers to the futures field, CLA may dampen their inner creativity, since it categorises reality instead of allowing for a free–for–all visioning. For a few, it is too difficult. This is especially so for empiricists who see the world as either true or false (who insist on being right instead being located in layers of reality), or postmodern relativists who reject the vertical gaze CLA implies and who insist that facts do not exist (as opposed to the CLA perspective which attempts to nest facts in different epistemological positions). CLA endeavours to find space for these different perspectives. It does not reject the empirical or the ideational but considers them both along a continuum.

In this sense CLA, while part of the poststructural critical tradition, is very much oriented toward action learning and integrated methodologies. Answers are neither right nor wrong. Rather, a dialogue that uses multiple ways of knowing is sought between the different levels. Interaction is critical here. By moving up and down levels and sideways through scenarios, different sorts of policy outcomes are possible and discourse/worldviews as well as metaphors and myths are enriched by these new empirical realities.

Of course, if at a workshop a discussion does not fit into our neat categories of litany, social causes, worldview, and metaphor and root myth, it is important to work with the individuals to create new categories. Thus, CLA is flexible. However, in general, these categories work because they capture how we think and categorise the world — they capture the differences that are us.

### **CLA and other methods**

The poststructural framework from which CLA derives has similarities to other methods as well. Critical futures research seeks to disturb us from our conventional categories of understanding, asking how it is that a certain category has been constituted in the first place. This can be similar to emerging issues analysis. Emerging issues analysis, for example, at one level predicts issues outside of conventional knowledge categories but it does so by disturbing conventional categories, by making them problematic; it reorders knowledge. For example, the notion of the “rights of robots” forces us to rethink rights, seeing them not as universal but as historical and political, as hard fought political and conceptual battles. It also forces us to rethink intelligence and sentience, posing the question: What is life? Thus, a futures method such as emerging issues

analysis, conventionally used to identify trends and problems in their emergent phase, should not merely be seen as a predictive method, it is also be a critical one. By challenging traditional categories, CLA can be used to help identify emerging issues.

CLA is of great value in creating richer scenarios. This is accomplished through searching for alternatives at the worldview level, or indeed, if one desires, developing different types of scenarios for each level. Thus, one can develop litany scenarios (alternative growth projections); systemic scenarios (different types of society, technology, environment and polity based on different economies); worldview scenarios (differing visions of economic growth as well as 'growth' in general); and myth/metaphor scenarios (different narratives).

As well, CLA can be used in the incasting phase. While many use STEEP (society, technology, economy, environment and polity) to build scenarios, using CLA the scenario could be divided into the four levels. The litany would be focused on the visible characteristics — what the future commonly looks like; the social systemic level would use STEEP; the worldview level would develop the base concepts and values and the myth/metaphor would articulate the underlying often unconscious emotive dimensions.

CLA as well fits perfectly into Ken Wilber's (as developed by Richard Slaughter) four-quadrant method.<sup>xlviii</sup> In this method, using the poles of inner and outer, individual and collective, four worlds are created. An inner individual world of meanings; an inner outer world of behaviours; an inner collective world of myths and stories; and an outer collective world of policies and strategies. The inner collective world is particularly useful in exploring the myths driving an organisation — the inner story. One can ask workshop participants what they think is the inner story of their organisational culture and what role are they playing in it. Once this is determined, one can ask if this is the story and character they wish to play. What are alternative stories and characters that can perhaps more authentically express their desired futures.<sup>xlix</sup>

CLA is of particular use in futures visioning workshops. These workshops are designed to help participants (stakeholders in a factory, a university, a non-governmental organization, government, an industry) develop their vision of their preferred future, as well action steps needed to create that future.

Generally, the format I have used is: (1) develop a shared history; (2) map the trends, images of the future and the weights that make realising the future difficult — the futures triangle; (3) identify emerging issues that might challenge this map; and (4) CLA. It is at this stage that CLA is of utility in that it can sort out trends, emerging issues, images of the future, in layered categories thus giving participants a deeper map of the future. Then participants (5) develop scenarios; (6) create a preferred future; (7) backcast the steps to get to that preferred future; and (8) decide on action steps and processes.

CLA, as well, could potentially be used in risk management simulation programs; that is, not just focusing on risk that can be easily measured by assigning probabilities to systemic level risk, to worldview risk and perhaps the far more difficult myth/metaphor risk. This has yet to be done. However, it is possible, given the appropriate qualitative modelling methods.

The next phase of CLA — the frontiers — would include its use in large global future projects (that tend to focus on the litany) to discern if layered complexity can be brought into them. Quantitative and qualitative research studies to determine if CLA enhanced the scenario process or the overall futures project are also required.

### **Using CLA to transform a futures project — *State of the Future***

The varied examples and case studies presented in this chapter have illustrated alternative ways of performing and using CLA. However, this type of multi-varied, trans-disciplinary unveiling and complex thinking rarely occurs. The worldviews of other civilizations and cultures are usually not considered as cultural assets or as central to understanding the future or even the present, but

more often as obstacles to be overcome. What results are flat scenarios and futures projects that often fail, since ‘others’ are neither asked nor included.

As Slaughter argues, most futures work remains at the pop futurism level. This focuses on getting attention, the latest gee-whiz technology or environmental spill. John Naisbitt’s *Megatrends*<sup>i</sup> is perhaps the best example of this type of work. The utility of futures studies is seen within the problem-oriented framework. This futures work consists of listing the world’s problems, inattentive to the ideological interests behind these problems. Two examples Slaughter cites are the Millennium Project’s *State of the Future* report and Peter Schwartz’ “Long Boom” scenario of the future. What is needed, instead, are critical and epistemological-oriented futures studies. These studies would “explore the deeper processes of meaning-making, paradigm formation and the active influence of obscured worldview commitments”.<sup>ii</sup> From Slaughter’s view, this means searching for dissenting visions of the future and bringing new voices into the conversation.

For example, while an excellent initiative, indeed groundbreaking, the *State of the Future*<sup>iii</sup> report could be enhanced by the CLA approach. Currently the report elegantly presents key global problems (the litany). It then proceeds to offer solutions. These solutions are generally at the systemic level — enhancing partnership between governments and non-governmental organizations, or better technology to monitor terrorism. However, what is not explored is how certain worldviews in themselves constitute both the problems and the solutions. Worldviews and the epistemological positions underneath them are not explored.

Let me give some examples. A litany concern is that of quality and safety in health. Up to 100,000 Americans die each year because of the health system itself (viruses at hospitals, falls in hospitals, misdiagnosis, and so forth).<sup>iiii</sup> The traditional approach is to offer suggestions such as enhancing general practitioner training. However, at the systemic level (and fortunately the *State of the Future* has reached this level), the issue is the information flows between nurse and GP, between hospital staff and administrators. However, if we go deeper the issue is the vertical relationship between GP and patient. This is endemic to the Western tradition. By exploring other traditions, solutions can be developed; listening to the patient, as in the naturopathic tradition, is one example. Finally, alternative futures can be derived from exploring mythical dimensions. At this level, the issue is often trust in expertise, loss of confidence in self because of the complexity of the medical system. It is also a focus on quantity of life instead of quality of life.

Thus, merely listing problems and solutions without exploring how the solutions themselves are part of the problem and *vice versa* leads to failed policies. Policies do not succeed, not because we do not see the solutions, but because solutions are presented in a flatland framework, ignoring the fact that individuals hold different worldviews. As well, institutions themselves are complicit in straitjacketing change. Exploring how these different interests create certain solutions and problems thus becomes a way to unveil and unpack the present, and thus the future.

We can see this well in discourses on terrorism. For example, stopping Palestinian suicide bombers through collective punishment, more high-tech surveillance, and occupation is informed by a perspective that assumes that the sole problem is the bomber. Certainly this is the case at the litany level, but at the systemic level, it is the complex web of passes, security relations, check posts and other political, economic and social sub-systems that define Israeli Palestinian relationships — the core-periphery power relationship. Essentially, this is long-term unemployment with no hope for the future. There is no agency by which unemployment can be addressed, thus despair. Add direct and structural violence, and leaders calling for sacrifice, and the result is collective suicide and the suicide-bomber. As important is, thus, a solution that seeks to give Palestinians dignity or that allows their movement, or that ensures that the system works for everyone — offering an economic future to the Palestinians. Thus, while the bomber is certainly a problem, so is the political-economic system in which the bomber exists. At the worldview level, at issue is the Israeli sense of being the ‘chosen people’, who must defend their

homeland again evil. For the Palestinian, at the worldview level it is the notion of paradise — Jihadist Islam. Since there is no hope in this world — no compelling but realistic image of the future — it is to the next that one aspires. At this level, transformative leadership is required to undermine the sense of ‘chosen-ness’ among the Israelis and the Jihadism among the Palestinians. A bright future must be offered and built with each side in this world. This means challenging or at least beginning a conversation on the worldviews of Jew and Muslim. Focusing on the ‘father’ of each religion, Abraham (and unpacking the many stories of Abraham), is certainly one way to begin this questioning.

But, of course, far more important is the myth-metaphor level. Both sides suffer from trauma, Israeli Jews from the Holocaust, obviously, and Palestinian suicide bombers have all witnessed collective punishment, or the death of loved ones. The trauma congeals identity, making transcendence nearly impossible. Healing and reconciliation are required, as well as a new story of what it means to be Israeli or Palestinian. The antidote to trauma is transcendence, built peacefully a step at a time. Again, leadership is required here; especially leadership that understands and can live the multiple levels of analysis.<sup>23</sup>

What this means is that, while a report on the state of the world’s future problems or issues is an excellent effort in pointing attention to the future, unless these problems address or unpack worldviews and underlying stories, they will only reinscribe<sup>24</sup> the present. This is not to say the litany should be avoided. Quite the opposite. CLA seeks to move up and down levels, asking how might the litany look through different lenses. It seeks to move beyond technocratic solutions, those devised at the systemic level. It also seeks to move beyond the worldview to the mythic level. However, the challenge is to engage *all* levels. Solutions to the world’s issues require no less. Solving terrorism, for example, is both an issue of better intelligence to catch the criminals, as well as of creating better and safer systems (marshals on aeroplanes), but as well a dialogue of worldviews. This is a dialogue between civilizations and within each civilization (for example, between Wahabi and other forms of Islam).<sup>liv</sup> Finally, it is an understanding of divergent traumas, moving to a Gaian position that we are all in this together, that the terrorist is part of our existence, whether pathological or evil, it is a litany that must be dealt with at multiple levels.

Thus, there are no simple ten or so ‘megatrends’ to list and grab attention (the PowerPoint and overhead transparency view of the world). There is no list of global problems to which we must align the world’s research institutes. It will not be possible to reach global solutions without consideration of alternative worldviews.

But we should be clear, the solution to trend listing is not worldview discussions. That is, the other side of simplistic research is ideological research. The best examples are in the Islamic world and the former communist world. Here, the truth is already known and the future is understood; we have merely to implement solutions. When implementation fails, analysis remains at the worldview level, leading to an abundance of conspiracy theories and theorists. The resulting policies do not reflect the levels of reality. The New Age movement also articulates notions of an ideal world, but based on uncontested assumptions of the spiritual. There is no interaction with the real world, nor is there analysis of power as social structure — race,

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<sup>23</sup> Futures-oriented leadership has the following characteristics: 1. Anticipatory. 2. Capacity to understand grand patterns of change, and what these mean for the organisation, that is, what particular phase-cycle-spiral-bifurcation the organisation may be in. 3. Depth — the capacity to understand the “other”. 4. The capacity to understand and use alternative futures to develop the most effective strategy and 5. The capacity to transform the present and the future, to move beyond strategy to emergence.

<sup>24</sup> By reinscribe, we mean far more than merely repeating the present. Reinscribing refers to the boundaries of the text — the epistemic framework that precedes the text — being restated. Not only is change thus far more difficult since the past is repeated, but the categories of the present are also reinforced.

core/periphery relations. In contrast, the layered approach argues for movement up and down levels, each enriching the other, and each testing the assumptions — a complex and reflexive network of alternative logics.

Thus for the *State of the Future*, alongside a list of problems could be a list of the causes and who is required to solve them. This is the litany level. Next would be the systemic problems (the world system of nations, financial flows, and the like) and systemic solutions. This would be nested in worldviews (modernist, traditional, emerging cultural creative, for example), which would then be nested in myths and metaphors required for lasting transformation.

### Conclusion

While there are numerous other examples, the above give an indication of the possible beneficial uses of CLA. To summarise, the causal layered approach:

1. Constructs problems through context.
2. Sees context at multiple levels.
3. These levels are generally the litany; the social/economic/technological; the worldview/discourse, and the myth/metaphor (with variations).
4. The challenge is to move and down multiple layers, rethinking the implied future at each level.
5. Depth emerges, allowing solutions that are longer lasting, that do not reinscribe the present.
6. Thus, CLA allows authentic alternative scenarios and preferred futures to emerge.

Complex layered analysis is not a goal in itself. What it can do is to create the possibility for real transformation of our empirical and ideational worlds and ensure deep participation in this transformation. This is not merely *better* representation, but a genuine engagement with our others' ways of knowing.

The ultimate benefit will be a better world at all levels.

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<sup>i</sup> James Dator, 'Theories, Methods and Approaches to Teaching Futures Studies: A backward glance', Keynote speech, Tamkang University International Conference on Teaching Futures Studies, November 5–7, 2002. A version of this speech appeared in the *Journal of Futures Studies*, February, 2003. An anonymous reviewer objected to CLA being associated with a particular inventor, seeing it as an ego-trip in that multi-level analysis was common to the field. However, the reviewer was unable to provide citations or other evidence to show its use or publication elsewhere. Moreover, multi-fold analysis is different from multi-level analysis.

<sup>ii</sup> This is from the works of writers such as P.R. Sarkar, Ashis Nandy, and Edward Said.

<sup>iii</sup> J. Dator, e-mail transmission, 24 December 1992. Quoted in: S. Inayatullah, 'From who am I to when am I?', *Futures*, Vol 25, No 3, 1993, 236.

<sup>iv</sup> For example, the USA's lack of capacity to understand Pushtun culture and its foundational categories of honor create a conflict with no ways out. See, Hasan Jafri, & Lewis Dolinsky, 'Why bombing and warnings are not working', *San Francisco Chronicle*, 16 October, 2001.

<sup>v</sup> Johan Galtung, 'Social cosmology and the Concept of Peace', *Journal of Peace Research*, Vol 18, No 2, 1981. Also: Johan Galtung, 'Western Civilization: Anatomy and Pathology', *Alternatives*, Vol 7, 1981.

<sup>vi</sup> Johan Galtung, 'Structure, culture and intellectual style', *Social Science Information*, Vol 20, No 6, 1981, 816–856.

<sup>vii</sup> Michel Foucault, *The Order of Things: An Archaeology of the Human Sciences*, New York, Vintage Books, 1973; Michael Shapiro, *Reading the Postmodern Polity: Political Theory as Textual Practice*, Minneapolis, MN, University of Minnesota Press, 1992

<sup>viii</sup> P. R. Sarkar, *Idea and Ideology* (5<sup>th</sup> ed.), Calcutta, Ananda Marga Publications, 1978. Also: S. Inayatullah & J. Fitzgerald (eds.), *Transcending Boundaries*, Maleny, QLD, Gurukula, 1999.

<sup>ix</sup> Richard Slaughter, *Futures Concepts and Powerful Ideas*, Kew, VIC, Futures Study Centre, 1991. Most stunning was his presentation at the 1990 World Futures Studies Federation Conference in Budapest. He gave a ten-minute presentation on types of futures studies in Allen Tough's workshop on new ideas in futures studies.

<sup>x</sup> See, for example, Harold Linstone, 'What I have Learned: The Need for Multiple Perspectives', *Futures Research Quarterly*, Spring, 1985, 47–61. He divides futures into the technical, organisational, and personal. Linstone's model is the multilevel analysis of CLA but does not access the discourse/worldview level or the myth/metaphor level. It does an excellent job of expanding the systemic level of analysis, however. Also see Eleonora Masini & Karin Gillwald, 'On Futures Studies and Their Social Context with Particular Focus on West Germany', *Technological Forecasting and Social Change*, Vol 38, 1990, 187–199. They take Linstone's model and apply it historically to Europe and the US, seeing futures as going through technical, organisational, and

- personal phases. See also, Zia Sardar, 'Colonising the future: the "other" dimension of futures studies', *Futures*, Vol 25, No 2, 1993, 179–187. Sardar argues for a colonisation/decolonisation dialectic. The classic map of futures studies remains Roy Amara's division into preferred, possible, and probable. See, Roy Amara, 'The Futures Field', *The Futurist*, February, April, & June, 1981. See also, Clement Bezold & Trevor Hancock, *An Overview of the Health Futures Field*, Washington, DC, Institute for Alternative Futures, 1993 [29 pages]. Bezold adds the plausible to Amara's three categories.
- <sup>xi</sup> Sohail Inayatullah, 'Deconstructing and Reconstructing the Future: Predictive, Cultural and Critical Epistemologies', *Futures*, Vol 22, No 2, 1990, 115–141. A version of this article is reprinted in this volume.
- <sup>xii</sup> Sohail Inayatullah, 'From Who am I? to When am I?: Framing the Time and Shape of the Future', *Futures*, Vol 25, No 3, 1993, 235–253.
- <sup>xiii</sup> This article is derived from material in Chapter Two of Sohail Inayatullah, *Questioning the Future: Futures Studies, Action Learning and Organizational Transformation*, Tamsui, Taiwan, Tamkang University Press, 2002, as well as a special issue of *Futures* titled, 'Layered Methodologies', *Futures*, Vol 34, No 6, 2002. Additional articles using CLA have been featured in the *Journal of Futures Studies*. For example, see Marcus Bussey, 'Sustainable Education: Policy in Search of a New Language', *Journal of Futures Studies*, Vol 6, No 1, 2001, 71–88, as well as Marcus Bussey, 'Critical Spirituality: Neo Humanism as Method', *Journal of Futures Studies*, Vol 5, No 2, 2000; Graham May, 'Worldviews, Assumptions and Typologies of the Future', *Journal of Futures Studies*, Vol 5, No 2, 2000; Philip Daffara, 'Contradictions and Institutional Convergence', *Journal of Futures Studies*, Vol 5, No 4, 2001, 1–30; Murray May & Stuart Hill, 'Unpacking Aviation Travel Futures — An Application of Causal Layered Analysis', *Journal of Futures Studies*, Vol 7, No 1, 2002, 41–66. In addition, numerous MA and PhD theses are using it as organising methodology — to begin with, David Wright and Patricia Kelly at Queensland University of Technology, Ivana Milojevic at the University of Queensland, and Philip Daffara, Kate Teske, Steven Gould and Marcus Anthony at the University of the Sunshine Coast. See David Wright, *Ashibetsu City's Revitalisation Strategy in Post-bubble Japan: A multi-layered poststructural analysis of Futures images*, MA thesis, Brisbane, QLD, Queensland University of Technology, August 1999, and Ivana Milojević, *The Futures of Education: Feminist and Post-Western Visions and Critiques*, PhD thesis, Brisbane, QLD, University of Queensland PhD thesis, August 2002. A description of CLA was first published in the following article by Sohail Inayatullah, Samar Ihsan & Levi Obijiofor, 'The Futures of Communication', *Futures*, Vol 27, No 8, 1995, 897–904. Also see: 'Causal Layered Analysis: Poststructuralism as method', *Futures*, Vol 30, No 8, 1998, 815–829; S. Inayatullah, 'Civilizational Futures and Beyond', *Futures*, Vol 28, No 6, 1996, 590–593; Paul Wildman & Sohail Inayatullah, 'Ways of Knowing, Civilization, Communication and the Pedagogies of the Future', *Futures*, Vol 28, No 8, 1996, 723–740. As a book chapter, see Sohail Inayatullah, 'Methods and Epistemologies', in Richard Slaughter (ed.), *The Knowledge Base of Futures Studies: Foundations, Vol 1* (187–203), Melbourne, VIC, DDM Publishers, 1996; and Sohail Inayatullah, 'Further and Closer Than Ever Before: A Social Science/Futures Studies View of the Contributions of Religion to Peace', in Felix Marti (ed.), *The Contribution of Religion to the Culture of Peace* (95–105), Barcelona, Centre Unesco de Catalunya, 1995. Also, see Sohail Inayatullah, 'Pedagogy, Culture and Futures Studies', in James Dator (ed.), *Advancing Futures: Futures Studies in Higher Education* (109–124), Westport, CT, Praeger, 2002.
- <sup>xiv</sup> For the classical treatment of this, see Richard Slaughter, 'Towards a Critical Futurism', *World Future Society Bulletin*, July/August & September/October, 1984, and Wendy Schulz, 'Silences, Shadows, Reflections on Futures', in Jim Dator & Maria Roulstone (eds.), *Who Cares? And How? Futures of Caring Societies*, Honolulu, HI, World Futures Studies Federation, 1988. Richard Slaughter writes that, "critical futures study is itself an approach to futures questions that arises from a deep understanding of the dysfunctions of the Western worldview. This can seem threatening to those whose professional interests are bound up with ... the industrial growth ideology. But, in fact, the analysis of dysfunctions at this deep level is only a ground-clearing exercise. Beyond this is the task of exploring new domains of cultural possibility and potential" (see Richard Slaughter, 'Developing and Applying Strategic Foresight', *The ABN Report*, Vol 5, No 10, 1997, 11).
- <sup>xv</sup> For example, *The Futurist* (March–April 2003), 48–50, features an article titled 'Winning the War Against ageing', by Joao Pedro de Magalhaes. The interpretive question is would other cultures construct ageing as a war? In Taiwan, for example, ageing is not seen as something to battle but as part of life.
- <sup>xvi</sup> See Lina Tuhiwai Smith, *Decolonizing Methodologies: Research and Indigenous Peoples*. London, Zed Books, 1999.
- <sup>xvii</sup> See Ray Manas, 'India, Fifty Years On: Revisiting Modernity', research paper, School of Media and Journalism, Queensland University of Technology. The research paper quotes Sudipto Kaviraj, 'Religion and Identity in India', *Ethnic and Racial Studies*, Vol 20, No 2, 1997, 331.
- <sup>xviii</sup> For the best discussion, see Michael Shapiro 1992, *op cit.*
- <sup>xix</sup> See, for example, the works of Ashis Nandy and Zia Sardar. Short essays by these two can be found in *Futures*. A. Nandy, 'Bearing Witness to the Future', *Futures*, Vol 28, No 6/7, 1996, and Z. Sardar, 'Natural Born Futurist', *Futures*, Vol 28, No 6/7, 1996. Also, see the special issue of *Futures* on futures generations thinking, which takes a Confucian approach to futures studies: *Futures*, Vol 29, No 8, 1997.
- <sup>xx</sup> Peter Bishop, e-mail communication, 2 January, 2003. Bishop writes that his primarily substantive problem is that: "the implication is that the 'deeper' layers are some how 'better' than the 'shallower' layers. Even the concept of layers and depth casts a negative image on the empirical layers above it. I'm surprised that a technique that purports to be so conscious of how language constructs reality would label the various parts of the technique with such value-laden words. I understand that values permeate everything, but one can keep it to a minimum. I don't think that was done here — the most egregious example being the concept of the litany".
- <sup>xxi</sup> For more on this, see Ziauddin Sardar, *Postmodernism and the Other*, London, Pluto, 1998. Especially see Sardar's chapter on Fairytales of Science.
- <sup>xxii</sup> Using Pitirim Sorokin's typology, civilizations that focus on the deeper levels are Ideational. Civilizations focused on the first two levels are Sensate. Civilizations that have balanced all four levels are Integrated. For more on this, see Johan Galtung & Sohail Inayatullah, *Macrohistory and Macrohistorians*, Westport, CT, Praeger, 1997.
- <sup>xxiii</sup> For myths and learning, see: B. G. Wilson, 'Metaphors for instruction: Why we talk about learning environments', *Educational Technology*, Vol 35, No 5, 1995, 25–30.



- <sup>xv</sup> See Sohail Inayatullah, 'The Futures of Communication', *Futures* (with Samar Ihsan and Levi Obijiofor), Vol 27, No 8, 1995, 897–904, and Sohail Inayatullah, 'Futures Visions of Southeast Asia: Some Early Warning Signals', *Futures*, Vol 27, No 6, 1995, 681–688.
- <sup>xv</sup> Johan Galtung, 'Enactment of a Universal Drama — Ethnic Conflicts', *New Renaissance*, Vol 7, No 1, 1996, 13–15.
- <sup>xv</sup> One such slogan is: "water is king, and Here is its Kingdom", posted at the Imperial Irrigation District's Headquarters in the Colorado desert (Peter Huck, 'Midnight at the Oasis: California water politics coming to boil', *The Weekend Australian Financial Review*, February 1–2, 2003, 45).
- <sup>xvii</sup> I am thankful to Brisbane City Council's Debbie Terranova for her comments on how to use CLA without getting lost in the theory and language.
- <sup>xviii</sup> See Sohail Inayatullah, 'Teaching Futures Workshops: Leadership, Ways of Knowing and Institutional Politics', *Futures Research Quarterly*, Vol 14, No 4, 1998, 29–36.
- <sup>xix</sup> Sohail Inayatullah, 'The Futures of the United Nations and Structural Possibilities of World System Transformation', in Sohail Inayatullah (theme editor), 'Global Transformations and Futures', *UNESCO Encyclopedia of Life Support Systems*, Oxford, EOLSS Publishers, 2002.
- <sup>xx</sup> www.i-m-c.org. I am thankful to the insights of Robert Burke and Gordon Wills. See R. W. Revans, *The Origins and growth of Action Learning*, London, Chartwell-Bratt, 1982.
- <sup>xxi</sup> P. R. Sarkar, *Ideal Farming, Part 2*, Tiljila, Calcutta, Ananda Marga Publications, 1990. Also see, Steve Diver, 'Farming the Future', in S. Inayatullah & J. Fitzgerald (eds.), *Transcending Boundaries* (209–222), Maleny, Australia, Gurukul, 1999.
- <sup>xxii</sup> Leona Reif, Nusch Herman & Genevieve Graves, 'Preparing for the Future: Queensland 2020', *Foresight*, Vol 5, No 6, 2003, 4.
- <sup>xxiii</sup> Sohail Inayatullah, 'Ageing: Alternative Futures and Policy Choices', *Foresight*, Vol 5, No 6, 2003, 8–17.
- <sup>xxiv</sup> For an alternative reading of this, see Frank Shaw, 'Is the ageing population the problem it is made out to be?', *Foresight*, Vol 4, No 3, 2002, 4–11.
- <sup>xxv</sup> I am thankful to Marcus Anthony, Patricia Kelly, and Yi-lin Ko for their comments.
- <sup>xxvi</sup> Helena Pederson, 'Schools, Speciesism, and Hidden Curricula: The Role of Critical Pedagogy for Humane Education Futures', *Journal of Futures Studies*, Vol 8, No 4, 2004.
- <sup>xxvii</sup> *Ibid.*
- <sup>xxviii</sup> *Ibid.*
- <sup>xxix</sup> *Ibid.*
- <sup>xl</sup> *Ibid.*
- <sup>xli</sup> Richard Slaughter 1997, *op cit.*, 7–15.
- <sup>xlii</sup> *Ibid.*, 11.
- <sup>xliii</sup> *Ibid.*
- <sup>xliv</sup> In a series of e-mails, edited by Richard "kaipo" Lum, 'Uncut, Unedited and Not-Yet-Rated: Discussions of Futures Ideologies. World Futures Studies Federation', *Futures Bulletin*, Vol 27, Nos 2 & 3, 2002.
- <sup>xlv</sup> R. Slaughter, 'Transcending Flatland', *Futures*, Vol 30, No 6, 1998, 519–533.
- <sup>xlvi</sup> Ryota Ono, 'Helping Students Realize their Full Potentials: Teaching Futures Studies in Singapore and Japan', Paper presented at the Tamkang International Conference on Teaching Futures Studies, Tamsui, Taiwan, November 5–7, 2002. Also, a shorter version of this paper is in the *Journal of Futures Studies*, Vol 7, No 3, 2003, 41–50.
- <sup>xlvii</sup> For an exploration of these differences, see Paul Wildman & Sohail Inayatullah, 'Ways of knowing, culture, communication and the pedagogies of the future', *Futures*, Vol 28, No 8, 1997, 723–741.
- <sup>xlviii</sup> For more on this approach, see [http://www.swin.edu.au/afi/Integral\\_Futures.htm](http://www.swin.edu.au/afi/Integral_Futures.htm). Accessed May 18, 2004.
- <sup>xlix</sup> Jenny Brice of Fuji Xerox Australia asks these questions in her use of CLA:  
 What would a realistic metaphorical shift be for the organization to sustain its future?  
 What would the key aspects of the existing metaphor that would need to be sustained to enable the change?  
 What would the key aspects of the existing metaphor need to change?  
 What characters will they play in the metaphor of the future?  
 What actions would need to be taken to enable this change?  
 E-mail transmission, March 31, 2004.
- <sup>i</sup> John Naisbett, *Megatrends: Ten New Directions Transforming Our lives*, New York, Warner Books, 1984.
- <sup>ii</sup> <http://207.44.196.94/~wilber/slaughter2.html>. Accessed May 18, 2004. This essay originally appeared as Richard Slaughter, 'A New Framework for Environmental Scanning', *Foresight*, Vol 1, No 5, 1999, 441–451. Quote is from page 447.
- <sup>iii</sup> Jerome Glenn & Theodore Gordon, *2002 State of the Future*, Washington, DC, American Council of the United Nations University, 2002.
- <sup>iiii</sup> Institute of Medicine, November 1999 Report. Available on-line, at [www.iom.edu](http://www.iom.edu). Also see: <http://www.ahcpr.gov/qual/errorsix.htm>; and, [www.who.org](http://www.who.org). According to the World Health Report 2002 almost 17 per cent of patients suffer "measurable" harm while undergoing unrelated treatment in health care facilities.
- <sup>lv</sup> For details on this, see S. Inayatullah & G. Boxwell (eds.), *Islam, Postmodernism and Other Futures: A Ziauddin Sardar Reader*, London, Pluto Books, 2003.