

Futures Studies: Theories and Methods

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INTRODUCTION

Futures studies is the systematic study of possible, probable and preferable futures including the worldviews and myths that underlie each future. In the last fifty or so years, the study of the future has moved from predicting the future to mapping alternative futures to shaping desired futures, both at external collective levels and inner individual levels (Masini 1993; Bell 1996; Amara 1981; Sardar 1999; Inayatullah 2000; Saul 2001).

During this period, futures studies has moved from focusing on the external objective world to a layered approach wherein how one sees the world actually shapes the future one sees (Inayatullah 2002). In this critical futures approach — the poststructural turn — the external world is informed by the inner and, crucially, a person’s inner world is informed by the reality of the external. While many embrace futures studies so as to reduce risk, to avoid negative futures, particularly the worst case, others actively move to creating desired futures, positive visions of the future (Masini 1983). The identification of alternative futures is thus a fluid dance of structure (the weights of history) and agency (the capacity to influence the world and create desired futures).

As the world has become increasingly risky — at least in perception, if not in fact — futures studies has been eagerly adopted by executive leadership teams and planning departments in organizations, institutions and nations throughout the world. While futures studies sits comfortably as an executive function by providing the big picture, there

remain tangible tensions between the planning and futures frameworks. Planning seeks to control and close the future, while futures studies seeks to open up the future, moving from “the” future to alternative futures.

To understand the future(s), one needs a cogent theoretical framework. Four approaches are crucial to foresight (Inayatullah 1990). The first is predictive, based on empirical social sciences. The second is interpretive, based not on forecasting the future but on understanding competing images of the future. The third is critical, derived from poststructural thought and focused on asking who benefits by the realization of certain futures and which methodologies privilege certain types of futures studies. While truth claims are eschewed, the price of epistemology is not: every knowledge decision privileges reality in particular ways (Shapiro 1992; Foucault 1973). The fourth approach is participatory action learning/research. This approach is far more democratic and focuses on stakeholders developing their own future, based on their assumptions of the future (for example, if the future is linear or cyclical) and what is critical to them (Inayatullah 2007).

While a theory of the future is useful, a conceptual framework for understanding the future is still necessary. Among others is the Six Pillars approach (Inayatullah 2008). The first pillar is “Mapping the future,” with its primary method being the futures triangle (Inayatullah 2002; 2007). The second pillar is “Anticipating the future” with emerging issues analysis (Molitor 2003) as the focal methodology. The third pillar is “Timing the future,” with micro-, meso- and macrohistory (Galtung and Inayatullah 1997) being the most useful “methods.” The fourth pillar is “Deepening the future” with causal layered analysis (Inayatullah 2004) being the foundation (even though causal layered analysis is a theory of futures studies as well). The fifth pillar is “Creating alternatives” with scenario planning being the most important method. The last pillar, “Transforming the future,” has visioning and backcasting (Boulding 1995) as its most important methods.

From the premodern to the modern

Premodern attempts to understand the future focused on astrology. By and large, the purpose of astrology was to help individuals avoid dangerous circumstances by providing an early warning system. However, unquestioned belief in the astrological system was essential since warnings and forecasts as well as psychological analyses were of a general nature. The future was not contested. In modern futures studies, questioning and divergent views are not only incorporated, they are essential to robustness and resilience. In contrast to astrology, alternatives are embraced.

While recent futures studies includes contesting the views of the future as well as ways of knowing — the deep cultural myths and metaphors — of researchers and participants, a generation back futures studies placed a far greater emphasis on forecasting. It was the




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technique par excellence of planners, economists and social scientists. The assumption behind forecasting is that the future can be generally if not precisely known. With more information, particularly more timely information, decision-makers can make more effective choices. Having more information is especially important since the rate of technological change has dramatically increased. However, the need for information, as in times before, is necessitated by a fear of the future, a feeling of impotence in the face of forces we cannot understand, that seem larger than us. The unconscious assumption is that through better forecasting, the world, the future, can be more effectively controlled thus increasing profits or hegemony.

As business-as-usual has disappeared — largely due to a perception that the world is far riskier (the break-up of the Soviet Union, the Asian Financial Crisis, 9/11, SARS, Bird Flu, the Global Financial Crisis, climate change, the potential breakdown of the Eurozone) — futures studies has become more commonplace. Change truly has become the norm. Dramatic developments in digital, genomic, nano and neuro technologies point to more disruptions. The

rise of Chindia and the relative decline of the USA suggest that the uni-polar world is finished. In response, governmental, corporate, think-tank and non-government organizations have embraced the formal study of the future. Some use futurists as consultants who provide market advice; others use futurists to develop internal capacity through foresight workshops; and still others have senior executives attend more formal courses in futures studies. This has led to discussion as to where, within organizations, it is best to house the study of the future. More often than not, futures studies is housed in the planning department. However, while this may appear logical, as both deal with forward time, there are significant differences between the two.



Futures studies creates alternative futures by making basic assumptions problematic. Through questioning the future, emerging issues analysis, and scenarios, the intention is to move out of the present and create the possibility for new futures

PLANNING, POLICY AND FUTURES STUDIES

When compared to planning, the futures approach:

1. is longer-term, from five to fifty years (even 1 000 years) instead of one to five years;
2. links horizon three (20–30 years) with horizon two (5–20) and horizon one (the present to five years);
3. is committed to authentic alternative futures where each scenario is fundamentally different from the other. When planners and economic forecasters use scenarios, they are often mere deviations from each other;
4. is committed to multiple interpretations of reality (legitimizing the role of the unconscious, of mythology, of the spiritual, for example, instead of only views of reality for which empirical data exists);
5. is more participatory, in that it attempts to include all types of stakeholders instead of only powerbrokers;
6. consciously uses different ways of knowing, from drama or postcards from the future to various games (for example, the Sarkar game [Hayward and Voros 2006], or the CLA game);
7. is more concerned with the futures process, which is as important as the elegance of the strategic plan itself, if not more so;
8. although a technique, is also very much action-oriented, more concerned with creating the future than simply predicting it; and
9. is as much an academic field as it is a participatory social movement.

From the view of the planning discourse, the foresight function is merely one approach among many necessary to create a good plan. For planners, futures studies is useful as long as it aids in planning for the future and does not make planning or policymaking problematic. Futures studies can be disruptive, challenging the current framework instead of seeking to make strategy more effective. For futurists, disruption through methods such as emerging issues analysis (popularized in Nassim Taleb's work, *The Black Swan*, 2010) and scenario planning in fact enhances strategy effectiveness by ensuring that the plan is more robust and resilient.

The growth of futures studies is also a result of the desire of government to find information that can aid in making better policy. Futures studies, along with systems analysis, is used to better understand the second and third order effects of specific policy decisions. For many, futures research is merely long-term policy analysis or research and should not be seen as a separate field or discourse. However, there are real and important distinctions between futures research and policy research/analysis. The most significant is that futures studies creates alternative futures by making basic assumptions problematic. Through questioning the future, emerging issues analysis, and scenarios, the intention is to move out of the present and create the possibility for new futures. Policy analysis is concerned with analysing the viability of particular policies, not calling the entire discussion or the framework of decision-making into question.

In general, in planning and policy analysis, the future is often used to enhance the probability of achieving a certain policy. This is often phrased as "preparing for the future," or "responding to the challenge of the future." The future thus described is singular and more often than not it is a given. The future becomes an arena of economic conquest and time becomes the most recent dimension to colonise, institutionalise and domesticate. Futures research, however, intends to liberate time for strict technique, from instrumental rationality. It asks: what are the different ways one can "time" the world? How, for example, do different cultures, groups and organisations imagine time? It is not "preparing for the future," but by challenging the orthodox future, it opens up the possibility of alternative futures. Once alternative futures are created, then futures studies as practice seeks to develop individual and organizational capacity to invent the desired future.

Of course, policy analysis itself is a dynamic field. For example, new models of policy development have attempted to move beyond muddling through (as needs or problems come up), rational-economic decision-making (material goals) and *satisficing* (doing what you can given political and budgetary limitations), arguing primarily that these strategies are not useful during times of rapid change and dramatic crisis. Muddling through, in particular, is not useful during times of turbulence since incremental policy change does not help the organisation or nation transform to meet dramatic new conditions. The rational-economic model is useful at setting

and achieving objectives but it does not take into account extra-rational efforts. It is overly dependent on quantitative factors; it reinscribes self-interest and national self-interest (balance of powers). Satisficing, while excelling at implementation, does not ask whether the job was worth doing. Interest in finding ways to include the possibility of discontinuous change, of forecasting trends before they emerge, has been a natural progression in the evolution of the policy sciences. Futures studies fits well into the effort of finding better ways for government and business to incorporate the unknown into decision-making.

While policy researchers would prefer an investigation into the future that was more short-term, immediately beneficial to the organization, and framed within the language of the organization, by and large, futures research is often less concerned with predicting the future than with attempting to envision novel ways of organising how decisions are reached and who is eligible to participate in these decisions. It does this by asking participants to envision their ideal organisational world and then it aids in creating strategies to realise that world.

Moreover, from a critical view, to suggest that policy futures statements must be clear to the policymaker is at some level just banal. Institutions create obscure language because that language serves particular interests. It is the analysis of those interests (and the mechanisms they employ to seek and maintain power) that becomes the vehicle for investigating what images of the future are possible and which are likely to become reality. In this sense, how to make better policy or more future-oriented policy without investigating the political interests of certain policies is equally banal. Organizations stay focused in the present as bureaucrats and others are served by the current structure. Attempts to create new futures can undermine present power structures. Administrators agree to consider the future only to gain new political alliances or to achieve modernity (gain funding or prestige) but rarely to make structural or consciousness changes.

Engaging in futures studies thus requires at least a gloss of theoretical accounts as to the nature of the real and the true. In this sense, it is useful to envision policymaking, planning and futures process as having four dimensions or types: predictive, interpretive, critical and action learning.

EPISTEMOLOGY AND TYPES OF FUTURES STUDIES

In the *predictive*, language is assumed to be neutral, that is, it does not participate in constituting the real. Language merely describes reality serving as an invisible link between theory and data. Prediction assumes that the universe is deterministic, that is, the future can be known. By and large this view privileges experts (planners and policy analysts as well as futurists who forecast), economists and astrologers. The future becomes a site of expertise



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and a place to colonise. In general, the strategic discourse is most prevalent in this framework with information valued because it provides lead time and a range of responses to deal with the enemy (a competing nation or corporation). Linear forecasting is the technique used most. Scenarios are used more as minor deviations from the norm than as alternative worldviews.

In the *interpretive*, the goal is not prediction but insight. Truth is considered relative with language and culture both intimately involved in creating the real. Through comparison, through examining different national or gender or ethnic images of the future, we gain insight into the human condition. This type of futures studies is less technical, with mythology as important as mathematics. Learning from each model — in the context of the search for universal narratives that can ensure basic human values — is the central mission for this epistemological approach. While visions often occupy centre stage in this interpretive view, the role of structures

is also important, whether class, gender, or other categories of social relations. Planning and policy analysis rarely practise an interpretive cultural form of goal setting or impact analysis.

In the *critical*, futures studies aims not at prediction or at comparison but seeks to make the units of analysis problematic, to *undefine* the future. For example, at issue are not population forecasts but how the category of population has become valorised in discourse: for example, why population instead of community or people, we might ask? The role of the State and other forms of power in creating authoritative discourses is central to understanding how a particular future has become hegemonic. Critical futures studies asserts that the present is fragile, merely the victory of one particular discourse, way of knowing, over another. The goal of critical research is to disturb present power relations through making our categories problematic and evoking other places, other scenarios of the future.

Critical futures studies draws its inspiration from poststructuralism. The task in critical futures studies is to make the universal particular, to show that it has come about for fragile political reasons, merely the victory of one discourse over another, not a Platonic universal. To do so, one needs discursive genealogies that attempt to show the discontinuities in the history of an idea, social formation or value. Through genealogy and deconstruction, the future that once seemed immutable is now shown to be one among many. As such it is replaceable by other discourses. Deconstruction then becomes a method of unpacking a text (broadly defined) and showing the discourses that inhabit it. Deconstruction moves beyond relativism by asking what the price of a particular discourse is. What future is put forth? What future is silenced? Genealogy historically traces how a particular discourse has become dominant at the expense of other discourses. The shape and type of future (instrumental versus emancipatory, for example) is often different in each type of discourse.

As important as genealogy and deconstruction is “distancing.” Distancing differentiates 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. Scenarios make the present remarkable, thus allowing other futures to emerge. Distancing can be accomplished through utopias as well, as they function as “perfect,” “no,” or far-away places — other spaces.

Ideally, one should try to use all three types of futures studies. If one makes a population forecast, for example, one should then ask how different civilisations approach the issue of population. Finally one should deconstruct the idea of population itself, defining it, for example, not only as an ecological problem in the third world but relating it to first-world consumption patterns as well. Empirical research then must be contextualised within the civilisation's science from which it emerges and then historically deconstructed to show what a particular approach is missing and silencing.

In the fourth type, *participatory action learning*, the key is to develop probable, possible and preferred estimations of the future based on the categories of stakeholders. The future is constructed through deep participation. The categories employed are not given *a priori* but rather developed as cooperative practice. The future thus becomes owned by those having interests in the future. Moreover, there is no perfect forecast or vision. The future is continuously revisited, questioned.

In the first type of futures studies (most comfortable to planners and policy analysts), by and large, techniques such as linear regression, multiple regression, factor analysis and econometrics are used. All these assume that the future is based on the linearity of the past. They also assume that the empirical world can be known and that the universe is fundamentally stable, with reality primarily sensible. But given that specific events can throw off a forecast, empirical futurists have re-invented Delphi, or expert event forecasting. Delphi polling is done in many rounds so as to gain consensus and done anonymously so as to reduce the influence of a particular opinion maker. More recently through crowdsourcing, Delphi has taken an even more dramatic twist becoming not an oracle of the expert priest (futurist, economist, scientist) but a representation of the most up-to-date perspective of the user. While in Delphi and other similar systems, hierarchical expertise is primary (one expert or multiple experts in anonymous dialogue) in new peer-to-peer systems, information of the future is derived through the wisdom of the many, argue Michael Bauwens, Elina Hiltunen (2011) and Jose Ramos (2012). Moreover, the wisdom of the many is not only derived through rational means, but as Stuart Candy (2010) suggests, through direct immanence, wherein a possible scenario of the future (an ecotopia) is enacted in a public space.

A CONCEPTUAL FRAMEWORK FOR FUTURES STUDIES: THE SIX PILLARS

Futures studies has often been criticized, and quite rightly so, for lacking a conceptual framework, a foresight process. However, in the last decade a number of frameworks that are inclusive of strong theory and practice have been developed. These include Voros' generic foresight process framework (2003) and the Six Pillars approach, which is derivative of Dator's Manoa school (Dator 1979).

The Six Pillars provide a theory of futures thinking that is linked to methods and tools, and developed through praxis. The pillars are: mapping, anticipation, timing, deepening, creating alternatives and transforming. They can be used as theory or in a futures workshop setting. In a workshop setting, they can be used in a linear sequential sense, that is, from mapping (using the futures triangle) to transforming (via visioning and backcasting) or by the workshop director selecting a particular pillar to focus on.

Mapping

In the first pillar, past, present and future are mapped. By mapping time, we become clearer on where we have come from and where we are going. Three tools are crucial.

The “Shared History” method consists of having participants in a futures workshop write down the main trends and events that have led up to the present. A historical timeline is then constructed up to the present. “Shared History” asks: What are the continuities in our history, what is discontinuous? This opening tool creates a framework from which to move to the future. In a research setting, the history of the issue is articulated either via empirical (historical data points) or interpretive frames of reference (the meanings individuals give to the data points).

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The futures triangle maps today’s views of the future through three dimensions. The image of the future pulls an organization forward. Each organization or institution has contending images of the future. At the global macro level, while there are many images of the future, five or so are archetypal. These are: 1) evolution and progress — more technology, man as the centre of the world, and a belief in rationality; 2) collapse — a belief that man has reached his limits, indeed he has overshot them: world inequity, fundamentalism, tribalism, nuclear holocaust, climate disasters: all point to a worsening of the future; 3) Gaia — the world is a garden, cultures are its flowers, we need social technologies to repair the damage we have caused to ourselves, to others and to nature, becoming more and more inclusive is what is important. Partnership between women and men, humans and nature, and humans and technology are the next evolutionary jumps; 4) globalism — barriers between nations and cultures can be eliminated once we move to a free market system. Technology and the free flow of capital can bring riches to all. Traditional isms and dogmas are the barriers stopping us from achieving a new world; and, 5) back to the future — we need to return to simpler times, when hierarchy was clearer, when technology was less disruptive, when the rules of hierarchy were clear. Change is overwhelming; we have lost our way and must return.

Along with images are the pushes of the present. These are quantitative drivers and trends that are changing the future: the obvious ones are an ageing population, mobile Internet penetration, climate change, and the number of women in higher education. There are also weights. These are the barriers to the change we wish to see. Each image has differing

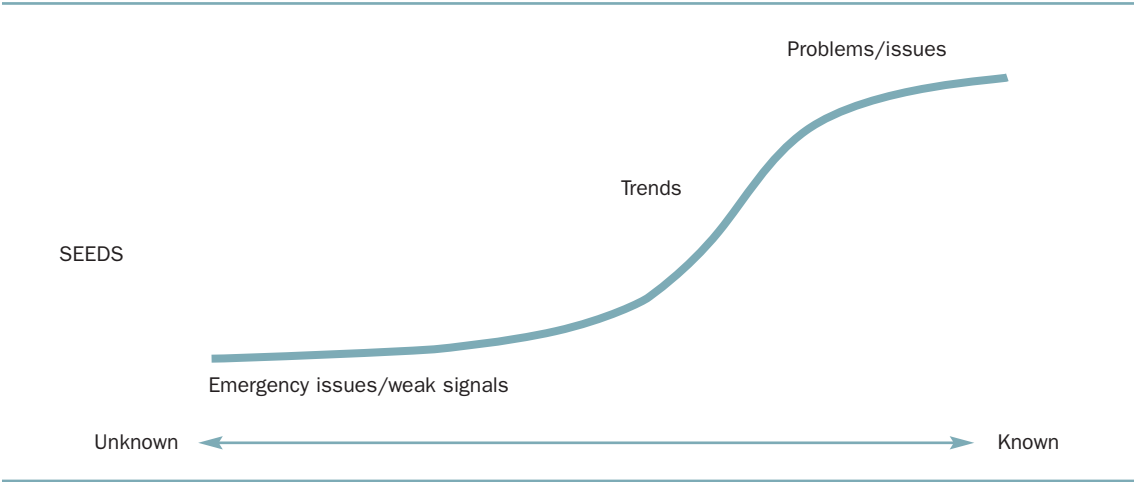
weights. Those who imagine a globalized world are weighed down by nationalists and protectionists. The Gaian (Lovelock 2006) image is weighed down by the dominance of hierarchy — male, empire or expertise. By analysing the interaction of these three forces, the futures triangle helps develop a plausible future. Strategies can then be articulated as to what is required — greater emphasis on the pull of the future, the weight of the past, or the push of the present.

Anticipation

The second pillar of futures thinking is Anticipation, with emerging issues analysis (Molitor 2003) as the main method (see Figure 1). Emerging issues analysis seeks to identify bell-weather regions, where new social innovations start. It also seeks to identify issues before they become unwieldy and expensive, and, of course, to search for new possibilities and opportunities. Emerging issues include disrupters such as: Will robots soon have legal rights? Will meditation be part of every school curriculum? Will we develop pharmacies in our bodies? Will the smart toilet help us with early diagnostics? Will the slow cities movement redefine the 24/7 world? Will smart bots (eco, health) create more fuel- and health-efficient persons, houses, communities and businesses? Will eating meat be illegal in the long run and in the short run seen as a kind of child abuse?



Figure 1. Emerging Issues Analysis



While solving emerging issues leads to little political pay-off — i. e. voters will not reward the leader for solving tomorrow’s problems — they can help minimize harm and indeed help individuals and organizations respond far more swiftly to emerging challenges.

Timing the Future

The third pillar is Timing the Future. This is the search for the patterns in change, the stages and mechanisms of long-term change. Macrohistorians (Galtung and Inayatullah 1997) posit that a number of patterns are critical if we wish to understand the shape of time:

1. The future is linear, stage-like, with progress ahead. By hard work, we will realize the good future. Foundational writers include Auguste Comte (1875) and Herbert Spencer (1973).
2. The future is cyclical; there are ups and downs. Those at the top will one day find themselves at the bottom. Because they are on the top, they are unable to adapt and adjust as the world changes. Their success was based on mastery of yesterday's conditions. Few are able to reinvent their core stories. Foundational writers are Ssu-Ma Chien (Watson 1958), Ibn Khaldun (1967) and Oswald Spengler (1972). Related to the cycle is the pendulum, developed by Pitirim Sorokin (1957). In this approach, nations and organizations tend to oscillate between extremes of two poles (centralization or decentralization, modernity and religion, or civilian and military rule). Knowing where one is in the pendulum can lead to more effective strategy, helping to decide how and when to act.
3. The future is a spiral: parts are linear and progress-based, and parts are cyclical. With leadership that is courageous and has foresight, a positive spiral can be created. The dogmas of the past are challenged but the past is not disowned, rather it is integrated in a march toward a better future. The foundational thinker for this approach is P. R. Sarkar (1987).
4. New futures are more often than not driven by a creative minority. They challenge the notion of a used future. Instead of imitating what everyone else is doing, they innovate. This can be social, political, cultural, spiritual or technological innovation. These change agents imagine a different future and inspire others to work toward it. When there is no creative minority, instead of sustainable systems what result are bigger and bigger empires and world-states. Power and bureaucracy continue unchallenged, charisma becomes routinized and the hunger for something different, something that can better meet human needs, drifts away. Size or growth takes over; inner and outer development disappears. The work of Arnold Toynbee (1972) and, to some extent Vilfredo Pareto (1968), is foundational to this approach.
5. There are hinge periods in human history, when the action of a few can make a dramatic difference. It is in these periods, especially, that old ways of behaviour are no longer helpful: what succeeded before no longer works. We are likely in this phase now. This approach is generally favoured by most transformational futurists — Alvin Toffler, Oliver Markley, Duane Elgin, P. R. Sarkar, Riane Eisler, Ervin László, Hazel Henderson, James Dator, James Robertson and many others share this framework.

At a meso-institutional level, there are three contrasting positions as to the nature of institutional change. First, real change comes from those who live in institutions. It is not from changing the external world but either by changing how we see the world — appreciation, gratitude, looking for the positives in every situation, in the now (Tolle 2003) — or by deep inner meditation that leads to consciousness change (Sarkar 1987). Once we become different the nature of reality changes.

Second, real change is not consciousness but institutional change, changing the laws that govern society, the rules and regulations. Taxation, legislation and incentives to lead societal change, as Singapore can attest to.

Third, real change comes from new technologies. They change how we do what we do. As Marshall McLuhan argued, we create technology and then it creates us (1962). For example, we create the Internet and now we define how we work (flexible but 24/7), how we play (gaming), and even how we meet partners. Technology creates new economies and the tensions result when society lags behind, when power relations do not change.

At the meso-organizational level, Jenny Brice, formerly of Fuji Xerox, and Patricia Kelly provide useful theories of change. Using the virus as an analogy for social change, they argue that the goal is not to transform the entire organization but merely to find the champions, these generally account for 10 percent of the organization's staff. In this quest, it is crucial not to lose focus by fighting with the resisters, also around 10 percent. Rather, they are transparently quarantined. Early adopters account for nearly 40 percent and they are to be supported — with incentives and increased importance — while the remaining 40 percent tend to be bystanders, not overly concerned with organizational dynamics as long as their basic needs are met.

Finally, there is microtiming, or the biography of change. There are two aspects here. First, futures thinking differs depending on what stage of life one is in. For example, the future of a teenager is likely to be shorter-term oriented (because of brain development) than that of an adult. Vulnerability is likely to be more of a factor for the elderly than for a young adult.

Second is the microhistory that frames life stages. Here, the guiding question is how one sees the stages of life: the traditional birth–student–work (one job)–retirement–death structure or an alternative rendering, for example, student–work (multiple and portfolio careers), mentoring, spiritual life, death and then conscious or unconscious rebirth. Many other patterns are possible, including the transhumanists who see the stages as birth–student–work–retirement and then endless life through technological life extension. This biography of life thus is the unconscious structure to how we imagine our lifecycle. At issue is this: as the world dramatically changes — living longer and the move to a grey future — will the classical biography still hold? Or will new patterns of life be invented?

Timing the future thus focuses on the wise use of macro-, meso- and micro-patterns of change to better influence social reality.



Donald Petit, *Star trails*



Deepening the Future

Pillar four is deepening the future. One method is foundational: causal layered analysis (Inayatullah 1998, 2004). Causal layered analysis (CLA) seeks to unpack, to deepen the future. It has four dimensions. The first is the litany, or the day-to-day future: the data, the commonly accepted headlines of the way things are or should be. Solutions to problems are at this level are usually short-term oriented. The second dimension is deeper, focused on the social, economic, political causes of the issue: the systemic. The third dimension is the culture or worldview. This is the big picture, the paradigm that informs what we think is real or not real, the cognitive lenses we use to understand and shape the world. The fourth dimension is the myth or the metaphor: the narrative. Metaphors are often the vehicles of myths.

Levels 1 and 2 are most visible; levels 3 and 4 are broader and deeper and more difficult to identify. Outsiders to the institution or organization are far more effective in discerning these levels of reality.

If we look at health care, we know that there is a high rate of medical mistakes leading to serious injury or death. At level one, the solution is more training for health practitioners, particular doctors, as policymakers focus on people generally. At level two, we search for causes for these mistakes. Is it lack of communication between health professionals? The state of the hospital? Hospital design? Lack of understanding of new technologies? Incorrect diagnosis? Wrongly prescribed medicines? Systemic solutions seek to intervene by making the system more efficient, smarter, ensuring that all parts of the system are seamlessly connected. Hospitals are redesigned for safety especially for an ageing society (to minimize the risk of falls, for example).

But if we move to a deeper, worldview level, we see the problem may in fact be the paradigm of Western medicine itself: its reductionism, its focus on technique and the disowning of its softer and more holistic potentials. The doctor remains far above, the nurse below and the patient even lower. It is the hierarchy of knowledge that is the root problem at this level. Merely instituting more training or more efficient systems ignores power. The solution is to empower patients (listen to them from their interpretive perspective, their views of healing and the future), or a move to different health systems — complimentary health systems, for example. Certainly, alternative health is the disowned self of modern medicine. Many researchers are integrating opposites — using modern and ancient medicine to develop better outcomes.

At the myth level, the deeper problem is the notion that “doctor knows best.” Patients give up their power when they see medical experts: patients enter the hospital system and immediately regress to their child selves. Doctors resort to expert selves — and with dehumanized bureaucracies ensuring a focus on efficiency, mistakes continue to occur.

CLA seeks to integrate these four levels of understanding (see Table 1). Each level is true (at its level), internally consistent, and solutions need to be found at each level. Litany

interventions lead to short-term solutions, easy to grasp, packed with data. Systemic answers require interventions by efficiency experts. Governmental policies linked to partnership with the private sector often result. Worldview change is much harder and longer term. It requires seeking solutions from outside the framework in which the solution has been defined. And myth solutions require the deepest interventions, as a new story needs to be told, rewiring the brain and building new memories for the personal and collective body.



Table 1. Causal layered analysis — levels, problems and solutions

CLA Level	Problems and Solutions
Litany	High rate of medical mistakes Solution: More GP Training
Systemic causes	Audit on causes of mistakes: communication, new technologies, administration Solution: More efficient, smarter systems
Worldview	Reductionist modern medical paradigm creates hierarchy Solution: Enhance power of patients Solution: Move to different health systems
Myth/metaphor	“Doctor knows best” Solution: “Take charge of your health”

CLA asks us to go beyond conventional framings of issues. However, it does not privilege a particular level. For example, with respect to the global financial crisis (Inayatullah 2010), one can read this narrowly as a mortgage or banking crisis, or more broadly as a decline of the West and the rise of Chindia, or even more broadly as the end of the industrial era and the need for a global green economy. Each reading has its own metaphors and myths. If the narrative is the mortgage crisis then the solution is a move from “I shop therefore I am” to “I live within my means.” If a geopolitical shift, then it is from “limits of the West” to “peaceful rise of Asia” (Bajpai 2012: 12–37; Inayatullah 2012). And if it is truly a foundational shift, the narrative moves from “growth and progress forever,” to “Gaia”: moving up and down layers, and horizontally across discourses and worldviews, increasing the richness of the analysis.

CLA thus leads to depth. For example, in policing, it means moving from the litany of more police to solve crime and safety issues to systemic change wherein cities and communities are redesigned for safety (via lighting, via community policing, via surveillance cameras) and then to worldview changes (Inayatullah 2012; IEET). At the worldview level, the hierarchical military structure of policing is transformed to one where security is co-produced with multiple stakeholders (citizens, communities, private security firms) from exclusionary hierarchy to flatter inclusionary cultures. Finally for any changes to be successful, the core narrative of the “thin

blue line” must be challenged, where police are special and know everything. Community policing or broader safety strategies will not succeed unless a new narrative defines who the police are. Without narrative and worldview changes, a focus only on litany and system will create a reality where “culture eats strategy for breakfast.”

CLA can also be applied to the self. One could, as participants from around the world have, investigate the litany of the self (how do I represent my self to others); the system of the self (is there one self; a tri-self of id, ego and super-ego; or a multiplicity of selves searching for a gestalt); the dominant worldview in terms of how my mind is organized — a democracy, a dictatorship, chaos; and finally, what the core metaphors of the mind are. Is my mind like a to-do list? A highway, with the ego as a driver? Is it a river ecosystem with many tributaries? The CLA process begins with the self as is, moves to multiple selves and then challenges the core story (stories) of the self and seeks to transform it (them) (Stone 1993).

After the future is deepened, we can then broaden it, using the fifth pillar.

Creating Alternatives

The fifth pillar is focused on methods to create alternative futures. The most important method in this pillar is scenario planning. Just as every futures project needs to have engaged in a futures triangle (an environmental scan), emerging issues analysis (what is likely to disrupt the map) and CLA (what the competing narratives are), it must also include alternative futures. Scenarios are the tool par excellence of futures studies. They open up the present, contour the range of uncertainty, reduce risk, offer alternatives, create more flexible organizational mindsets, and even better, they predict.

There are many scenario methods. The first is the multi-variable. This is derived from the futures triangle and emerging issues analysis. Based on the images or the drivers or the emerging issues, a range of scenarios or stories/pictures of the future are created. From a workshop on e-health futures in Bangladesh (Inayatullah and Shah 2011) based on the drivers of the proliferation of mobile technology, demographic shifts (more young people), the traditional role of women and microcredit, increasing costs of ageing and the high costs of hospitals, four futures resulted. These were “the Leapfrog,” the “e-health car,” “Cloud 2025” and “Co-payment 2025.”

First, “the Leapfrog.” In 2025, the smart use of technology through low-cost diagnostic devices such as medical apps and bio-sensors create a dramatic transformation in health care. The traditional (modern Western) health system is leapfrogged. Individuals throughout Bangladesh gain access to inexpensive interactive technologies. The e-health infrastructure is developed from the bottom up. The Ministry of Health provides the standards and other rules to ensure integration and interoperability” (Ibid., 15).

In the second scenario, the “e-health car,” continuing the traffic metaphor, the Ministry of Health Information Systems successfully drives Bangladesh to this future. While all

stakeholders are important, in this metaphor the owner is the government and the navigator is the entire healthcare system, but the driver is the Ministry. Individual, tailored solutions are developed for patients in rural and urban areas.

In the third future, “Cloud 2025,” cloud computing provides health information and diagnostic applications ubiquitously to all. The “cloud” is a public space; however, for administrative purposes health is organized through *upazilas* or sub-districts (currently there are 500 in Bangladesh). The Cloud health network begins through tracking of the birth of every child in Bangladesh. Once the births are registered then their health life cycles can be tracked, monitored and their life stages health-enhanced.

In the fourth future, “Copayment 2025,” the primary question is the payment mode of future systems and their financial viability. This future is centralized with individuals provided with financial incentives to stay healthy via public disbursements. Thus, prevention as a worldview becomes primary. Donors and insurance agencies, along with the government and health professionals play a decisive part in this future. Information is not just one way, i. e., giving citizens health education, but it becomes a two-way street through financial incentives and new mobile technologies. Citizens use new digital devices or work with local health caseworkers to enhance their own understanding of their personal tailored health futures. As citizens become more empowered, health costs are likely to decline.

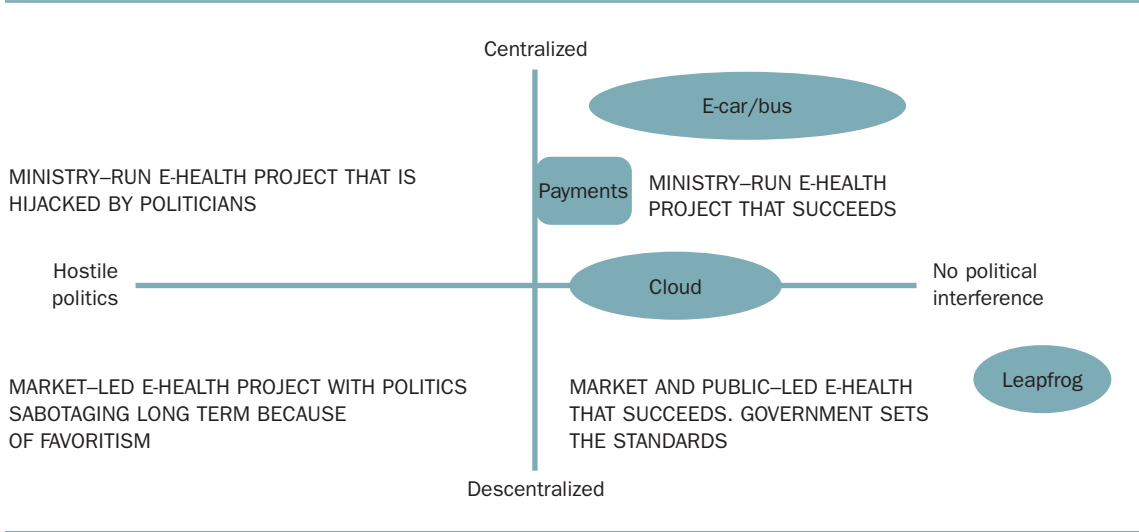
While there is considerable similarity in the scenarios, the level of authority of the Ministry of Health is crucial. The second differentiation is the level of technology; is it the cloud or less integrated tablets providing information to doctors in the main city?

The second scenario technique — the double variable method — identifies the two major uncertainties and develops alternatives based on them. This method, among others, has been developed by Johan Galtung (1998; see also www.transcend.org). In the Bangladesh e-health case study, it was used to identify the key uncertainties. The two drivers chosen for this method were “system structure” and “politics.” The extremes for “system structure” were labelled “centralized” (run by the central government) and “decentralized” (run by multiple stakeholders), whereas those for politics were labelled “hostile politics,” meaning resisting participatory mobilization and empowerment and “viable or amenable to change,” meaning fostering participation and engagement. Four scenarios were created. These were 1) ministry-run, hijacked by politicians; 2) ministry-run, but projects succeed as there is no political interference; 3) market- and multi-stakeholder e-health sabotaged by favoritism (read: corruption); and 4) market- and multi-stakeholder that succeeds because of technological and social innovation by participants. Government mainly plays the role of setting the standards.

In this project, the scenarios developed in the multi-variable method were tested by the double variable method.



Figure 2. e-health futures: the double variable method



The double variable method is excellent for strategy development; however, it is crucial to debate the key variables. Its weakness is that no outlier scenario is developed.

The third scenario method is developed by James Dator. It articulates scenario archetypes (Dator 1979). These are:

- Continued Growth — where current conditions are enhanced: more products, more roads, more technology, and a greater population. More growth is considered the solution to every problem.
- Collapse — this future emerges as “Continued Growth” fails. The contradictions are too great: between the economy and nature; between men and women; between the speculative and the real economy; between religious, secular and postmodern approaches; and between technology and culture.
- Steady State — this future seeks to arrest growth and find a balance in the economy and with nature. It is a balanced, softer and fairer society. Community is decisive in this future. Steady State is both back to nature and back to the past. Human values are first here. Endless growth — cities, an expanding population, technology — is often seen as the problem.
- Transformation — this future seeks to change the basic assumptions of the other three. Transformation comes about either through dramatic technological change (artificial intelligence eliminates the bureaucracy and many forms of governance; genetics changes the nature of nature, for example) or through spiritual change (humans change their consciousness through experience of deep transcendence).

toward the preferred. Which future do individuals desire? Which futures do organizations, cities and nations desire?

Visions and visioning are foundational to the field. Visions work by pulling people along. They give individuals and groups a sense of the possible. They also inspire the noble within each person by calling individuals to sacrifice the short term for the longer term, for the greater good. Finally, they help align individual goals with institutional goals. An organisation or nation or civilisation without a compelling vision of the future and a conviction that agency is possible will decline, argues Fred Polak in his *The Image of the Future* (1972).

To develop a vision, there are three methods: analytically through scenarios, via questioning, and through creative visualization.

In the scenario process, the preferred future is the best case. In the questioning process, individuals are interrogated as to the nature of a preferred day in their life in the future. They might be asked: What happens once you wake up? What does your home look like? What type of technologies do you use? Who do you live with? What is the design of your home? What types of building materials were used? Do you go to work? What does work look like? What do you eat? These questions force individuals to think in more detail about the world they would like to live in.

The preferred future can also be discerned through a process of creative visualization. In this process, individuals are asked to close their eyes and enter a restful state. From there, in their mind's eye, they take steps to a hedge or wall (the number of steps is based on how many years into the future they wish to go). Over the hedge is the preferred future. They walk into that future. The facilitator asks them for details such as: Who is there? What does the future look like? What can you see, smell, hear, touch, taste? This exercise articulates the future from the right brain — it is more visual — accessing the unconscious.

The three visioning methods — the analytic scenario, the questioning, and the creative visualization — are then triangulated to develop a more complete view of the future.

Backcasting

The vision can then be backcasted. Developed by Elise Boulding (Boulding and Boulding 1995), backcasting works by moving individuals into the preferred future — or any particular scenario, for example, the worst case. We then ask, in the instance of the preferred, what happened in the last twenty years to bring us to today? What were the trends and events that created today? Backcasting fills in the space between today (the future) and the past. Doing so makes the future far more achievable. The necessary steps to achieve the preferred future can then be enacted. This can be done via a plan or via action learning steps, where a process of experimentation begins to create the desired future. This can be a budgeted-for transition strategy or a full-scale reengineering.



Donald Petit, *Star trails*

Backcasting as well can be used to avoid the worst-case scenario. Once the steps that led to the worst-case scenario are developed, then strategies to avoid that scenario can be enacted.

Conflict between visions

What happens, though, when there is conflict between visions of the future? Johan Galtung's transcend method (1998) (Figure 3) is an excellent way forward (see www.transcend.org). It focuses not on compromise, or far worse, withdrawal, but on finding win-win solutions. To do so, all the issues that are contested in the two visions need to be spelled out. And then through a process of brainstorming, creating alternatives, new ways to integrate the visions can occur. In one city case study, one stakeholder group desired a green sustainable city; another

group, a far more exciting modern, international and glamorous city. Through the transcend method, the greens understood that their city would become boring. They thus realized that the glamorous vision was a way to recover that aspect of their disowned personalities, but also that the modern dimension of the city could help them innovate. The modernists understood that without sustainability as a guiding principal there would be no way forward for anyone: each aspect of the vision needed the other. A more integrative vision was articulated, using this method, from which strategies could be developed.



Figure 3. The Transcend method



QUESTIONING THE FUTURE

The Six Pillars process can also be reduced to the following simple questions. The questions in themselves are a method: a way to question the future. They can be used to help individuals and organizations to embark on transformation.

1. What is the history of the issue? Which events and trends have created the present?
2. What are your projections of the future? If current trends continue, what will the future look like?
3. What are the hidden assumptions of your predicted future? Are there some things taken for granted (about gender, or nature or technology or culture)?
4. What are some alternatives to your predicted or feared future? If you change some of your assumptions, what alternatives emerge?
5. What is your preferred future?
6. How did you get here? What steps did you take to realize the present?

The final question is based on CLA:

7. Is there a supportive narrative, a story? If not, create a metaphor or story that can provide cognitive and emotive support for realizing the desired future.

To conclude, futures studies — research — is concerned not only with forecasting the future, interpreting the future and critiquing the future, but also with creating not just the possibility but the reality of alternative worlds, alternative futures. Through structured methods, the emergence of new visions and strategies result. The Six Pillars approach provides a conceptual and methodological framework for this journey.

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FROM A FOCUS ON PREDICTING THE FUTURE, THE MODERN DISCIPLINE OF FUTURES STUDIES HAS BROADENED TO AN EXPLORATION OF ALTERNATIVE FUTURES AND DEEPENED TO INVESTIGATE THE WORLDVIEWS AND MYTHOLOGIES THAT UNDERLIE POSSIBLE, PROBABLE AND PREFERRED FUTURES. THIS CHAPTER PROVIDES A CONCEPTUAL FRAMEWORK FOR THE STUDY OF THE FUTURE. CASE STUDIES DERIVED FROM ORGANIZATIONAL, INSTITUTIONAL AND NATIONAL FORESIGHT STUDIES ARE USED TO ILLUSTRATE THEORIES AND METHODS.

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