Ageing: alternative futures and policy choices

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Abstract *Ageing is a fundamental issue for the future of the planet. An ageing society challenges basic assumptions of modern culture and political economy. This paper explores alternative futures of ageing in Queensland, understanding that certain assumptions about Queensland's future are given. It is also focused on probable futures, and not on every possible future. Based on this map of the future-developed through causal layered analysis and scenario planning – policy recommendations are developed for the Queensland Government.*

Policy approaches

A Futures policy approach is used, as traditional policy approaches while important, are limited by their temporal framework. Along with futures oriented policymaking, there are four other main policy frameworks:

This paper is not essentially about predicting the future. Rather it is about exploring the alternative futures of ageing in Queensland, and understanding that certain assumptions about Queensland's future are given. It is also focused on probable futures, and not on every possible future. Thus, the discovery of a "gene" or some other technological marvel that would for all practical purposes end death is not entertained. While we are sympathetic to Woody Allen's observation that "while some people want to die with dignity, I just want to live forever", our goal in this paper to map the futures of ageing, with particular concern that ageing cannot be seen in isolation of other generational age groups (thus, a society for all ages). Based on this map of the future-developed through causal layered analysis and scenario planning – policy recommendations are developed for the Queensland Government.

(1) cost-benefit;
(2) problem-oriented;
(3) political-oriented; and
(4) vision-oriented.

The strength of cost-benefit policymaking is that it has a clear bottom line – that of economic benefits and costs. However, most recently this economism has been challenged by the triple bottom-line approach, suggesting that additional costs and benefits need to be accounted for – specifically, the social and the environmental.

Problem-orientation policymaking is focused on solving issues as they appear. These can be immediate crises or they can be issues bubbling up directly through citizen action or through the media. Problem policy is beneficial as government is doing what it is elected to do resolving the issues and concerns of the public.

Political-oriented policymaking has two dimensions. The first is wherein costs and benefits and problems are coloured by the ideology of the party in power. The second dimension to this is far less about the party in power but about the bureaucracy, which seeks to frame and colour issues irrespective of whom is in power.

Vision-oriented policymaking is concerned about the desired future, moving government – through partnership with business, church, non-governmental organisations and concerned citizens along with actors – toward a desired vision of the future.

Futures-oriented policymaking challenges and utilises all these frameworks. It seeks to redress the temporal myopia of cost-benefit analysis by including the costs of the future. In this sense, the impact on future generations may be the fourth bottom line. It seeks to address the limitations of problem-

orientation by anticipating issues before they become problems. Once issues become problems, government is often shackled by the emotive nature of the problem. Clear sides and positions have been drawn. Through futures-oriented policymaking, not only can issues be anticipated but the roots of issues can be addressed, since they can be tracked through their full life cycle. Futures-oriented policy challenges political-oriented policy by suggesting that the clarity of the desired future is required so that citizens can understand how current decisions will impact the future. Politics thus can become less about partisan issues and more about negotiating desired futures. Futures-oriented policy certainly works closely with vision-oriented policy but seeks to ensure that the vision is shared, participatory, and is informed by changing events and trends. Visions need to both pull society forward but also need to be flexible, having the capacity to accommodate change.

Futures-oriented policy thus expands, broadens and deepens the policy process by focusing on:

■ the implications of current decisions on the future;
■ anticipating emerging issues and trends before they become problems;
■ mapping alternative futures so that more effective decisions can be reached today, that is, by using the future to transform today;
■ extending the temporal horizon so that costs and benefits include future generations;
■ embedding flexibility into the vision of the future; and
■ developing processes so that policy remains a living practice – anticipatory action learning.

When the issue of the future is raised, more often than not allusions are made to forecasting. Forecasting, however, is only one way to "use" the future. There are other purposes to the future.

Multiple purposes of the future

First, to develop strategy. Given the reality of an ageing Queensland, what should individuals, companies and Government do? What are the opportunities and challenges ahead?

Second, to gain citizen input and gain participation. Essentially this is the notion that moving toward a Society for All Ages cannot occur merely by Government fiat, or indeed, by vision given from high above. While leadership may offer the vision, the visioning process must be a participatory one, including all relevant stakeholders and worldviews. This not only ensures buy-in, but also assures that the variations of the vision – differences – strengthen the overall vision. This is especially important so as to ensure intergenerational views on a preferred vision of ageing. Citizen input is thus also about worldview input. The notion of worldview implies that ageing should not be seen in a uniform way. There exist gendered, cultural and life cycle dimensions to ageing. More important is that the aged should not merely be objects of research but should participate in the design of alternative futures. Their subjectivities are crucial to understanding the futures of ageing.

Third, as education – that is, the future serves as a way to train government employees, Queensland leaders, and citizens about how to deal with an ageing society. This means using futures methods and tools – emerging issues analysis, the futures triangle, causal layered analysis, visioning, backcasting – to better understand the future.

Education about the future means rethinking the notion of one career for life, since the notion of life is being extended. This mean multiple careers during the life course, numerous careers at the same time, or . . .

Futures as education also makes the important distinction between education about the future (maps and models), education for the future (tools used to create a specific preferred future) and education about alternative futures. This latter dimension assumes that the future cannot be accurately forecast but that alternative futures – policies and actions – can be explored, and that this exploration can lead to more effective policymaking.

Education about alternative futures is essentially about using the future for the fourth purpose, capacity enhancement, that is, to develop the capacity to negotiate the many challenges brought on by an ageing society. Capacity enhancement is thus not about any particular goal or even vision but about creating the societal capacity to negotiate with change, even dramatic change (as for example with the possibility of significantly extended life expectancy). Essentially this is about a society that is a learning community (or communities) that reflects and learns from its mistakes and moves forward. A learning community has the following characteristics, as applied to ageing futures:

■ *Flexible* – moving beyond the agricultural and industrial model of society. For the ageing discourse, this is the agricultural model of many dying young and the few who survive, by definition becoming wise elders. However, with many more people ageing, wisdom may not be guaranteed. In the industrial model, ageing was essentially the end of life, after retirement, one slowly died (especially for men). For women, it was both a time of loneliness but also of independence.
■ *Responsive* – adjusting to the needs of market, community and state, globally and locally. This means ascertaining new products and services for the ageing and new careers for the aged. This could mean asking – What are the most appropriate uses of digital technologies for creating more socially inclusive communities?
■ *Anticipatory* – develop models of thinking to envision and plan for alternative futures. This could mean asking – What alternative political frameworks are required for ageing? Does representational democracy still work in an age-divided world, or should the youth have a certain percentage of seats reserved in parliament?
■ *Innovative* – seeing ageing as an opportunity to rethink current institutions, to question our basic paradigms of health, life, and death.
■ *Leadership plus participation plus expertise.* Any new problem faced by society needs all sorts of information and knowledge. It cannot be solved by one sector alone,

rather, leaders plus citizens plus experts are required to move forward – that is, evidence-based policy with vision and participation.

■ *Learning plus healing* – a learning community cannot just be about information and knowledge, there is an emotive side to this – the heart as brain. Ageing must be seen as embodied and engaged issues. To begin with this means facing head-on the fears of youth (of being denied their future) and of the aged (of being left out to pasture).

■ *Microvita* (that reality is idea and matter based)[1] – a learning community, of course, is more than just its members. It is the collective, including archetypes and unconscious fields of awareness.

Fifth, to use the future to move toward emergence, that is, toward the edge of order and chaos, where system transformation is possible. This means a societal conversation about ageing futures where foundational assumptions (as opposed to instrumental questions) are challenged, even if incrementally.

Sixth, as memetic organisational transformation, that is, the future is used to enter new memes (an idea that replicates, moving from brain to brain)[2] in the organisations that challenge old memes. We are seeing this in city futures in the move from the city as defined by the roads, rates and rubbish meme to that of the smart-international-green city.

As well, if we examine the traditional organisation, the dominating meme was work 9/5, work hard, retire and then die. A few decades ago, this changed somewhat because of globalisation to up-skilling and retraining along with adaptability and flexibility began to define the organisation (downsizing was of course central to this). Most recently, the meme has become the learning organisation. The new meme is learning plus healing organisation (taking into account employee's health, the impact of the organisation on the environment and the organisation as a family – essentially, the triple bottom-line approach). Whether it will be selected because of advantages it offers is not clear at this stage, however.

New memes for ageing include WHO's Active Ageing[3], the Omega Institutes'[4] Conscious Aging and Productive Aging[5]. None, however, have become currency. Given the notion of Queensland as the smart state, perhaps smart ageing may be an appropriate new meme for the state.

Memes are thus ideas that transform, as opposed to ideas that inform (the educational perspective) or ideas that empower (strategy, capacity building, and citizen engagement).

Uses of the future:

■ strategy;
■ citizen input;
■ education;
■ capacity enhancement;
■ emergence; and
■ memetic transformation.

The future thus can have multiple uses. This policy futures paper takes the perspective of alternative futures. It is not focused on any particular preferred future nor does it assume that the future is given, even if the demographic trends may appear overwhelming. There are still choices to be made.

To explore these choices, the two methods, Causal layered analysis (CLA)[6] and Scenarios will be employed.

CLA

CLA assumes four levels of analysis.

The first level is the "litany" – quantitative trends, problems, often exaggerated, often used for political purposes – (problems associating with an ageing population used to change – Medicare or superannuation[7], for example) 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? it is too overwhelming) or apathy (nothing can be done! as demographic patterns cannot be easily changed) or projected action (why do not they do something about it? It is government's responsibility). This is the conventional level of most futures research that can readily create a politics of fear[8]. The litany level is the most visible and obvious, requiring little analytic capabilities[9]. Assumptions are rarely questioned.

The second level is concerned with social causes, including economic, cultural, political and historical factors (dropping birth rates, medical advances). Interpretation is given to 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. 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 in which the issue is framed. It remains obedient to it.

The third deeper level is concerned with structure and the discourse/worldview that supports and legitimates it (economistic forecasting and governmentality, for example). The task is to find deeper social, linguistic, cultural structures that are actor-invariant (not dependent on who the actors are). Discerning deeper assumptions behind the issue is crucial, as are efforts to revision the problem. At this stage, one can explore how different discourses (civilisational views on ageing, 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. Based on the varied discourses, discrete alternative scenarios can be derived here; for example, a scenario of the future of ageing based on technology, versus a values based scenario focused on the entire life cycle. 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 (the search for the fountain of youth, elders are wise, for example are two operating myths). 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 itself however, finds its limits since the frame of questioning must enter other frameworks of understanding – the mythical, for example.

This fourth level takes us to the civilisational level of identity. This perspective takes a step back from the actual future to 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 a roll of dice is quite different (you die when you die) from New Age approaches focused on intentionality "you are as old as you think"[10].

We now apply CLA to ageing. We develop six maps of CLA based on the six different images (images here functioning as foundational assumptions/worldviews) (see Table I).

The utility of CLA is that policy needs to be multifold, developed for different levels of reality – that is, for the litany – what is visible, for the systemic level, for the worldview and for the deeper story. This means that policy must be temporally sensitive, focused on immediate, short-term, long-term and very long-term perspectives and solutions. Dealing with the current litany is often a piecemeal political effort. Ensuring the system is more effective takes at least one electoral cycle, often two. Challenging dominant worldviews can take decades. Transforming the myth-metaphor is a multi-generational effort. As well, policy and research must be vertical based, having the capacity to move up and down levels.

Scenarios

Based on the CLA, we can now develop alternative futures. These are developed as scenarios (see Appendix, Tables AI-AIV for scenarios in table format). Each scenario has a different driver, and captures different dimensions of what may happen. These scenarios are of utility for strategic purposes (what should be done) and for educational purposes (to map the future) as well as for cautionary purposes (what should be avoided). The scenarios are developed through the following archetypal structure: best case, worst case, outlier, and business as usual (continued growth)[12].

The best case scenario is based on the "A society for all ages" vision. The Worst case has features from CLA 1 (dominant model) and CLA 5 (worst case) and is "A society divided by ages." The outlier scenario is derived from CLA 2 (emerging technological model) and is "Virtual world". The business as usual has features from CLA 4 (emerging societal model) and CLA 6 (easiest fit model) and is termed "Governmentalised".

This preferred scenario, "A society for all ages", is driven by strong and successful policy interventions. "A society divided by ages" can come about if nothing is done, that is,

current technological and social trends continue. "Virtual worlds" is the outlier scenario. It is unlikely unless developments in technology continue at their current pace. The "Governmentalised" scenario can come about if present modes of policy intervention and analysis continue, that is, failed interventions.

A society for all ages: smart and caring ageing

This is the preferred scenario as identified by the Queensland Department of Families. It is driven by the demographic group, "cultural creatives"[13]. They are individuals who prefer a future that is based on gender partnership, ecological sustainability, personal spirituality, and a caring interventionist state aligned along triple bottom-line values. They contrast to "traditionals" (focused on a strong nation-state and patriarchy) and "modernists" (focused on technology and materialism).

In this future, ageing is neither seen as a burden nor a foundational problem but rather as a resource for systemic and civilisational revitalisation. Thus, there is a high degree of acceptance of diversity (of all ages), creating a culture that moves past racism, sexism and nationalism.

This diversity is evidenced by architecture that is designed for multiple generations (and economic incentives for this). The nuclear family is strengthened by the extended family. Other family forms are accepted. The key is a strong community social fabric.

The aged are not marginalised nor are they necessarily seen as wise. Thus, both notions of the "glory" of youth and the "wisdom" of the aged are challenged.
Government intervention uses technology to create a society of all ages. Smart houses, smart health and smart ageing become defining concepts. Smartness includes the use of genetic and artificial intelligence technologies along with softer technologies – exercise, meditation, social inclusion.

The context of this is a shift in the life cycle from traditional notions of student-work-retirement to a range of alternatives, including life long learning. Distinctions between life stages blur and where they remain, transitions occur outside of ageist paradigms.

Funding for ageing research is extensive and is balanced: technological funding, social funding (social innovation) and quality of life funding (incentives for evidence-based interventions such as exercise, meditation, etc.) are all championed.

The underlying worldview is communities in harmony. It is a move away from the modern approach to governance and ageing, and toward a transmodern approach.

The research style that emerges from this scenario is action learning based. The aged are not the object of research. Stakeholders themselves develop what it means to be young and old, to age, to retire. Empirical, interpretive and critical research traditions are combined. The approach is multigenerational (even contesting this term).

The policy framework implications of this model are developed in the conclusion of this paper, but generally for this scenario to occur policy development must be at varied levels – the litany of ageing, the systemic, the worldview and the deeper stories. This must occur on an inner and outer level, and for the short and long term. Stories about ageing should be considered as important to biotechnology research as ageing and extended family ageing design. Care must be taken to not marginalise any group, thus research must be action learning based, wherein all parties participate in creating desired futures.

A society divided by ages: demographic challenges not met

The second scenario is based on inaction by government, allowing market and other drivers to continue unabated. It is the worst case scenario as class divisions ripen, indeed, age becomes a definer of access to power and wealth. Much of the futures literature is focused on this scenario Peter Peterson's *Gray Dawn* and Paul Wallace's *Agequake* are two examples of this.

The drivers are the demographic imperatives coupled with a business as usual approach in and to governance. The proponents of this scenario are those with a vested interest in the current system, wealthy retirees, senior government and corporate leaders, for example.

In this future, the divisions along class, age and gender heighten. Each class believes they are being discriminated against. Youth are upset by the disproportionate power of the aged (they tend not to leave positions of power, that is, the traditional generational rotation does not occur). Women find it even more difficult to break the glass ceiling. Economic power is equally class based. As youth age, they find they cannot afford homes. The home ownership dream dies (and given the inverse relationship between home ownership and poverty in later life, the future looks bleak for Australia's middle class) and the costs of public housing continue to increase. Youth become more radicalised.

The social fabric is under attack. The nuclear family continues to weaken, and no alternative structure emerges. Social isolation increases. Ageing for most becomes a terrible experience as they live longer in poorer care centres. Of course, many aged live well in retirement homes. The poor move toward misery, having little access to community. They are depressed, eat poorly and have few social networks to fall back on.

Funding is for public housing, better retirement villages, however, gaps continue to widen. The costs of taking care of the aged become more difficult to meet. Youth rally against heavy taxation knowing full well that they will not be taken care of as they age.

It is a future of class conflict, the end of the Australian dream.

For Queensland Government, certainly the goal would be to avoid this future. This is possible through:

- ensuring that institutional changes – governance – keep up with life cycle changes, that is, business as usual cannot continue.
- dialogue between ages so that intergenerational conflict is avoided.
- a much higher immigrant intake, especially of youth.
- funding for families.
- funding of projects that help individuals make the transition between phases in their life cycle.
- changes in the superannuation and pension system.
- ensuring that the safety net for old and young is not destroyed as the worker to retiree ratio shifts from 4-1 to 2-1 either through increased productivity or life long learning and production.

Virtual worlds: strangers in the night

The main driver behind this scenario is rapid developments in genetic and artificial intelligence technologies. Two groups spearhead this future: digital natives (those born into the computing world) who see the Internet as natural and the aged who fear death and seek technological intervention to allow them to live much, much longer. Double-helix children (born in the decade 2010, when genetic engineering becomes natural) will further this scenario.

Risk management – in the form of presenting at birth one's life chances (based on genes) and adjusted for social, political and economic environment and diet/exercise as one ages – dominates. Indeed, the goal is to link quantitative and quality of life with probabilities – life quantified by risk management tools.

In the short run, there is higher productivity through the science and technology revolution. This reduces and eventually eliminates the need for foreign migrants. Even caring for the aged can be automated through personal robots. Medical technologies lead the way, from the current plastic surgery to the soon-to-be gene therapy. With nano-bots, surgery becomes far more precise, interactive and intelligent. Over time, age is technologically constructed, not only are we able to feel any age we want but we can be any age we want.

In the long run, the digital soul[14] is possible – brain uploading and soul downloading.

However, given that it is likely that technological changes will not go hand in hand with social and cultural changes, we are likely to see society divided along lines of access to technology. And as social inclusion is an indicator of health, endless technology may not be the "fountain of youth" as promised.

As the quest for a preventive and risk-free society continues, three types of social worlds are possible:
(1) totally electronic communities, where reality is mediated through the Internet and its successors;
(2) gated, intentional communities with anti-ageing regimes from the natural to the biological; and
(3) aged middle-class are likely to move to poorer nations where the dollar can travel further (drugs and gene experimentation of a variety of types is likely to be cheaper there).

The problem of meaning will also come out as technocracy does everything. The post-industrial knowledge economy leads to few working – only 20-30 percent work.

Youth as a category is treasured, sought after but never understood as a life phase. It is museumised.

The operating worldview is techno-utopian[15], combing the fear of death with technological possibilities to reverse ageing. Research funding generally goes toward applied research.

The policy implications are based on the view that this future should be avoided or at least the social, cultural and spiritual dimensions developed so that it is more balanced. Given that the imperatives of science and the market will create this future before our very eyes it is crucial that social funding (for technology design that creates virtual and touch communities[16]) be championed. This means ensuring that public space is not lost – this means architectural space along with community spaces. These must be built into current technological developments. They cannot be an after thought. Doing so means a broad-based conversation on the new technologies, particularly germ line intervention and artificial intelligence. Connections within Australia are as important as connections with the outside world. The image of a rich, ageing Australia contrasted to a poor, young Asia is not too far off. The antidote is a policy framework that creates genetic, virtual and "real" agoras.

Governmentalised[17]: ageing bureaucracies and bureaucracies for the aged

This scenario is driven by bureaucratic politics. Essentially this is a future of failed policies and successful language. The aged are used as a tool for re-election. Fear of ageing and the crisis that ageing brings on is also used for political purposes (changing the retirement age, changing the pension scheme, for example).

An entire industry around caring, monitoring and evaluation of the aged (and the future of the aged) develops, indeed ageing becomes the growth industry of the next 20 years and beyond.

Special interest groups develop around funding for the aged. The major political parties have strong divisions as to what should be done about ageing (market versus intervention).

While the nuclear family is heralded as the best for the nation, the social fabric weakens through the dependency created by continued government interventions. From birth to grave, government is expected to provide care. Given the crisis of ageing, power becomes centralised at higher levels.

Funding increases for departments of the aged. Funding for social programs to ameliorate the excesses of globalisation (as in the privatisation of health) increases in particular. There is also funding for women to have more children. High intake of migrants to Australia is encouraged but only the right type.

The worldview is that Father knows best, and Father is the state. The aged are the object of research. Research continues to be segmented between government and university.

Public policy on ageing will be incremental and goal oriented. There will be little flexibility. This future can be avoided by ensuring that:

■ there is rotation of elite so that a particular party does not dominate the discourse;

■ commissions on the aged have sunset laws so that they do not continue in perpetuity;

■ the voice of youth remains potent by including them in policymaking;

■ government does not dominate discourse by including and funding non-governmental organisations; and

■ setting in place processes to transform government's vertical structures to more spherical learning organisation and learning community processes (see Figure 1).

Inner and outer

So far we have focused on external dimensions of ageing. However, borrowing from Ken Wilber[18], it is important to note that there are internal dimensions as well[19]. These external and internal dimensions can be developed with the axis of individual and collective. Applied to ageing it reads as shown in Table II.
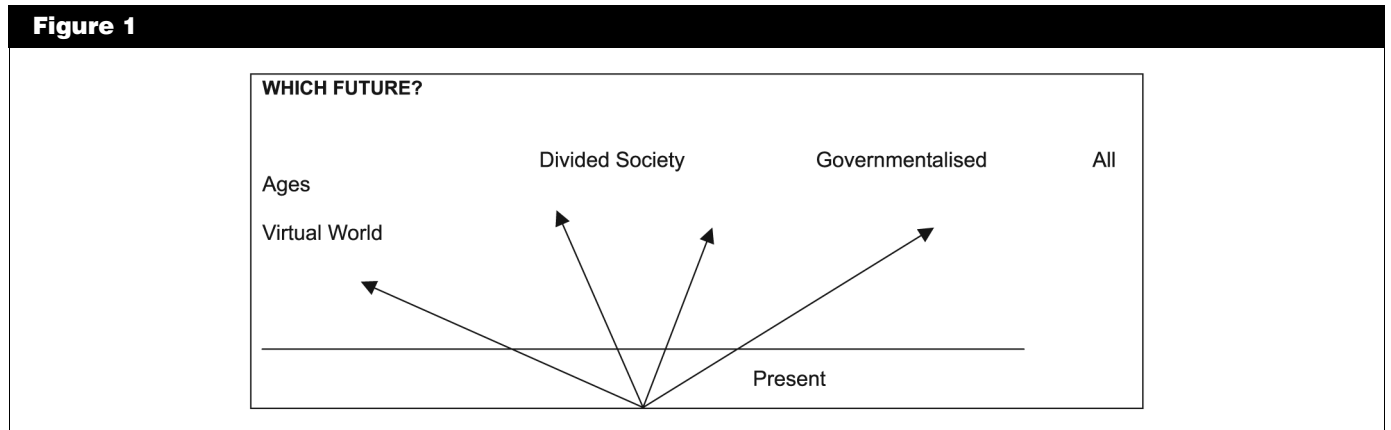
While current policy is focused on the outercollective level, there is a strong case to be made, if Wilber and others are correct that these two axis are foundational, that we need policy that if not guides, at least is informed by inner dimensions as well. This especially means developing new models for the inner collective dimensions of ageing.

We conclude this futures paper with a range of policy recommendations. These fit most directly to the "A society for all ages" scenario.

Policy recommendations

(1) Conversation on ageing futures across stakeholders. Different worldviews need to be built into this conversation. That is, the assumption should be that the traditional Western model of the life cycle is not universal and that there are real alternatives every step of the way.

(2) Implications of smart state vision on ageing futures, e.g. Smart ageing. This means using technology to prolong life spans as well as to design houses, communities and lifestyles that are ageing friendly.

(3) Anticipatory action learning (asking questions of desired and probable futures through iterative cycles) as the main policy research methodology. Scenarios of ageing futures

Table II		
	Inner	Outer
Self	Feeling good about ageing	Biological clock
	Personal health	Chronological clock
	Coming to terms with death	Social inclusion
	How others see me ageing	Diet
		Exercise
Collective	Inner map of life cycle (birth-work-retirement)	Social policy
		Care for aged
	Alternative maps from other times, cultures and futures as resources to rethink modernist map	Intergenerational equity
		Retirement age
		Careers for aged
		City design and aged

Figure 1

WHICH FUTURE?

Divided Society   Governmentalised   All Ages

Virtual World

Present

need to go beyond the academic to the media – television, Internet, focus groups. This means ensuring that the aged (and youth) are not the object of research but are part of a mutual dialogue on desired ageing futures.

(4) Develop an inner dimension to ageing policy at the collective and individual levels. Essentially, this is about deep health. In terms of the smart state vision, this is about including wisdom in our definitions of intelligence and developing notions of collective intelligence.

(5) Transforming bureaucracy to learning organisations to learning communities. Thus, far more important than forecasting demographic patterns, is developing organisations and communities that have the capacity to accommodate change. This is necessary to avoid governmentalisation.

(6) Ensure that the preferred vision of the future 2020 "A society for all ages" has broad based support. This means community consulting with experts. Visions to succeed must:
■ enable;
■ ennoble;
■ have doable time horizons (20 years);
■ be participatory;
■ be based on evidence-based research;
■ have champions at all levels of society and organisation.

Conclusion

Ageing should be seen as a fundamental issue for the future of the planet. An ageing society challenges basic assumptions of modern culture and political economy. These challenges can be met as ways to transform the present and create different futures ageing can be seen as a resource. If not, then failed policies will lead to governmentalisation, lack of intervention will lead to a divided society, and a focus on simple technological interventions will lead to Virtual worlds. However, by acting now, there is a window of a decade to ensure that the future truly is a society of all ages.

Notes

1 For more on this term, see Sohail Inayatullah, *Understanding Sarkar*, Leiden, Brill, 2002. Microvita assumes that reality is both mind and matter. It is a non-sensate view of life.

2 www.scholars.nus.edu.sg/cpace/infotech/cook/memedef.html. See Richard Dawkins, *The Selfish Gene*, Oxford University Press, Oxford, 1989. The Oxford English Dictionary defines meme as: "an element of a culture that may be considered to be passed on by non-genetic means, esp. imitation", also, see Susan Blackmore, "Imitation and the definition of a meme", *Journal of Memetics – Evolutionary Models of Information Transmission*, 1998, No. 2.

3 For more on this, see www.who.org.

4 www.asaging.org. Robert C. Atchley, "Conscious aging: nurturing a new vision of longevity – but is it a hard sell", www.asaging.org/at/at-231/Conscious.html. From Jennifer Bartlett and Sohail Inayatullah (Eds), "Future oriented policy planning: skills development program", Brisbane City Council, Strategic Planning and Policy, March 2003.

5 Nancy Morrow-Howell, James Hinterlong and Michael Sherraden, *Productive Aging: Concepts and Challenges*, Johns Hopkins University Press, Baltimore, MD, 2001.

6 For more on these methods, see, www.metafuture.org. Also, see special issue of *Futures*, "Layered methodologies", Guest editor, Sohail Inayatullah, Vol. 34 No. 6, August 2002.

7 For the best examination of this, see M. Zappacosta, "The future of the European Societal Bill", Special Issue of *Futures*, Vol. 35 No. 2003.

8 The Club of Rome's *Limits to Growth* and other studies is a modern example of this.

9 Of course, those who development of the litany required great not only analytic capability but as well as the capacity to touch the system, the worldview and myth/metaphor level. A litany is not a litany unless it has 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.

10 Of course, the other variation in popular culture is that "you are as old as the person you are feeling".

11 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, pp. 4-11.

12 For more on scenario development, see Sohail Inayatullah, *Questioning the future: Futures Studies, Action Learning and Organizational Transformation*, Tamsui, Taiwan, Tamkang University Press, 2002. Other models can be used as well. These include the single and double driver method (e.g. technological advances on the *x*-axis and government policy on the *y*-axis, creating four scenarios: 1. High-tech with strong government intervention (smart aging?), 2. High-tech with weak government intervention, letting current forces define aging policy (Rich age well, others age with low quality and quantity of life). 3. Low-tech with strong government intervention (quality of life and equity is central for all ages). 4. Low tech with weak government intervention (citizens move elsewhere for aging cure, market forces define generations, superannuation falls apart).

13 See, www.culturalcreatives.org. Paul Ray and Sherry Anderson, *The Cultural Creatives*, Three Rivers Press, New York, NY, 2000.

14 See Thomas Georges, *Digital Soul: Intelligence Machines and Human Values*, Westview Press, Boulder, CO, 2003.

15 For more on this future, see work in progress at www.futurefoundation.org. As well, see Ray Kurzweil, *The Age of Spiritual Machines*, Penguin, New York, NY, 1999. Michio Kaku, *Visions: How Science Will Revolutionize the 21st Century and Beyond*, Oxford Publishing, Oxford, 1998. Also, see www.metafuture.org

16 For more on city design, life cycles and aging, see Philip Daffara, *City Futures and Aging.* Forthcoming *Journal of Futures Studies*,

paper presented at the Brisbane City Council Course on Futures Oriented Policy, 18 March 2003.

17 For more on this, see the various works of Michel Foucault. In particular, see, Michael Shapiro, *Reading the Postmodern Polity*, University of Minnesota Press, Minneapolis, MI, 1992.

18 Ken Wilber, *Integral Psychology*, Shambala, Boston, MA, 2002. Also see Richard Slaughter, "Knowledge creation, futures methodologies and the integral agenda", *Foresight*, Vol. 3 No. 5, 2001, pp. 407-418. Slaughter transforms Wilber's thinking into a futures method.

19 For works focused on the inner, see Deepak Chopra. For example, see Chopra, *Grow Younger and Live Longer*, Rider, London, 2001.

20 In Queensland, Australia the proportion of those over 60 years will increase from 15 percent in 1995 to 23 percent in 2031. Already 25 percent of those over 65 demonstrate functional psychiatric disorders. From: To a Queensland Disability Policy and Strategy, DFFCC discussion paper 1997, p. 12 quoted in Ivana Milojevic, *Home and Community Care Services: Generic or Discriminatory*. HACC Action Research Project, report to Catholic Social Response, 1999, p. 35.

Appendix. Scenarios in table format

Table AI — A society for all ages: smart and caring ageing

Drivers	Values based – creating the good society
Leading proponents	Cultural creatives
Description	Ageing as future capital – as a resource for systemic and civilisational revitalisation High degree of acceptance of diversity creating a culture of inclusion, moving past racism, sexism, nationalism Shift from reified "glory" of youth and "wisdom" of aged Shift from traditional model of student-work-retirement-death Architecture designed for multiple generations. Aged friendly Smart houses, smart health, smart ageing Care giving valued, culturally and economically Strong social fabric. Nuclear family strengthened by extended family. Other family forms accepted High immigrant intake from nations with youth populations Governance structures changed to accommodate needs of youth Government intervention succeeds
Funding	Funding for ageing research, balancing technological funding, social funding (social innovation) and quality of life funding (incentives for evidence-based interventions such as exercise, meditation, etc.)
Worldview	Intergenerational equity and communities in harmony Post-Western
Research implications	Action learning wherein categories of social and economic research are created by stakeholders. Integrating empirical, interpretive and critical research traditions
Policy implications	Broadening, deepening and extending out in time the policy framework. Anticipatory action learning

Table AII — A society divided by ages: demographic challenges not met

Drivers	Demographic imperatives and business as usual
Leading proponents	Elite – wealthy retirees and senior government leader
Description	Divisions along class, age and gender Youth upset at disproportionate power of aged Old have political power as well as financial power Youth cannot buy into Australian home ownership dream Leaders as they age become even more conservative (against change) while youth become more radicalised Families exhibit these generational tensions Social fabric under attack. Nuclear family weakened with no alternative available Within the aged, there are two groups. Wealthy and the poor. The poor are also unhealthy, eating poorly and generally depressed[20]
Funding	Social welfare funding and funding for better retirement villages. Imbalanced tax structures favouring old
Worldview	Class conflict
Research implications	Empirical research. Search for objective truth. Aged define the research agenda
Policy implications	Avoid this future by: 1. Dialogue between ages. 2. Anticipatory action learning research. 3. Funding of projects that each movement through the lifecycle. 4. Ensure that institutional change keeps up with demographic shifts. 5. Ensure that future vision is broad based and flexible

Table AIII — Virtual worlds: strangers in the night

Drivers	Technology and anomie
Leading proponents	Digital natives and aged afraid of death and decrepitude
Description	At birth, life chances are presented. How one dies, how one suffers. Likely trajectory is presented Medical changes – nano-bots, brain surgery, search for ageing change, plastic surgery and gene therapy Brain uploading and soul downloading Create the "age?" you desire Designer children – weak social fabric – nuclear family one of many family associations Higher productivity through biological revolution A preventive and risk-free society Individuals live to 120-140, and much longer As they age, they enter virtual worlds. These are of different types. Type 1 is totally electronic (but real). Type 2 is gated communities complete with anti-ageing regimes from meditation to plastic surgery. Type 3 are in cheaper nations for poorer aged Knowledge economy leads to few working. Technocracy does the work. 20 percent work Youth are treasured and envied. Generally, they are "museumised", theme "parkised"
Funding	Dramatic funding for research that combines genetics and artificial intelligence
Worldview	Techno-utopian
Research implications	Applied research
Policy implications	Avoid this future by: 1. Ensuring that material technology develops with social innovation. 2. That society is seen as layered, as constituted by technology and socio-cultural meaning systems. 3. Ensure technological design develops in communal ways so that techno-isolation does not occur. 4. Broad based debate on nature of new technologies particularly germ line intervention and artificial intelligence. 5. Design of agoras in physical space and time

Table AIV — Governmentalised: ageing bureaucracies and bureaucracies for the aged

Drivers	Politics
Leading proponents	Bureaucracies
Description	Special programs to monitor and evaluate the aged. Special interest groups develop around funding for the aged Policies fail but language for electoral purposes succeed Nuclear family heralded as best for nation. Social fabric weakened through interventions Strong division between political parties on what should be done about ageing – market mechanism or intervention – however both will intervene Strong state with reduced power to local regions
Funding	Funding for departments of ageing. Funding for social programs to ameliorate the excesses of globalisation (privatisation of health). Funding for women to have children. Only "right" type of migrants attracted to Australia
Worldview	Governmentality
Research implications	Aged as object of research. Research segmented between government, university and institutions
Policy implications	Policy will be incremental, fixed and goal oriented. There will be little flexibility. This future can be avoided by: 1. Ensuring rotation of elite such that government does not dominate discourse but voices of aged, of community associations, of youth remain potent. 2. Vision of the future and a range of alternative futures remains as important as plans and strategies. 3. Commissions have sun set laws so they do not continue into perpetuity