The Challenges of Living Scenarios for Australia in 2050[*]

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Abstract

The Australian Academy of Sciences began Australia 2050: Living Scenarios to explore how science might inform a more environmentally sustainable and socially equitable Australia. We concluded that a set of 'living scenarios' could support a richer national conversation, but there are many challenges in developing such scenarios. A review of horizontal, vertical and archetype scenario approaches stressed engaging in dialogue and making assumptions explicit. Our workshop invited a small group of Australians to engage in short, intimate conversations through four scenario archetypes in order to explore a process and develop broad narratives for further exploration as living scenarios.

Keywords: Foresight, scenarios, workshop, dialogue, science, Australia, national conversation

Introduction to the *Australia 2050: Living Scenarios* Project

The *Australia 2050: Living Scenarios* project was established in 2011 by the Australian Academy of Sciences. It brought a group of scientists, from across a range of disciplines, together to consider what science could contribute to thinking about Australia's possible futures. In a 5-day workshop, participants considered four broad topics: whether it is possible to define what a "socially sustainable" Australia might look like; how Australia could be resilient to future shocks; how mathematical models could be used to help understand social, economic and environmental systems and how they might develop in the future; and, what scenarios for Australia's future emerge from these discussions.

Constructive conclusions emerged for the first three topics, but those charged with developing the scenarios struck some interesting problems (Raupach et al, 2013). They agreed on a range of, sometimes contradictory, assumptions that Australians seem to make and a range of key factors that might affect the nation. But they had difficulty agreeing on what particular issues the scenarios should focus on. Some members of the group felt that our main aim should be to lay out the potential challenges of the future from the perspectives of scientists (especially challenges associated with bio-physical processes like climate change and energy generation) so that Australians could see clearly what they might face. Others agreed that this was important, but thought that something more was needed. They observed that people learn best when allowed to explore information and situations for themselves. They argued that we need a way to help Australians from all backgrounds and walks of life engage with science but also bring their own knowledge, beliefs, values and hopes into their thinking about possible futures.

This led to the conclusion that what is needed to support a national conversation

about the future is a set of *living scenarios.* "By living scenarios we mean shared, ongoing explorations of how the future might unfold, leading to evolving visions for the future that are plausible (consistent with natural laws), acceptable (consistent with aspirations for human wellbeing) and workable (agreed to the extent necessary for action). Rather than being preordained and specified futures, living scenarios are maps of the future that can be reworked, adapted, and if necessary, transformed. Living scenarios allow for flexibility and ambiguity; of necessity, they are refashioned in response to changing circumstances. They reflect a rich diversity of opinions, values and aspirations, to identify envelopes of possibilities shaped by the intersection between aspirations and realities. They are tools for achieving an acceptably coherent vision of the future and a set of pathways towards it."

But how can "living scenarios" be developed?

The Challenge of Developing Living Scenarios

We reviewed, directly, over 50 key publications and many more, indirectly, that we have previously assessed in the course of other projects or were summarised in high-quality literature reviews. We spoke directly to over 50 foresight professionals to ascertain what types of work they do and what approaches they use. We interviewed over 20 foresight and systems-thinking researchers and practitioners, who we identified as leaders in their fields and who are thinking deeply about how to think about Australia's futures. Our synthesis of current approaches to foresighting and systems thinking, identified three relevant, and partly overlapping, approaches (Cork & Alford, 2013):

- A *horizontal approach*: Development of a set of scenarios using a traditional approach without going into depth about underpinning social processes (i.e., trend analysis to identify critical uncertainties and development of narratives to explore how these uncertainties might unfold into alternative futures).
- A *vertical approach*: Exploration of not only empirical trends but also perceptions of issues, and in-depth consideration of perceptions about causes of the issues, the different mindsets shaping decisions, and the metaphors and myths reflecting and guiding values and beliefs about the issues.
- A *scenario archetype approach*: Starting with a set of general scenarios, which are typical of the sorts of scenarios usually developed but contain little detail, and asking participants to consider how each archetypal scenario might emerge given what we know and can imagine. This is a way of integrating a lot of knowledge and viewpoints while avoiding long discussions about the best set of scenarios to develop, which was a cause of tension at the Bowral meeting and is likely to be a source of tension in the next workshop if a traditional approach to scenario building is taken.

Horizontal and vertical approaches can lead to different foci for scenarios, as demonstrated by Curry and Schultz (2009). These authors found that a horizontal approach led them to develop scenarios based on the relationships between individuals and institutions ("top down" vs "bottom up") and the nature of identity and social cohesion ("my identity" vs "our identity"). Employing a vertical approach led to scenarios that focused on how different worldviews might affect institutional arrangements and how differences of worldviews might be resolved in different

future worlds.

Horizontal and vertical approaches to thinking about the future are combined to a degree in most good strategic foresight, but the emphasis varies widely. A distinction has been made in some foresight literature between three primary 'social interests' for futures studies: (1) *pragmatic* interests focus on helping specific organisations or businesses anticipate and prepare pragmatically for different futures; (2) *progressive* interests aim at thinking that might lead to improvements in the ways in which societies function in a range of future worlds; and (3) *civilisational* interests address global-scale considerations and questions surrounding the futures of humankind over long timeframes (Ramos, 2004; Slaughter, 2002). A survey of Australian foresight practitioners by Ramos (2004) concluded that the majority are "progressive" in their interests. That means they are involved in research or advocacy aimed at systemic improvement, not just the narrow interests of clients, using methods and approaches far beyond naïve forecasting and trend extrapolation, incorporating an understanding of systems thinking, social complexity, and in many cases, how worldviews and belief systems shape social futures. This is good news for scientists, as the need to grapple with complex issues by understanding how social, economic and environmental systems interact is high on their agenda.

Any scenario development, including immersion in archetypal scenarios, would require a mechanism for helping people become aware of, and understand, their own assumptions/worldviews and those of others. This point was made in another way in our interviews with foresight practitioners when they emphasised the distinction between horizontal versus vertical approaches to scenario development.

Archetypal scenarios

The concept of archetypal scenarios emerged from research at the Hawaii Research Centre for Futures Studies in the mid-1970s. The idea is that most scenarios fall into a few categories and that, if the objective is to encourage dialogue about alternative futures, it can be more constructive to start with a general archetypal scenario and ask questions like: What sorts of driving forces, events, trends and the like might cause this type of scenario to emerge?

Archetypal scenarios are general scenarios that represent families of scenarios that have emerged from diverse groups around the world over more than 50 years. Research has found that when humans develop scenarios about their possible futures, they tend to fall into a few categories of stories, for example: continuous growth (in economy, population, standard of living etc.); collapse (such as social deterioration, wars, famine, economic collapse); transformation (new values emerging, new industries and economies, new ways of life) (Bezold, 2009; Hunt et al., 2012). One way to short-cut the process of getting people focussed on what might matter in their futures is to ask them to immerse themselves within each of several on futures that are described only in broad detail and challenge them to think about how such a future might arise and what it might mean for their community, society, nation and beyond (Candy; Dator, J., & Dunagan, 2006).

One recent example of application of the archetype approach is from Europe. The Urban Futures study (www.urban-futures.org) is a 4-year project funded by UK's Engineering and Physical Sciences Research Council. The project is the tasked with testing the resilience of today's sustainability solutions through scenario-based research, considering a diverse range of issues (biodiversity, air quality, water,

energy, underground infrastructure, built environment, density and decision making, organizational behaviour and innovation, enterprise and social needs, aspirations and policy) within UK urban regeneration sites, assuming a time step of 40 years hence (the approximate length of time for a regeneration cycle). This project's priority was stakeholder engagement, so it has investigated how previous scenarios compare with one another and whether a set of archetypes might offer a more effective ways to facilitate engagement than *de-novo* development of new scenarios. It concluded that the archetype approach is a more effective way for that project to proceed.

The strongest and most universal observation from practitioners was that the main benefits from scenario development processes come from being involved in the development phase – the dialogue with other participants. People get much less value from only reading the reports from such projects. This view is well documented in the literature, so it came as no surprise to us. However, it is a major challenge if we seek to use scenarios to encourage a national conversation about the future: how do we engage large numbers of people in developing scenarios? Several foresight practitioners in Australia are experimenting with ways of using social media for this purpose (Ramos, Priday & Mansfield, 2013). Internationally, on-line games have been used to engage with large numbers of people in thinking about the future of the world (Institute for the Future, 2013) or a particular country or region. The Australian Academy of Science is not in a position to initiate this scale of action, both because its resources are limited and because it has a relatively restricted mandate of promoting scientific excellence and access to science. Therefore, as participants in the *Australia 2050: Living Scenarios* project asked how we could provide information that could feed into larger social initiatives if and when they occur in the future.

The Living Scenarios Workshop: Contributing to a National Conversation

Encouraging a national conversation about the future requires many different organisations and individuals to contribute in different ways. How could the Australian Academy of Science contribute in ways that do not replicate the considerable efforts already being made by other organisations and individuals around Australia? In the *Australia 2050: Living Scenarios* project, we concluded that this contribution should have several components:

- Draw on the Academy's ability to bring together prominent Australians who have a record of recognised contributions to society and are capable of considering complex issues.
- Demonstrate a process, consistent with the state of the art in strategic foresight, by which diverse people can share and understand one another's different assumptions and viewpoints about the future and identify a range of plausible ways in which Australia's future might evolve.
- Document the process and the viewpoints expressed as a resource that other Australians could use to conduct their own process to explore their alternative futures.

The *Australia 2050: Living Scenarios* Workshop was conducted in late October 2013, and constructed around four broad descriptions of alternative futures for Australia. These archetypal scenarios provided building blocks that participants but also any and all Australians could draw on to explore their own futures. The aim of the workshop was to glean insights about what is possible in the future and the assumptions people bring to thinking about different futures.

We had a clear picture of the kind of conversation we wanted to foster, primarily reflecting attributes of dialogue. These attributes include: suspending judgment when listening to others; building on others' contributions; and being honest and transparent. Science often fulfils a truth-seeking role, but another important function of science is to nurture curiosity. We emphasised respectful curiosity, and sought to create an environment that would trigger further questioning rather than adversarial reactions to any disagreements.

We did not want to be coaching participants on how to have a conversation, and relied instead on the choice of facilitation methods. Each archetype was located in a space that included a range of images to help spark ideas. Specifically, our method drew on World Café -principles so that the fifty participants were spilt into the different archetypes where they discussed these in smaller subgroups of two to four, with groups re-shuffled every 15 minutes so that each participant was able to have three conversations per archetype. Furthermore, participants were not required to seek agreement, reach shared conclusions or create a final 'outcome'. Rather, we asked only that they document the content of their conversations into an online database for all to see.

Our observations were that participants were highly cooperative, complying willingly with all our requests, with very few misunderstandings or adverse reactions. The readiness to accept or work within the process may have been aided by our acknowledgement that the process was experimental, and they had opportunities to provide feedback to us and a videographer throughout the event.

Participants readily adopted a practice of documenting points of disagreement and moving on to explore other topics. This meant that participants did not find themselves getting stuck in adversarial debate. On the other hand, feedback from participants suggests it was easier to note disagreements and move on rather than bring curiosity to disagreements and delve into them in more detail. It diffused any potential conflict, but also sapped some energy from conversations and missed opportunities for richer and more detailed insights. We would have liked to see more curiosity about disagreements, and a greater willingness to explore others' opinions with empathy.

We saw a strong willingness to work with uncertainty, ambiguity and different perspectives. There was some discomfort at the lack of requirement for any convergence, and uncertainty about the usefulness of the database of conversation points. Other participants noted how useful and energising it was to be able to meet and talk with people who brought different perspectives, and several commented in the following weeks as to how conversations or ideas were still coming to them, or allowing them to think a little differently.

Despite this energy, many participants expressed considerable fatigue at the end of the workshop. They had experienced the conversations as hard work, and several factors contributed to this. The small group size meant that participants had less opportunity to rest silently. The request to document their conversation placed

a considerable load on those who undertook a scribing role. Participants showed a good willingness to share the scribing load around, and they spoke of how it was harder to participate in the conversation when they were taking the notes. Finally, the facilitators were interrupting and ending group discussions every 15 minutes, which reduced passive conversations but also often served to take energy away from thriving conversations; a wearying process for participants and facilitators alike.

Summary of the different archetypal narratives

In discussing the four archetypes, the groups were asked to consider three questions:

- What does the archetype mean to you (e.g., how do you interpret and make sense of concepts like growth, restraint, transformation and collapse/ catastrophe)?
- What might this archetype look/ feel/ sound like in Australia in 2050?
- What are the pathways that might take us from here to there?

In each archetype space, these questions led our participants to focus on different aspects of the archetypes. They were primed to remember the elements of true conversation, avoiding the default behaviour, where "a man hears what he wants to hear and disregards the rest"[1]. To an overwhelming degree, the delegates entered into this spirit and a rich and diverse set of opinions was the result. As a result, within each archetype there was a spread of possible narratives, and some interesting assumptions, challenges and commonalities identified.

Growth

In this archetype there were strong commonalities-views that many or all converged upon. First, the majority recognized the positive effects of economic growth now but especially in the past. At the same time, the necessity of decoupling further economic growth from its environmental impacts was widely stated.

Surprisingly, a large subset of our conversationalists found it difficult to accept the positive aspects of economic growth, especially into the future. When challenged to look for positive features of growth, they preferred to look at growth in non-material facets of life such as social values, inclusion, family values or equality.

Growth in societal complexity was noted but seen as having a neutral value, leading, perhaps to growth in opportunity. A significant group worried that social institutions such as laws or political systems would not keep pace with technological growth.

The most positive vision of an Australia that had experienced economic growth to 2050 was expressed as a "view from a 747":

"Australia has a number of beautiful coastal cities strung like pearls on a high-speed rail network. The Murray Darling basin was a well-watered productive garden while the wild places of Australia were accessible parks."

Restraint

Participants gave detailed descriptions of futures where people exercise collective restraint for the long-term benefit of all. Such futures would see restrained material consumption, energy demands and land use, while avoiding any social restraints on non-material aspects of life such as ideas, knowledge, dissent and debate. They readily listed potential benefits to ecosystems and society, and suggested that individual autonomy was the main risk in such futures, unless social, cultural and technological innovations foster a wise mix of individual freedoms and collective benefits.

In general, restraint futures were regarded as technically feasible, and it was their social feasibility that was most in doubt. For this reason, participants placed much emphasis on the language and framing of 'restraint' futures, emphasising the value of identifying win-win outcomes rather than focussing on scarcity and loss.

Most groups recognized and wrestled with the dichotomy between top-down restraint imposed by an authority and a bottom up, self-organizing self-restraint that occurs when society recognizes an existential threat. Participants recognised particular tensions where there is a nexus between material restraint and restraint on individual freedoms, for example when talking of restraining population size or social connectivity. Participants were also alert to the risk of free riders benefitting from collective restraint and thus undermining intended benefits of that restraint.

The pathways question caused people to look for the triggers that might cause us to accept imposed restraint or to restrain ourselves. Those nominated included shortages, prices, common good and laws. An interesting example cited was the imposition of water restrictions in the ACT during the recent multi-year drought. After restrictions were lifted, water saving habits persisted in the community to the point where the business model of the ACT's monopoly water supplier has suffered.

Some commonalities included the possibility that successful restraint could lead to more growth - the rebound or Jevons effect well known in economics. Most agreed on the many positive aspects of self-organizing self-restraint to avoid the problems that had been recognized in the growth archetype but there was no agreement on how to bring this happy state about. In particular, participants highlighted that risks and benefits of restraint operate on different time scales: benefits are long term, but inconvenience and other downsides are immediate. Time discounting is inherent to human nature, so any restraint future will face the challenge of needing to minimise such time discounting and favour long planning horizons.

Collapse

Most conversations focussed on either physical or societal collapse with less attention paid to interaction between the two.

People seemed to have no problem in agreeing on the many manifestations of physical collapse. These included but were not limited to collapses in infrastructure, energy supply, food supply, water supply, wild fisheries and the destruction of wild places. Societal collapse received as much attention with the loss of key elements of a civil society such as institutions, law and justice, equality and a massive growth in authoritarianism.

All agreed that a collapsed Australia in 2050 is not a pleasant place—it is a kind of Mad Max dystopia with features like:

- The rich can breed; the poor cannot
- Overflowing prisons
- Mental health problems
- Family violence and breakdown
- A struggle for basic survival
- The disappearance of childhood!

Many potential triggers and pathways were imagined. These might be multiple environmental shocks on a state without the social capacity and resources to absorb them, internally generated tipping points like the growth in inequality or an overload in our societal capacity to take in migrants or other external factors such as war and invasion. In general there was an emphasis a weakened capacity to cope with adversity, for example by allowing the erosion of social and built infrastructure. Future shocks are inevitable, but the quality of society's response to such shocks was seen to be the critical influence on whether shocks would precipitate adaptation or collapse.

Transformation

Two main threads appeared in discussions about transformation. First that transformation happens as a conscious response to a problem or a shock. Alternatively, transformation is a gradual evolutionary process that is difficult to recognize when one is living through it.

Many looked for a transformation from a consumptive to a sustainable lifestyle but there was little consensus on how to bring this about. Others looked for a transformation in social attitudes or behaviours to address a range of societal problems that they had observed.

In responding to the question about pathways, a series of triggers or shocks that might spark the first kind of transformation were nominated. These fell into three main groups:

- Economic or environmental shocks might force a transformation but it was pointed out that the 2008 Global Financial Crisis did not result in a transformation of the global finance system, begging the question of just how large a shock would be needed to kick off transformative change.
- The second group of shocks resulted from geopolitical forces such as war, invasion or a major shift in global power relationships leading for example to Australia becoming the poor white relation with declining power and influence among its rich South East Asian neighbours.
- The easing of constraints that currently prevent transformation (e.g., constraints of Australians recognising the need to transform, constraints on innovation and creative thinking, and, perhaps most important, constraints on recognising that moves towards transformational futures are happening in many ways within communities and might only need a little encouragement to trigger major change)

Fewer drivers of the second evolutionary kind of transformation were listed. Two important ones were changes in global connectivity, especially the growth of

the cyber sphere, and changes in the age structure of society with, for the first time in human history, a large proportion of the population three or four generations removed from the child rearing cycle and so focussed on preserving their growing portion of global wealth.

A final word of warning was that transformations, especially conscious ones, generate their own opposition as vested interests inevitably organize to preserve the status quo.

Generating Narratives

These short summaries of the archetype sessions will be further shaped by a deeper analysis currently underway to collect the various threads of conversations and ideas in more detail. These details will then be used to craft a series of archetypal narratives that could be explored and built on by other groups as living scenarios. These living scenarios provide several points of difference from other scenario sets being developed for Australia in that they make explicit existing assumptions about the future from a group of people and maintain the contradictions and diversity of ideas, without forming a single narrative for each scenario type.

The archetype approach was useful as it removed many of the difficulties and pitfalls in conducting a scenario exercise in a limited timeframe. There was a desire to access more detailed knowledge from existing research and scenarios that have been developed to start to shape the collection of ideas into plausible futures, and we see this as one of the activities that could take place from this base.

Using dialogue as a method for discussion was productive. Small polite conversation meant lots of different ideas could be realised, though difficult ideas were not always allowed the time to be challenged and explored. The process was more successful as we were able to draw on a diversity of perspectives and expertise.

This is just the very beginning of a set of narratives for "living scenarios". In surfacing assumptions, drawing together a range of possible futures and better understanding the difficulties people have in thinking about the future, the outcomes should provide a valuable resource for other projects and practitioners seeking to engage Australians in national conversations about both specific issues and broad futures.

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Notes

1 Paul Simon.

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