Australia 2050:
Structuring conversations about our future

Australian Academy of Science

Australia 2050:

Structuring conversations about our future

Steven Cork, Nicky Grigg, Kristin Alford, John Finnigan, Beth Fulton, and Michael Raupach

with foreword by Dame Quentin Bryce

Australian Academy of Science

GPO Box 783, Canberra, ACT 2601

This publication is also available online at: science.org.au/australia-2050

ISBN: 978 0 85847 405 5

Photo credits: cover and facing pages 1, 5, 23, 35, and 45 from iStock; rollercoaster in the sea after Hurricane Sandy (page 28) from iStock; Pilbara rock art (page 10) by Robert G. Bednarik, Australian Rock Art Research Association; Zoe in the waves (page 60) by Peter Briggs; other images by Kristin Alford

Scientific editing by Dr Andrew Bell

Printed and bound by CanPrint Communications
Design and layout by Wordup! Websites and Graphic Design

Contents

Dedication

Anthony McMichael, 1942–2014

Michael Raupach, 1950–2015

This third volume from the *Australia 2050* project is dedicated to our friends and colleagues Professor Anthony McMichael and Professor Michael Raupach.

Tony and Mike were distinguished Australian scientists who have had lasting world-wide impacts. Tony was an epidemiologist who has left a permanent legacy in his pioneering work on climate change and health. Mike's work on the natural and anthropogenic causes of climate change will be enduring. But both men were far more than this: they were brilliant scholars, they had many talents outside their professional lives, and they were warm, generous, and gentle men.

Mike chaired the steering committee of *Australia 2050*, and his vision and drive were instrumental in its success. Tony was deputy chair, and provided the wisdom and perspective that helped guide the project through its first and second stages. Without them the project would never have happened, and their contributions have been profound.

Foreword

In the twentieth century we have seen a transition from an age of industrial power and global dominance by a few developed nations to a post-industrial age of information and globalisation. A decade and a half into the 21st century, geopolitical forces are realigning; the centre of gravity of economic activity is moving east. We are witnessing a rerun at a global scale of the great waves of change that transformed the western world through the industrial revolution. A demographic transition is leading to a stabilising, but hugely increased, world population. Massive urbanisation means that by mid-century four-fifths of the world will live in cities. Unprecedented connectivity in information, energy, and trade is driving unpredictable evolution of societal norms, institutions, and modes of governance. These changes are playing out against a backdrop of irreversible biogeochemical changes at a planetary scale, of which climate change is but the harbinger.

How will Australia fare in this new century? We are a developed nation on the fringe of the great centres of population growth in Asia. Australians enjoy one of the highest per capita incomes and most enviable lifestyles in the world. Can we maintain these as markets, competition, and political alignments shift around us?

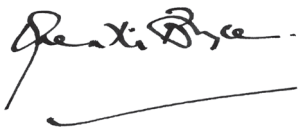
Predicting the future is impossible, yet we need to plan for it if we can. This sounds like an impossible conundrum but we know that the choices we make today will, to a greater or lesser extent, shape the future we will have. To be sure, unpredictable forces may knock our plans off-course, but this simply means they must be resilient and adaptable. Sleepwalking into the future is not an option.

But what kind of Australia do we want to plan for in 2050 and beyond? Not all possible futures are acceptable. Not everyone desires the same kind of future. Not all desirable futures are compatible. For the sake of our children and grandchildren we surely want a future Australia to be ecologically, economically, and socially sustainable. What we can be certain of is that we will all share the future and so the tomorrow we plan for should not be a choice made by just a few. The choices we make are ones in which all Australians have a stake.

Aware of the importance of such questions, in 2011 the Australian Academy of Science launched its ambitious Australia 2050 project. Phase 1 brought together four groups of experts in economics, natural science, and the humanities to consider the prospects of environmental, economic, and social sustainability for our country to 2050 and beyond. Each group considered this question from a different viewpoint and their conclusions, as well as discussion of important issues that influenced them, can be found in the earlier AAS publications 'Negotiating our future: living scenarios for Australia to 2050', volumes 1 and 2.

Remarkably, despite the contrasting approaches they took, each group concluded that a serious national conversation about the kind of future all its citizens want for Australia was an urgent necessity. The four groups also converged on a methodology for such a process, which they called 'Living Scenarios'.

In 2013, in Phase 2 of Australia 2050, the Academy of Science took one step towards the goal of catalysing such a national conversation. It invited 50 Australians from many walks of life to share their ideas about what Australia might become and could become. This report sets out what happened at that meeting, but more importantly it spells out the methods that were used to ensure a productive conversation – and the lessons that were learned. It is intended to be a resource to groups around the country who want to discuss where Australia is going, and could go, in constructive and useful ways that will raise the level of debate in Australia about the future consequences of our present actions.



Dame Quentin Bryce AD, CVO

Summary

The future is uncertain in many ways yet we can be certain of one thing: whatever future awaits us, we will all share it. Furthermore, uncertain or not, the decisions and choices we make today will shape our future to a greater or lesser degree. Yet we see little sign that our national leaders or Australians in general are thinking about what kind of future they want for our country. What is clear is that opinions and viewpoints on the decisions being made today, and which will help shape our future, are diverse and contested.

The 'Australia 2050' project was initiated by the Australian Academy of Science in 2011 to bring together scientists from across a range of disciplines to consider how science might contribute to planning the country's future. In the first phase of the project [1] we introduced the idea of 'living scenarios'– shared, ongoing explorations of how the future might unfold which are plausible (consistent with natural laws), acceptable (consistent with aspirations for human wellbeing), and workable (agreed to the extent necessary for action). The first step in devising living scenarios must be many conversations among concerned Australians, and which together add up to a national conversation. However, experience tells us that having productive conversations is difficult, especially when the participants have diverse and even incompatible outlooks. Instead, we usually default to proclaiming and defending our cherished points of view.

Here we offer an alternative. This booklet describes the methodology developed during phase 2 of 'Australia 2050' in which some 50 Australians from many walks of life were brought together for a one-and-a-half-day workshop where they were able to engage in productive and illuminating conversations about how a more socially equitable, economically prosperous, and environmentally sustainable future might be possible. In the process, ways were explored in which our diverse visions of what Australia should be like in 2050 could be brought together, exchanged, and possibly reconciled.

Building on decades of experience in the art of scenario planning by business and governments, the workshop built productive conversations using the framework of 'archetype scenarios'. These are storylines about how the future might unfold that recur repeatedly whenever expert or amateur groups attempt to build future scenarios. The archetypes are growth, restraint, catastrophe, and transformation. They occur in various combinations whether we are describing the past or trying to imagine the future but, by focussing on them one by one in isolation, the participants were forced to expose each others' ideas and points of view to examination with unusual clarity.

The second novel feature of the approach developed at the workshop was an insistence on the art of real conversations. This involves listening and understanding others' points of view before challenging them. It is truly surprising how difficult most of us find this, yet it is essential if we are ever to arrive at shared visions of the future or even to understand points of view we can never accept.

In this booklet we introduce first the philosophy of our approach. Then we describe the features of the archetype scenarios in detail and follow this by summarising the content of the conversations that were had around each of them. These conversations were conducted in 'world café' style, so that people continually regrouped as they moved through spaces where material to stimulate thinking about each archetype was displayed. Finally, we bring together the commonalities and differences of view that emerged through the one-and-a-half days of the workshop, as well as summarising people's views on critical pathways to the futures they preferred. The booklet concludes with some reflections on the process and ideas for the next steps towards a true national conversation.

Chapter One

1. Introduction

Context

How might this nation be encouraged to think about its future? The pace and magnitude of the economic, social, and environmental changes we are currently experiencing, and which continue to grow, mean we can't just take the future for granted. Either we adapt to changes as they occur, or we prepare ourselves now to seize the opportunity and shape the future.

The Australian Academy of Science started looking at this question in 2011 with its Australia 2050 project, which brought together a group of scientists from a range of disciplines to consider how science could contribute to thinking about Australia's possible futures. In an initial five-day workshop, the group considered this broad issue from four perspectives: how can Australia be made resilient to future shocks; what does a 'socially sustainable' Australia look like; how can models be used to help understand social, economic, and environmental systems and their future development; and rational ways to build scenarios for Australia's future.

The output of this workshop was a book, *Negotiating our future: Living scenarios for Australia to 2050* [1], which considered the challenges we face and explored ways to negotiate them. Challenges arise from stresses already evident in multiple aspects of our environment, notably climate and ecosystem services, and these will lead to future pressures on water and food supplies. Inequities in wellbeing, health, and affluence place additional social stresses on how we respond to increasing interdependency in a globally connected world. We need to learn how to adapt human enterprise, strongly shaped by continual growth, to our finite planet.

Underpinning possible ways forward is the reality that the future is uncertain and can involve contest between alternative outcomes, but ultimately it is a shared event and we need to find solutions together. In *Negotiating our future*, the nation's scientists suggest paths by which Australians might negotiate a more socially equitable and environmentally sustainable future.

In the course of developing these conclusions, two further things became apparent: first, Australians from all walks of life explain the world in terms of different stories, and second, the really valuable part of thinking about the future derives from the conversations in which we seek to understand one another's stories and discover that different futures are possible.

These two issues highlighted the importance of encouraging all Australians to engage in 'structured' conversations about Australia's alternative futures. The Australia 2050 project explores so-called 'living scenarios' to help such conversations. Living scenarios were defined as "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)" [1].

Integral to the living scenarios process is the ability to have productive conversations between people with a wide range of opinions – a range stemming not only from different knowledge bases but also from different worldviews; people who tell quite different stories about how the world works. Experience tells us how difficult this can be. So a second workshop was designed to explore an approach to holding structured conversations about the future among a diverse group of people who could add to and challenge each other's perspectives. The focus was not only on different insights about the future but also on how we might encourage conversations among all Australians.

This booklet summarises three outcomes from the workshop that can be used to help guide future conversations. First, it describes the initial thinking that went into how a set of conversations about the future among a diverse group of people might be encouraged and organised. Second, it describes insights about Australia's futures that emerged from conversations about four 'archetype scenarios' – broad families of stories about possible futures. The four archetypes envisaged a future Australia experiencing growth, restraint, catastrophe, or transformation. Thirdly and most importantly, the process and observations from the workshop are documented here so that they can be used, adapted, and modified by other groups who want to produce their own living scenarios.

Key assumptions

A central element of the workshop on which this booklet is based was encouraging participants to recognise and understand their own assumptions as well as those of others. Therefore, we begin this booklet by explicitly stating the assumptions on which our approach is based:

- That encouraging people to explore and understand their own beliefs and views, as well as those of others, is an important first step towards collective action (based not on reaching full agreement but on awareness and understanding of differences). Moreover, such an approach will lead to more productive thinking about the future than the usual approach – in which people launch into discussions without understanding what their assumptions are or how similar or different they are from the people they are talking to.
- That understanding assumptions made by themselves and others will allow Australians to be clearer about what questions they would like to ask experts (such as scientists).
- That, once identified, the differences in viewpoints between different people can be handled constructively to build a workable agreed future, to the extent necessary for action.
- That considering extreme versions of the future is a useful way to gain robust insights.

Scoping the future by taking extreme views

There is decades of experience by practitioners whose job it is to facilitate thinking about and planning for multiple plausible futures. This work has demonstrated that it's useful to first identify aspects of the future we are most uncertain about and then explore the implications of extreme versions of those uncertainties. The actual future is not expected to be a pure version of any one of these extremes, but a consideration of the extremes is expected to give us insight into those aspects that might strongly shape plausible futures. As explained here, this was approached by asking the workshop participants to consider four types of extreme future and then reflect on what they had learned about possible futures for Australia.

Chapter Two

2. A suggested approach to conversations about the future

Effective futures-thinking is done in conversations with others

Modern society does little to encourage conversations as a way to address problems. At community and societal levels we tend these days to argue our case rather than engage in true conversations. More often than not we try to convince others that our ideas are best. We are not very good at letting in information that challenges our ideas. Yet listening and true conversation, rather than arguments, are vital for addressing the really difficult problems facing society and for shaping a shared future.

So how can we have sensible conversations about the future when it is often hard to achieve politeness and respect, and even be aware that our view of the world might differ from others'? How can we discuss the future when many people do not understand what society-wide conversations could be?

The workshop described here was designed to model an approach to discussions about the future that embrace a diversity of values, perspectives, and assumptions as a critical first step in developing living scenarios. The workshop involved around 50 Australians from many walks of life. The idea was to obtain a diversity of viewpoints, and so the participants were community members, business people, artists, musicians, teachers, politicians, public servants, social commentators, sportspeople, and members of the military. There were even a few scientists, but the intention was to minimise the contribution of specialised 'experts'.

Hearing and understanding others' viewpoints is a priority

In the workshop, the underlying objective was to find a way to focus conversations so that people could move quickly into sharing their ideas. Many approaches to thinking about the future go through a systematic, and often time-consuming process to develop agreement about what future uncertainties (e.g. environmental pressures, economic outlook, governance) to focus on.

It was reasoned that developing trust and understanding is a prerequisite before groups can begin detailed thinking, analysis, and planning for the future. This

step is often overlooked, resulting in failure due to hidden assumptions and unrecognised tensions. The aim of the workshop was to introduce an approach that groups of people could use to understand one another's thinking as a first step to engaging them more deeply about what the future may hold.

Typical stories about the future were used to focus conversations

To structure the conversations, the participants were asked to think about four different types of futures: growth, restraint, catastrophe, and transformation. These four types of futures or 'archetype scenarios' arose from studies looking at the most common stories that people tell to make sense of the world [1–4].

The participants were challenged to consider these four archetypical futures and think of possible pathways to them. The intention was to focus on hearing one another's views, not arguing about the best way to structure the scenarios. No assumptions were made about which type of future might be more or less desirable, and participants were encouraged to think about the good and bad aspects of each archetype from their own point of view.

A series of purposeful conversations

The workshop was scheduled for a day and a half. Sufficient time was required for people to get to know and trust one another, but we were also conscious of demands on participants' time. It was hoped that once people had experienced this initial process, they might decide to invest more time in follow-up conversations.

Four separate spaces were established, each representing one scenario archetype. Images and other materials were provided within each space to stimulate thinking about the archetype. Participants were initially divided into four groups, and each group was allocated a different scenario archetype. Within each group, participants were given a brief introduction to the archetype and then asked to have a series of 15-minute conversations, in groups of three people, addressing the following questions:

- What does this archetype mean to you?
- What might this type of future look and feel like in 2050?
- How might this type of future come about in Australia (i.e. what pathways, events, trends, etc., might lead to this type of future)?

After each 15-minute period, participants were asked to re-organise into different groups of three. We recognised that the depth of conversations might be limited by the 15-minute time slot, but it was thought more important to give participants the opportunity to converse with as many other people as possible and hear their ideas and viewpoints, even if full understanding might require follow-up at a later stage.

Each archetype session lasted one hour. One session was held on the afternoon of the first day and the other three on the morning of the second day. The mix of people in each archetype and each session was arranged so that each participant met and conversed with as many others as possible throughout the workshop.

A further refinement was that each group of three had a laptop on which to record key points in their thinking. These 'tweets' were assembled continuously using proprietary software and provided invaluable information that allowed the organisers to refine the process on-the-run as well as being a resource for later analysis, as we shall see later in this report.

Participants bring different perspectives and are open to new ideas

Research and the authors' experience of running workshops with a wide variety of Australians tells us that many people are concerned – even fearful – about the future and would like to be able to talk about it with others. Many people, however, think they don't have enough information to take part, or they don't know how to organise a society-wide conversation about the future.

For this workshop, participants were chosen who could both contribute interesting ideas and also participate in testing and demonstrating an approach that other Australians might use within their communities. Invitations were therefore sent to people who had demonstrated an ability to lead society-wide conversations about difficult issues, who had access to a range of information and ideas, and who had shown a willingness to both share and listen. Around 50 people accepted the invitation.

Time to reflect outside the conversations is also important

Several opportunities were provided for reflection on the content and process.

- On the evening of the first day dinner was provided and participants were encouraged to reflect on the objectives of the workshop and their experience in the first session.
- On the afternoon of the second day there was a final session in which participants talked about commonalities and differences of viewpoint that had emerged in the archetype sessions. Also, in this final session, participants were invited to reflect on the strengths and weaknesses of the process and how it might be improved.
- Throughout the workshop, the organisers took notes and reflected on their own assumptions and expectations of the process and reviewed the large number of 'tweets' that participants were typing during their 15-minute discussions.
- A guest behavioural scientist, Dr Allan Parker, who has studied the process of conversations and is managing director of his own communications consultancy (http://www.peakpd.com), observed individual conversations throughout and provided feedback to the organisers.
- A documentary-maker and photographer filmed the workshop and interviewed participants during the sessions and in breaks.

These processes also gave participants a chance to reflect on their own values, beliefs, and assumptions and how these were being reinforced or challenged by other perspectives.

The continuous review confirmed that encouraging true, open conversations was helpful in bringing to the surface values, beliefs, and assumptions about Australia's future. The workshop demonstrated that a working model for living scenarios can be created, and no doubt adapted and improved upon, to generate a national conversation about our future.

Chapter Three

3. Using stories about the future as a basis for conversations

Stories are how humans make sense of the world

Humans have always told stories to communicate with one another and make sense of the world. These stories can be seen in the art of early humans. They were originally told around campfires. Now they can be seen and heard in a myriad ways, including artwork, novels, movies, newspapers, television, online, and in day-to-day conversations.

Social scientists use terms like 'national narratives' to refer to the central role of stories in shaping the way societies see themselves. Consider the images of 'bronzed Aussies' or a land 'riding on the sheep's back'; of ANZACs, multicultural Australia, the red centre, big old gum trees on river banks, and other images that tell the stories of Australia's past and present. National narratives can be both positive and negative. While some of the stories we hear about Australia's future are full of optimism, others are couched in a pessimism that reflects fear and apprehension about the future.

Stories, in the form of scenarios, are commonly used by businesses, governments, communities, and other organisations to explore the different ways in which the future might unfold. The discipline of 'scenario planning' assumes that we cannot predict the future but we can use informed imagination to consider a range of possibilities. Developing a story about the future is a powerful way to explore aspects of the future that we think we are certain about and aspects about which we are uncertain – perhaps even concerned or scared.

Our understanding of our own ideas and views, and those of others, increases greatly as we try to fill in the details of how a future might be experienced through look, feel, sound, smell, and taste, and what chain of events might give rise to that future. Just as a badly written novel reveals itself through an incoherent plot, the gaps in our own logic and information become apparent as we try to build believable stories of the future.

Developing and telling our stories about the future alerts us to what additional information we might like to get and what extra thinking we might need to do. It also helps us explain our thinking to others and to understand theirs.

Different approaches to creating stories of the future

Countless stories have been told in scenario planning projects published over the past 50 years or so. Analyses of these stories suggest they can be clustered into four broad themes [1, 2, 4, 5], focusing on growth, restraint, collapse/ catastrophe, and transformation. While the details of our stories vary widely from place to place and time to time, these themes keep emerging. These major themes have been called 'scenario archetypes'. We can use these archetypes to characterise different futures and work backwards to ask how we might have arrived at those futures from the present day.

An alternative approach to working backward from the future is to work forward from the present, exploring how existing and possible future trends and events might develop and interact over different time-scales. This approach usually identifies a small number of issues that participants are both concerned and uncertain about, and asks how the issues might play out. Some scenario approaches use a *horizontal* approach: they draw on different trends to identify critical uncertainties and then explore how these might unfold from the present to the future. Other approaches are more *vertical*, seeking a deeper understanding of how people's different understanding of the present might influence attitudes and actions in the future and how the future might develop. Each of these approaches has its strengths [5], but it takes time to reach agreement on what the conversations should focus on. They work best after people have decided it is worth investing their time in scenario development. The approach the workshop took was to look for a way that helped people explore one another's views quickly, a way which would at the least lead to increased understanding of the different viewpoints within society and might lead to deeper thinking about the future later. The horizontal approach, based on scenario archetypes, allows for this and so it was the method employed.

Four common themes in stories of the future

Growth

Stories of this type are about continuation of the economic growth that has occurred in the developed world over the past 200 years. Other things might also grow or expand, including population, the size of urban settlements or agricultural areas, and the amount of resources used. A common assumption in growth scenarios is that increasing wealth, through economic growth, will reduce birth rates and increase life-span. In some growth scenarios, markets are free from regulation. In others, governments intervene to stimulate growth. Some growth scenarios consider how economic growth might proceed without using more resources or space, for example, but then they start to resemble restraint or transformation scenarios. In other extreme-growth scenarios, inequality grows unacceptably and societies collapse due to resource depletion. Stories that focus on such extreme and undesirable outcomes are more appropriately considered under the catastrophe archetype.

Restraint

Future stories of this type involve exercising discipline to address aspects of the present that may lead to undesirable outcomes in the future. The focus of this discipline is, in most cases, sustainable use of natural resources (e.g. mitigation of climate change, ecosystem preservation, freshwater protection, pollution control), but disciplined approaches can be more broadly considered to reflect the ethos of living within our means. Restraint can apply to aspects of our society, such as taking collective responsibility for matters like economic equity and poverty reduction. Some extreme restraint scenarios involve the imposition of strong beliefs by some parts of society on others and even the exclusion of some members of society who do not accept the imposed restraint [5]. Such undesirable restraint futures are more appropriately considered under the catastrophe archetype. When restraint scenarios envisage fundamental changes to society's behaviours and/or values, they become transformation scenarios, although where the boundary between restraint and transformation occurs is not always clear.

Catastrophe

Futures of this type are about the loss of many aspects of society that we value. We have used the word 'catastrophe' rather than 'collapse' (which is often used in other literature) because collapse is not always undesirable (e.g. collapse of a despotic regime). Catastrophe futures might emerge because good intentions don't work out as planned (e.g. over-use of an essential resource while intending to grow an economy, or restraining use of resources to protect them but causing an economy to collapse), or because of direct destruction of desirable aspects of society (e.g. invasion of a country and destruction of its culture or the spread of a disease that destroys people's health and wellbeing).

Transformation

Futures of this type are about fundamental changes in societies for the better (undesirable changes are considered in the catastrophe archetype). Transformations might be technological changes that go beyond the incremental, and/or major changes in attitudes, policies, and practices in relation to the environment, inequity, governance, or industries. Transformations might be towards new types of societies or a return to old ones that are fundamentally different from the present. Either way, the key question is 'what sorts of changes would be *fundamentally* different from the present?' Answering this question requires us to think hard about what is fundamental, or characteristic, of the present. This makes this archetype a difficult one to think about.

Recording conversations about different futures

The following sections summarise the conversations that participants at the workshop had about the four archetype futures. These were complex conversations, the details of which cannot be captured in this short booklet, and a more detailed report is available on the Australian Academy of Science website.

As already stated, the objective was to encourage sharing of diverse views. Participants were discouraged from immediately rejecting the views of others or assessing their validity, as this tends to impede understanding of other thinking.

Once one knows what others are thinking, it is quite straightforward to move on and consider evidence and the validity of the views, but this was not the purpose of the workshop. Participants were encouraged to record the ideas that emerged from their conversations on their group laptops without debating how much support there might be for those ideas. If there were different views, then all were recorded. In the spirit of this process, the following sections present views without any attempt to assess the level of agreement among the workshop participants. These open dialogues provide useful food for thought about the different views that might also emerge in your community.

The next four sections summarise the views expressed by the workshop participants, categorised (by colour) into the themes identified above. The point is to acknowledge the diversity of views rather than arrive at a consensus. Not all views were held by all, or even a majority of, participants. The intention was first to identify the views; later, the assumptions that underpin them can be clarified before they are considered in the light of scientific or other evidence.

Chapter Four

4. Growth

Growth here was considered more broadly than just economic growth. Positive futures were considered to be ones that involved growth in human wellbeing and engagement. Such futures were thought to depend on growth in terms of helpful advances in health, social and cultural diversity, democratic engagement, and technologies helping people manage information or supporting greater connectivity and meaningful social interactions. Many potentially undesirable aspects of growth futures were identified, including exceeding resource limits, inequity, social exclusion, and the stress of dealing with a dependence on ever-changing technologies.

Interpreting growth

Growth scenarios are probably the most common ones we hear and tell on a day-to-day basis. People's visions of a good future commonly involve 'more' (e.g. more money, more time, better house, more mobility, greater freedom). For governments, it is good news when the economy is growing and bad news when it is not.

Many scenarios about growth futures focus on ongoing economic growth and increasing consumption of non-renewable resources, leading to concerns about how sustainable this type of growth might be. There is a recognised disconnection between happiness and wellbeing and material or economic growth. There is a wide range of ways – both desirable and undesirable – in which society might grow. These include monetary wealth, resource use, waste and pollution, cities, transport options and mobility, convenience, connectivity, global communities, knowledge, complexity of thinking, social cohesion, subcultures, languages, diverse micro-communities, ways of dealing with problems, advertising, cognitive capacity, quality of life, creativity, happiness, identity, and cultural diversity.

There are ethical dimensions of growth futures. One person's desire for growth can be at another's expense; growth in multinationals can be at the expense of small business; short-term benefits from growth can be at the cost of long-term unwanted impacts. It is difficult for some to imagine pathways in which we can pursue 'positive growth' without unwanted negative consequences.

What growth futures might be like in Australia in 2050

Growth in population, information, technology, and democracy are likely, and will bring both opportunities and challenges for Australia's future.

Growth in the size and average age of Australia's population is inevitable between now and 2050. Cities are likely to get larger and denser. Challenges for transport, waste disposal, food production and distribution, energy, and material demands of urban populations will grow and will need solutions that will probably influence all aspects of how we live.

A number of risks come with this sort of growth. If wealth inequality continues to grow it could encourage crime and other social problems. Even without inequality, crime might grow, enabled by the technology and creativity that we hope will improve our lives.

Growing pressures on agricultural and ocean systems for food, energy, and mineral resources are likely. Food quality could decline as production/harvesting is increased to meet demand from Australia and our region; there might be a greater reliance on convenience food (with associated health impacts); expansion of agriculture and aquaculture into marginally suitable areas could cause unwanted environmental impacts; and diversity in food might decline.

Technological advances might offset many unwanted consequences of growth by increasing efficiency and reducing the amount of non-renewable resources needed to produce food or other goods.

Growth in social innovation might see different societal structures and new forms of economic exchange that take account of more aspects of wellbeing than financial wealth. Shifts from individual ownership to collective access to vehicles, houses, and household items (similar to those envisaged in transformation and restraint scenarios) could allow growth with minimal negative social or environmental impact.

The growth in the older population may be a burden on society in some ways (e.g. caring for the elderly), but may also help Australians manage pressures of working families (e.g. grandparents caring for grandchildren). This might enable other social changes (e.g. more diverse family structures and shared parenting/caring arrangements). There might be growth in a two-income 'sandwich generation' – a generation caring for ageing parents while raising their own children. A range of other implications was considered (e.g. tax

reform in response to the smaller income tax base and catering for social and cultural diversity in those requiring aged care). Assisted death, or euthanasia, might become more acceptable.

Technology will play an important role in Australia's future, including personalisation of information, computer-controlled access to services (e.g. fingerprint or iris recognition), new ways of connecting with one another (actually and virtually), increased mobility, ways of interacting at a distance (including at our workplace), advances that automate tasks, more sophisticated and far-reaching monitoring and surveillance, new ways to trade goods and currencies, new forms of artistic expression and entertainment, and new forms of governance.

There are potential negative outcomes of such technology. If technologically-mediated interactions become pervasive, might this make us overly dependent on the technology and at risk when it fails? Might the need to master many technologies and juggle multiple real and virtual identities make life much busier, lead to fewer personal freedoms, and increase mental health issues?

On the other hand, technological growth might lead to richer, more flexible lives and more opportunities for leisure. Maybe growth of artificial intelligence might encourage us to focus our attention on things that only humans can do (e.g. creative arts and cultural activities).

Another challenge of a growth future might be how to interpret an overwhelming amount of diverse information and make wise decisions. How will the knowledge needed for life and work be handled in school and university courses?

We might see more decentralisation in media reporting, enabling citizen journalism and better public discourse and an end to media monopolies. Or we might see increased concentration of media power serving vested interests.

'Connectivity' features strongly in growth futures. Growth in technologies (information, transport, etc.) that bring people together, physically and virtually, is likely to increase global connections. New trading opportunities may be a good thing. Negatives could include loss of privacy, being drawn into unwanted international pressures and crises, and social exclusion of those without access to technologies. Might privacy turn out to be a 'historical blip' experienced only briefly by humanity? Does greater connectivity foster greater

diversity (e.g. more ways of thinking, living, and deciding for oneself) or more uniformity? Will people be more accepting of differences or more intolerant? The notion of a 'nation' might get weaker or stronger.

Virtual connections might become more important than physical ones. 'Home' might be a virtual concept. Face-to-face interactions might lose their meaning or not happen much at all. Or there could be a reaction against superficial connections and a move toward richer social interactions.

Impacts on democracy are uncertain. Growth in technology might allow greater participation by citizens in all aspects of how society operates, or it might allow stronger control by elites.

New governance systems might be possible, but how might we ensure that they meet society's needs versus the needs of a few? Will everyone have access or might some be excluded? Democratisation of the workplace might lead to more diverse conditions (e.g. working from home, working in global networks, or other decentralised structures) and employment opportunities. But these possibilities might be offset by technology reducing the need for human input in some kinds of production. Globalisation might provide good employment opportunities for those with highly marketable skills, but decrease opportunities for those without such skills.

How growth futures might come about

Australia was thought most likely to follow a growth future under 'business as usual' policies (particularly pursuit of material and economic growth, as measured by GDP). Increasing connections between countries and development of new global agreements and institutions for trade (globalisation) is likely to encourage the focus on GDP growth for some time. This trajectory would be encouraged if it continued to provide jobs and support a high quality of life for Australians.

Pursuit of high economic growth based on consumption of natural resources could, however, be risky for Australia because exponential material growth is unlikely to be sustainable, and such growth could bring high social and environmental costs. Technological and social advances that increase resource-use efficiency and social equity will be needed to avoid unwanted impacts of growth.

Increasing population size is, by definition, a form of growth as well as being a driver of many other sorts of growth (e.g. urbanisation, medical technologies and treatments, size of economy).

Technological change is a powerful driver of growth in several ways. It might provide confidence by allaying concerns about limits to economic growth (e.g. by making reliance on renewable energy possible, increasing efficiency of recycling, allowing exploitation of new resources, or providing confidence in other ways that technology can solve problems). Technology might improve how markets operate (e.g. by creating new products, markets, and employment opportunities; making marketing more effective; or improving the availability of information for consumers). Technology might also make it possible for Australia to grow in new ways (e.g. by supporting social connections that encourage innovations, and medical and other technologies).

A 'culture of consumerism' currently drives economic growth and might continue to do so. Other cultural values (e.g. creativity, pluralism, multiculturalism, sustainability, ethical investment, and other pro-social values) might become more influential and drive different sorts of growth.

Inclusive and equitable governance, and a capacity for flexibility and adaptability, can support the civil peace needed for growth. Our relationships with the rest of the region and our choices in the next 50 years may be important factors in enabling peace and growth. Do we want a 'nanny' state with subsidies and 'government taking care of us', or increased independence from government, or a wise mix of individual and community autonomy with government planning?

Periods of growth might arise from catastrophes (including domestic or international conflicts and/or destruction caused by inappropriate growth at scales from local to global) and/or periods of restraint. Growth and restraint futures are interlinked, in that restraint in some areas might encourage growth in others. This cyclical relationship, in which growth might at some times be enabled and at other times limited, could be allowed to take its own course, with sometimes devastating consequences, or managed to minimise suffering and hardship. The decision to take a reactive or active approach to these cycles could define the nature of Australia to 2050.

Chapter Five

5. Restraint

Restraint was seen as more than doing without. Restraint is a prudent response to awareness of future limits to aspects of our lifestyles (e.g. limits to availability of natural resources, how much stress people can absorb, or how much inequality a society finds acceptable). Failure to anticipate and prepare for limits could result in catastrophe futures (considered in the next section), but it was envisaged that a society that does anticipate and prepare could steer Australia to an active, healthy, and happy future – with perhaps less diversity of material products but greater wellbeing. This future is technically feasible, but there is mixed opinion on whether humanity could or would implement the needed social innovations.

Interpreting restraint

Workshop participants thought that the word restraint has unnecessarily negative connotations, but so too do other words used in the literature to describe this archetype (e.g. discipline, sacrifice, trade-offs). It seems difficult to convey the complexity of this archetype in a single word. Restraint futures, for example, can be ones in which desirable aspects of life (e.g. healthy environment, cultural diversity, healthier lifestyles, and a fairer society) are increased by reducing undesirable and often unnecessary aspects (e.g. excess consumption of natural resources, unfair treatment of people, and habits that harm mental and physical health). Restraint is more appealing if done voluntarily and early, rather than something imposed on people after a crisis.

Restraint can encourage creativity and innovation. Personal restraint, such as meditation and mindfulness, not only enhances the capacity of individuals to find fulfilment in their lives but also helps society practice other forms of restraint (such as resisting self-interest when it clashes with the common good).

Restraint could be about returning to past ways of life, but could also be attempting to keep things as they are or creating new ways of life that are currently unfamiliar to us.

Restraint was also seen as a logical response once limits to our activities are recognised and understood. Many aspects of Australian lifestyles potentially face limits (e.g. availability of natural resources, tolerable stress levels, or what degree of inequality is considered acceptable by society).

Restraint is also a relative concept: what we might see as restraint in present-day Australia (e.g. limited time, money, space, abilities) might be seen as abundance from the points of view of earlier Australians or other contemporary cultures.

What restraint futures might be like in Australia in 2050

In restraint futures, society might put greater value on the common good and on health and wellbeing, and less emphasis on economic growth for its own sake.

Restraint futures created by this society could feature improved health and wellbeing, more nutritious foods, and a society that is more cooperative, considerate, caring, sharing, unselfish, inclusive, and fair than now (increased equity, fairer income distribution, more volunteering and social safety nets).

Restraint imposed on the many by the few, however, is likely to be unacceptable. Only if restraint is chosen and supported by all ('everyone in it together') can it be a desirable future. The ageing population, inequality of wealth and opportunity, future length of working life, health care, and labour supply are challenging issues.

Recognising material limits would mean human labour, knowledge, and ingenuity become more valuable, we repair and reuse products more, and we become more aware of our consumption of resources and enjoy it more. Sharing and using resources sparingly (e.g. sharing vehicles and equipment in neighbourhoods, community land trusts, greater use of public spaces such as libraries, parks, and other shared facilities) make social interactions more meaningful. This sort of restraint future could be a future in which progress is measured in terms of all aspects of human wellbeing, rather than only economic growth and material consumption.

Vibrant local economies, increased autonomy, greater self-sufficiency, and reduced waste could provide food of higher quality in restraint futures. There might be an end to domination by supermarkets, more local production and distribution of food, increased eating of food in season, and reduced consumption of meat and processed foods.

A society that has actively embraced restraint is likely to have tackled the challenges of energy supply and waste disposal (otherwise some sort of catastrophe future is likely to have emerged). Desirable future towns and cities

exemplifying restraint could include: higher density living, more mass transit systems and active transport (walking, cycling), more off-grid and distributed energy production, more effective recycling and waste management, and lower energy and material use in buildings and technologies.

How restraint futures might come about

Adversity and scarcity are possible drivers of restraint. History shows that people accept restraint when faced with adversity. Shortages of fuel or food, or crises triggered by bushfires, other extreme weather events, war, economic shocks, or inequity-driven social unrest are potential future triggers. Scarcity-driven innovation could see more efficient use of resources (e.g. renewable energy), sharing of scarce common resources (e.g. collaborative consumption mechanisms), and more effective involvement in decisions (e.g. mobile communications facilitating social movements like the Arab Spring, or IT platforms enabling new forms of digital democracy). There could be greater acceptance of restraint if impacts of choices are more visible, either through improved information-sharing and awareness (e.g. acceptance of water restrictions when dam levels are visibly low, or growing popularity of self-monitoring applications that draw attention to unwanted personal habits such as compulsive internet use), or through pricing and other market or regulatory mechanisms (e.g. accreditation requirements requiring whole-of-life-cycle reporting or management). Price, in particular, was seen as a key driver of citizens' behaviour).

Good leadership (not only from politicians) could allow restraint futures to emerge (e.g. by influencing social norms and/or steering society through crises). Other key enablers include technologies that aid restraint (e.g. ways of providing food and energy with less reliance on non-renewable resources), appropriate capacity in design and planning, timely investment in appropriate social and built infrastructure, and high levels of other forms of social and human capital (e.g. innovation, strong social bonds, education, research, social responsibility, trust, and access to opportunity and social participation). Restraint will not happen without widespread support, and any governance mechanisms (whether 'bottom-up' grassroots-driven change or 'top-down' centralised controls) will require high levels of citizen support and participation. This might become more possible as communication technology makes it possible to involve more of society in decisionmaking through rapid information sharing and democratic processes.

In general, pure restraint futures seem unlikely. People are unlikely to exercise restraint without some kind of external imposition, and any such imposition risks reducing individual autonomy, creating greater inequality and political unrest. Risk aversion, scepticism, fear of loss, and backlash against moral judgements may prevent restraint futures. Freedom- and space-loving Australians are likely to resist imposition of restraints, resent moral judgements, and be sceptical about whether restraint will yield the promised benefits. Lack of political will and low electoral support would hinder restraint futures, as could current social norms that reward material consumption and the meeting of short-term desires, and downplay values such as prudence, temperance, and long-term planning. Political cycles that favour short-term outcomes and planning horizons are a significant hindrance to restraint futures.

Free-riders (those who benefit from others' actions without contributing) and rebound effects could undo the best intentions. Free-riders could jeopardise collective restraint in the absence of governance approaches that minimise these risks. Rebound effects are likely when 'savings' are made through restraint (e.g. resources and/or money is saved through more efficient use of energy in houses and business premises), but these are negated by increased 'spending' in other areas (e.g. more travel in energy-hungry vehicles).

In summary, restraint futures were seen as technically feasible, but counter to human nature and social norms.

Chapter Six

6. Catastrophe

It is easy to think of how 'catastrophe futures' might come about, and there are many and varied possibilities. Shocks and emergencies are typical triggers for catastrophes, but their impact (e.g. whether they lead to further catastrophes and even societal collapse or are stimuli for adaptation and/or transformation) depends on how prepared society is for them (e.g. what built infrastructure and human, social, and natural capital is available). Many catastrophe futures could occur from failure to take opportunities to grow sustainably, apply restraint, or transform Australia.

Interpreting catastrophe

This archetype is sometimes called 'collapse' in the literature. This term was avoided because it was thought there were too many types of collapse to contain in one archetype. For example, the collapse of a dysfunctional totalitarian regime might be seen as good (and probably would be a transformation scenario), whereas the collapse of a community's economy could be seen as a catastrophe. We decided to focus only on catastrophe futures in this archetype.

What some see as catastrophes, others might not. For example, collapse of the internet might be considered a catastrophe in some respects but a relief in others. Some see climate change as a looming catastrophe, while others see it as a challenge that can be managed and may even offer opportunities. In many catastrophes (e.g. the global financial crisis) there are winners and losers, who see the event in very different ways. Would we regard events that had disastrous effects somewhere else (e.g. an ecosystem decline in another country or in Australia but far away from where we live) or that we benefited from (e.g. collapse in food production somewhere else that becomes a market opportunity for our food producers) as catastrophes?

Lack of change might be seen as a catastrophe by some (because it might lead to stagnation) but might be seen as comforting by others.

Catastrophes can be environmental, social, or economic. While some natural disasters are outside human control (e.g. volcanoes), others are made worse by bad decisions. Social catastrophes (e.g. collapse in democracy) and economic ones (e.g. collapses in financial systems) usually have complex origins. All three kinds carry the risk of societal breakdown from local through to global scales.

What catastrophe futures might be like in Australia in 2050

Future catastrophes could take many different forms. Some might be repeats of past events and some might be novel occurrences.

Fires, floods, droughts, and heat-waves are possible features in catastrophe futures. Other environmental problems include greater spread of diseases affecting wildlife and livestock (including the sorts of problems currently affecting honey bee populations), collapsing fish stocks, toxic algal blooms, widespread pollution, collapsing biodiversity, and increases in pest species. Sea-level rise in neighbouring countries is likely to pose challenges, at least in terms of aid, for Australia.

Various health conditions are associated with environmental challenges (e.g. viruses transmitted by animals, food insecurity and/or famine, water shortages, heat stress) and also from unregulated growth in population and consumption of resources (e.g. demand for food and energy outstripping supply, increases in mental illness, anti-social behaviour and crime due to overcrowding, and inadequate support services).

Catastrophe futures also feature failing infrastructure (e.g. information technology, waste management and sanitation, security, energy supply, financial systems), growing inequality, low quality aged care, high mortality rates among the elderly and disadvantaged, and social isolation.

Disease pandemics and other population health problems are another feature of catastrophe futures. People may become increasingly unwilling to take responsibility for anything or anyone but themselves. In this type of future, people act in their own immediate interests and stop cooperating with any laws or contributing to any social cohesion or civility. Refugees would not be welcome and would be treated harshly, possibly leading to tensions with neighbouring countries.

Conflict features strongly in catastrophe futures, including riots and violence driven by political and financial unrest and personal insecurity, and resources being diverted to protecting Australia's borders from refugees and invaders. Conflict is likely to come from growing inequity (whether in income or opportunities for employment, health, security, and access to resources and services).

Over-reliance on technologies, including information technologies, is a potential vulnerability if these systems fail, if they are used against us (e.g. cyber terrorism), or if laws, regulations, and social norms fail to keep pace with rapid technological change.

Other catastrophes could arise in the form of more global and/or regional financial crises, loss of confidence in money, hyper-inflation, high levels of income inequality, devaluation of currency, widespread unemployment, vibrant black markets for scarce resources (e.g. gold, drugs, petrol, food, medicines), loss of economic access to food, and a high level of profiteering from elites in privileged situations.

Governments could become dysfunctional and unable to meet people's needs, leading to widespread non-cooperation with laws and regulations, secession, and/or the formation of regional and/or corporate power alliances. Such futures could include declining education systems, lack of support for multicultural communities, and unclear and ineffective rules for ownership of Australian land and institutions. Poor communication via the media, government, and other sectors could lead to a lack of meaningful public discourse on matters of importance and, instead, foster rumour and fear-mongering, suppression of access to information, and proliferation of misinformation.

At the other extreme, the need to address catastrophes might allow the emergence of an overly authoritarian government, where individual surveillance, dictatorial leadership, and strict limitations on individual rights and freedom of speech are commonplace.

In general, catastrophe futures feature low quality of life for most, with little happiness, high unemployment, no leisure, overcrowded conditions, high levels of violence and homelessness, and growing uncertainty and insecurity in damaged ecosystems and urban environments. Loss of infrastructure (built and social), trust, and connectivity make society more vulnerable to shocks and less able to recover and adapt.

How catastrophe futures might come about

Many of the characteristics of catastrophe futures described above in themselves create conditions that increase the likelihood of further catastrophe and collapse: there is a vicious circle that is difficult to stop once set in train.

Shocks and emergencies can trigger catastrophic cascades, particularly if our environment and/or society have been weakened and made more vulnerable. While some shocks might be within our power to avoid or control, others might not be or might only partly be (e.g. extreme weather events, financial crises that start somewhere else, bushfires and floods, terrorism attacks, cyber-attacks, pandemics, and global environmental collapses such as fisheries). Australia could be particularly vulnerable to political events outside its influence (e.g. military conflicts, unrest that creates a flow of refugees to Australian shores, and unhealthy political alliances and trading relationships).

Environmental and social problems can arise due to complex chains of cause and effect. Examples might include population growth leading to environmental impacts on food supply and then social collapse due to food insecurity; rapid changes in environmental, health, and international security together causing the collapse of the insurance industry; or growing inequities that create barriers to opportunity and fuel conflict. Often such problems become catastrophes because immediate responses (whether by individuals, communities, businesses, or government) make the problem worse. Some aspects of human psychology work against societal learning, making us potentially more vulnerable to catastrophes (e.g. inflexible belief systems, failure to empathise with others, adversarialism rather than understanding alternative views, complacency, blind faith in technological solutions, unwillingness to take responsibility, and inability to imagine things that have not happened before).

Anticipating change, preparing for it, and learning from experience build an ability to cope with shocks. While the above reads like a catalogue of horrors, it allows us to think about how to avoid or at least prepare for undesirable futures. Valuable contributions to adaptive capacity include insurance systems, well-maintained critical infrastructure, a portfolio of alternative sources of energy and resources, risk assessment and planning, a precautionary approach

to ecosystem management, building resilient (rather than ‘just in time’) supply chains, good leadership and governance, and a culture that values learning. It was concluded that anticipating change, preparing for it, and learning from experience are essential elements of the ability to cope with shocks.

Chapter Seven

7. Transformation

Many workshop participants interpreted transformation in terms of cultural change, and considered that Australia would be fundamentally different if it became truly diverse, respectful, and equitable. Technological transformations in healthcare and access to information were commonly considered, as were changes in Australia's governance (e.g. towards more distributed governance with a greater focus on community-driven decision making). It was suggested that two factors might be particularly powerful catalysts for transformational change between now and 2050: (1) wider consideration of what Australians want and what progress we are making towards those goals, and (2) stronger incentives for desirable policies and actions.

Interpreting transformation

It is challenging to think about how a transformation of Australia – that is, a fundamental change – might be different from the sometimes major changes imagined in restraint or growth futures. What characterises Australians and the ways in which this country works now, and what type or amount of change might we regard as fundamentally different by 2050?

We talk about transformations all the time without realising it. For example, when we talk about reform (e.g. tax, law, economic, or social reform) or some sort of better future, we often imply transformation. Transformations can happen because we make them happen or they can happen to us. Making transformations happen is problematic (they are usually caused by more factors than we can understand or control fully), but letting transformations just happen can be very risky (e.g. we could end up with an Australia we don't want because we weren't paying attention to how it was changing).

Transformations of a nation are likely to include personal transformations (e.g. attitudes, mental and physical health) within wider social transformations (e.g. laws, norms, and institutions), and both sorts of transformations could occur in some parts of society but not in others. For example, Australia is a highly educated society but not all individuals have high levels of literacy. Again, communities faced with bushfire emergencies might transform culturally while society as a whole does not.

What a transformed future Australia might be like in 2050

Would an Australia with high levels of fairness, tolerance, and caring, and based on a sustainable relationship with the natural environment, be an extension of current-day Australia or fundamentally different? Many participants thought the latter.

An alternative to this future is an individualistic, competitive future. Could that future be seen as similar to the present rather than a fundamental change from today? Many thought so.

In a transformed future, Australians might expect their fellow citizens to respect diversity (e.g. of race, sexual preference, faith, political ideology), and to care for and support other Australians in all possible ways. People of all backgrounds would share fairly in economic and social life, would have a high sense of self-worth, and would have affordable access to social services, housing, food, and the like. The focus of life would be on wellbeing that does not come at the expense of the common good. Our relationship with the natural world would be based on both ethical considerations and an understanding of how environmental processes support social and economic process and contribute to human wellbeing.

Given this ideal vision of a transformed Australia, how could other aspects of life change hand-in-hand with these changes in attitudes?

Is it realistic to expect gender roles to change and, if so, how? Gender inequity makes it hard to move towards respectful and community-focused futures. Perhaps achievement of a critical mass of women in positions of power might be the trigger for social transformation, starting with an increased focus on families and communities, a shift in work-life balance, and consequent improvements in mental and physical health.

There might be some bumps along the road towards this new social future as society battles with internal contradictions. For example, in an effort to encourage community-mindedness, some communities might be tempted to exclude those who don't accept the new values – in contradiction to those very values. A community focus might see the emergence of stronger religious and ethnic groupings that support their members but possibly lead to societal tensions with other groups and social isolation of people who are not members of the group.

Technology can be a driver of transformational change and a defining characteristic of daily life in 2050. Applications of new technologies might address many of the challenges facing current Australians (e.g. food production, energy generation, water availability, maintenance of health, reduction and disposal of waste and pollution, efficient and environmentally friendly transport, national security). These advances, together with new ways to collect, interpret, and share information may facilitate the sorts of society-wide understanding of social and environmental issues required for a transformed Australia.

There could be new approaches to how society is organised (formal and informal institutions) and how decisions are made and implemented (governance). Interfaces between government and society could be more open and user-friendly. A wider distribution of authority, responsibility, and resourcing across society is possible, supported by better information collection and sharing. There could be broader learning opportunities that would empower all people to engage in determining society's future, and basic literacy levels and technological abilities would be achieved across society.

Some risks include enhancement of humans externally (e.g. Google Glass is a present-day example) and internally (e.g. longer lives, pills to counter all ailments, brain implants), which attempt to improve our lives but might create new social dilemmas. Information and communication technologies, expected to be even more integral to society by 2050, might reinforce new values but might also undermine them. Society might become so reliant on technology that technical failures could cause major crises. A 'technological divide' might emerge between those willing and able to embrace new technologies and those who won't or can't.

While taking advantage of technology's help in transforming Australia by 2050, could we wittingly or unwittingly take control of human evolution (e.g. using medication, genetic technologies, selection of offspring, education), setting us on paths that no longer involve natural selection as a mechanism for adapting to the world around us?

Social changes could affect where and how we live and work. A slowing of urbanisation could lead to more decentralised, convivial settlements in which diverse skill-sets are developed and valued at different scales from local ('village') to regional. The built environment could evolve to encourage connections between people and satisfy different needs related to age, economic status, culture, etc. through a diversity of housing forms and spaces.

Our economy could transform into one that no longer relies heavily on the consumption of non-renewable resources for growth. Growth itself would be defined not just in terms of flows of money (GDP) but more broadly in terms of all aspects of human progress and wellbeing.

Imagining Australia's place in the world is harder because the rest of the world might or might not change in the same way as Australia. In a globally caring and cooperative world, Australia could become more multicultural and more strongly connected with South-East Asia. In this world, Australia might have influence as a link between East and West. If the world went the other way (highly competitive and fragmented), Australia might have to choose whether it aligns culturally and economically with East or West, and its economic, security, and cultural futures might depend heavily on that decision.

How transformation futures might come about

Transformations in societies usually involve, as triggers, some sort of shocks or shake-ups. These might be disasters (e.g. famine, civil unrest, war, economic crises) or not (e.g. Federation, the birth control pill, universal voting rights). But transformations also involve other factors coming together (ideas that are of their time, the right people, leadership, the ability of people to take up the ideas). Resilience is a relevant concept. Resilience is the ability of ecological systems, individual people, communities, societies, etc. to keep their essential identity, structures, and functions in the face of shocks, without transforming into something fundamentally different. In some ways, we might want Australia to be resilient in the future (i.e. keep some core values and characteristics), but in others ways we might want to overcome its resilience (i.e. change aspects that are undesirable).

If Australians want to have a say about if and how the nation transforms, it might require: (1) recognition across society that major change is needed, (2) having and sharing ideas about how to make that change, and (3) social acceptance of the change. The first requirement depends on Australians understanding what they value and want in the future.

To achieve these requirements, Australia would benefit from processes that encourage society-wide dialogue about our beliefs, hopes, and aspirations, our relationship with nature, learning lessons from Australia's past and from the rest of the world, and harnessing our collective imagination about what Australia could be. Watching for signs of change can raise our awareness of possible transformational changes that might be underway and provide opportunities for early intervention.

Leadership would be required to encourage this sort of dialogue and develop institutions and opportunities to make it happen. But if we fail to think as a nation about our future, leaders might have to play a very different role to achieve necessary transformations. If we are faced with social, economic, or environmental crises (or mixtures of these) and we are not prepared, then autocratic government might be required to manage scarce resources and maintain or restore order.

Two important mechanisms for achieving the transformations we want and need are: (1) encouragement and rewards for desirable actions (e.g. taxation incentives, public recognition and celebration of actions in the public good), and/or (2) removal of obstacles (e.g. funding and other constraints on community-based schemes for addressing social and environmental challenges).

Financial and cultural encouragement of innovators and 'first movers' are important ways to explore possibilities for transformations.

An overload of information – and/or deliberate promotion of inaccurate information – could make it hard for people to know what to believe or what actions to take, and it would be difficult to achieve national support for transformational change. Australia might find itself slow to respond to the need for change, perhaps because of our constitution and/or our large amount of institutional and built infrastructure, both of which have served us well in the past but which might counteract change.

Chapter Eight

8. Commonalities

There was a strong tendency for workshop participants to consider the positive (hopeful) versions of the growth, restraint, and transformation futures, although in all cases there was consideration about how these types of future might go wrong. Conversely, in the catastrophe archetype sessions, participants found it useful to be able to dwell on the negative futures without having to 'rescue' the future. Many said this gave them a new perspective on their own preferences for certain futures, the sometimes different preferences of others, and what might be required to achieve desired futures while avoiding undesirable ones.

A very common observation, which surprised many participants, was that achieving desired futures (discussed in a later section) might require a large degree of change – perhaps fundamental change – from today's Australia. While recognising that there are many desirable aspects of current Australia, many participants pointed to undesirable levels of inequality in various forms, including inequality of wealth, education, health, and life opportunities, and intolerance of cultural and other diversity. As might be expected, there were concerns about levels of environmental degradation and exploitation of non-renewable resources, but there were differences in understanding of these issues (and differing opinions about their urgency).

There were several factors that frequently arose in all archetypes as key influencers of Australia's future. These were: technology, social values, market and economic forces, China, pandemics, population growth, ageing, decision points, resource constraints, environment, environmental and social limits, governance, and leadership.

There was general recognition that the real future is likely to be a mixture of the four extreme archetypes, with different ones sometimes being emphasised at different times. In fact, participants often struggled to imagine a 'pure' version of any archetype. This is a typical observation in futures-thinking. Focusing on extremes, however, is a useful device to test our thinking and push us to break free of thinking of the future as more of what is seen today. An important aspect of the conversations was links between the archetypes. For example, forms of catastrophe were seen as likely pathways to transformation. Inappropriate growth, or failure to exercise restraint, were seen as pathways to catastrophe. Growth and restraint were seen to often occur together, with restraint in some areas allowing growth in others and vice versa.

There were many conversations about when a change becomes great enough to be classed as a transformation, a reflection on what characteristics define the 'essence' or 'identity' of today's Australia.

Another common realisation was that society's choices might have a bigger impact on the future than many participants previously thought, and in many cases they were considered more important than external forces. In all archetypes there were conversations about how the values of Australians might change or be changed, and how this might affect our choices. The importance of how we frame concepts like 'growth', 'restraint', and 'equity', and how this framing is revealed in the narratives we use to describe ourselves as a nation, were also common themes. Closely related to this was the acknowledgment that the key indicators that we choose to pay attention to, measure, and inform our decisions shapes what is possible. In the restraint archetype in particular, participants spoke of the potential for more complete characterisations of health, wellbeing, environmental, and other impacts, which are effectively invisible in current markets and decision making processes.

It was realised that choices by individuals are influenced by, but also influence, a range of societal processes, including public policy, government, and governing institutions; markets and other economic structures (potentially enabled or enhanced by technology); and social and cultural values, norms, and beliefs (again maybe influenced by technology).

Social cohesion was identified as a key factor in shaping our resilience and our options in response to future events, including whether future events trigger transformative or catastrophic changes. Many pathways for building social cohesion were considered. Factors that were consistently raised included the maintenance of high levels of relevant education; the need to collect, interpret, share, and act on diverse information as a society; and the importance of reflecting and learning from experience. In all archetypes, the role of technology in supporting societal learning, as well as addressing specific biophysical and social challenges, was common to many conversations. The role of the media was seen as a potent, but perhaps unpredictable, factor in shaping attitudes, choices, and our ability to learn and adapt. For example, the role of the mainstream media in polarising debates and discouraging nuanced conversations was frequently noted.

Generational changes were identified as important considerations in all futures, and related to tensions between the generations, transfers of wealth and opportunities between them, and the possibility that younger generations may be more open to novel mechanisms for sharing and restraint than older ones.

Government and governance – the broad range of processes by which society operates – were frequently discussed in all archetypes. Leadership was seen as a key requirement for navigating any future. It was commonly considered that many future changes might need a rethink of governance arrangements, perhaps involving more sharing of responsibility and authority between levels of government and across society outside of government. The possible need for the opposite – a greater concentration of government centrally, perhaps with some suspension of democracy to deal with emergencies – was also considered in several archetypes. This was considered to be highly undesirable and something that would represent a fundamental change in the identity of Australia. There was some reference to innovation in governance (e.g. collaborative consumption platforms), but many of the conversations assumed a reliance on existing governance mechanisms such as regulations, bans, taxes, and markets.

Several major concerns were expressed about current governance arrangements and their ability to prepare Australia for an uncertain future, including a declining trust in government, challenges of working with highly divergent views, lack of shared political vision guiding policy and legislation, doubts about whether our current democracy allows adequate long-term planning, and whether Australians will be able to form the types of formal or informal institutions capable of defining and shaping our future (in contrast to having a future imposed on us by circumstances). Wise long-term planning, one that is pro-active in defining our future, was seen to be lacking, and a common view was that it will take crises, rather than pro-active decisions, to bring about substantial change. Many spoke of the importance of the quality of our responses in the face of shocks, acknowledging that crises can trigger an 'everyone for themselves' attitude, or that adversity can be a great equaliser, bringing people together in ways to protect the common good.

Chapter Nine

9. Differences

As mentioned before, participants were encouraged to share and explain diverse viewpoints and not attempt to convince others or reach consensus. These differences of opinion or viewpoint are often not allowed to surface in debates about the future, or are not explored and explained in depth. Encouraging true conversations about assumptions and worldviews provides a stronger basis for productive futures-thinking. These differences are set out below as a help to others who may want to use this booklet for guiding their own activities in this area. Several stages for addressing differences of viewpoint are suggested:

- First, give people a chance to explore their differences in a non-threatening situation.
- Use those differences to identify where information might help and what sort of information that might be.
- Seek input from experts who might be able to address the uncertainties and information gaps identified.
- Provide a further opportunity for participants to consider the information and their viewpoints, again in a supportive and non-threatening situation.
- Recognise that it is not necessary to convince anyone that they are right or wrong; different viewpoints can be explored in different scenarios and information can be used to consider how those differences might unfold and what their implications might be.

All of the differences of viewpoint revealed in the workshop are ones that can be seen in society more broadly (e.g. in the media and in day-to-day conversations). Some can be informed by scientific and other information, while others are more fundamental differences of opinion or preference rooted in different world-views. One aim of the workshop was to identify where and how science could make the most helpful contributions.

One of the areas of difference was around limits to growth. While most participants recognised that limits to the consumption of non-renewable resources is an important issue to consider, opinions differed on how close those limits might be, when (or if) they might become critical, and whether technology could provide solutions before critical limits are reached. Many participants expressed a need to have input from scientists to help them

understand this difference of view. Related to this difference of opinion was one not so easily addressed by science: the question of how much reliance can be placed on markets to help society find sustainable and equitable futures versus the need for government intervention. These issues were very obvious in the conversations around growth and restraint futures, but failure to find sustainable solutions to resource use was seen as a likely driver of catastrophe futures, and some of the mechanisms for finding sustainable and equitable futures were considered to be transformational.

There were numerous comments about the desirability of a greater devolution and sharing of authority and responsibility in governance arrangements. Such arrangements were seen as being particularly important for addressing complex environmental and social issues that require information-gathering and timely action at all scales, from national to local. Nevertheless, it was clear that, as in society more broadly, not all participants were convinced about how desirable these governance changes might be. There were uncertainties about how far devolution could or should go, given Australia's political history and governance structures, and others felt they had too little information to engage in this conversation at all. The topic of Australia's resilience – its ability to cope with future shocks without losing its essential characteristics – was intimately related to conversations about governance, but this topic was clearly not well understood by many participants. Options for Australia's future governance, resilience, adaptability, and transformability are clearly topics that social science in particular could inform, including making it clear what the fundamental issues are and why they might be important for Australia's future.

Many conversations revealed differences in views about the nature of present-day Australia. This was most obvious in the transformation archetype. While most participants expressed a preference for a fair and caring future Australia, many thought this would be fundamentally different from today, although some thought present-day Australia could evolve in this direction without a transformation.

Participants had no trouble imagining a range of possible catastrophe futures (probably because we hear examples regularly in a range of media and entertainment), but views differed considerably about how likely different catastrophes might be. It appears that even a well-informed group of Australians finds it difficult to consider future risks objectively. This is another area to which science could contribute, although it has been recognised for some time that humans in general struggle with risk assessment.

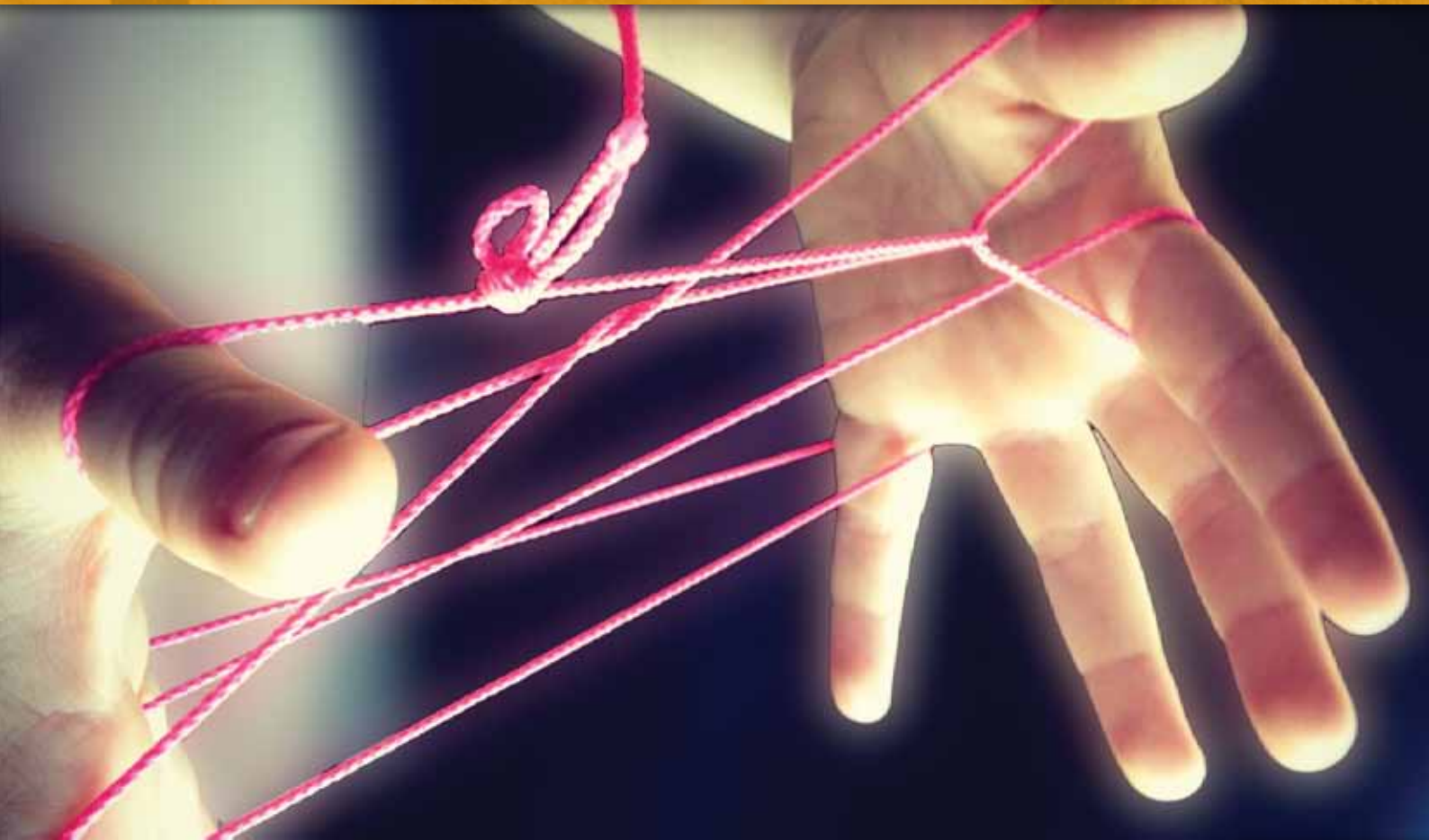
There were strong arguments that some sort of restraint would be beneficial for Australia's future. But there were wide differences of opinion about how much restraint is wise, ranging from moderate financial restraint to balance national budgets to wholesale changes in lifestyles to balance consumption of resources with supply. There were also large differences of opinion about whether major restraint would be possible within the timeframes that might be required. Scepticism related largely to opinions about the ability of science to provide convincing information about the need for restraint, the ability of society to reach consensus, the willingness of individuals to make the sorts of sacrifices that might be required, and the challenge of 'free-riders' undermining the efforts of those who do exercise restraint. This was an area in which science is particularly challenged to contribute to both the provision and communication of information in relevant and meaningful ways.

Several participants noted a change in their thinking about transformation futures as a result of their conversations. For example, it was noted that it is common to think about technological advancements and 'Star Trek' futures when thinking about a transformed Australia in several decades' time. But the opportunity for deeper conversations revealed the social aspects of possible transformations. As noted above, this led to questions being asked, and differences of opinion arising, about what might constitute social transformations and how they might come about. It has been noted by futurists that we have limited understanding of how social change happens and a very limited ability to anticipate it [6].

Not surprisingly, many differences in viewpoints concerned issues that could develop in different ways into the future and which are highly unpredictable. Examples included how the attitudes of Australians in different generations might change, how economic ideologies of Australia's and other nations' governments might change, how and where conflict and/or market disruptions might occur in our region (or elsewhere in the world) and influence Australia, and what diseases might emerge that have the potential to become pandemics affecting Australia. In most cases we are unable to anticipate the direction of change in these issues because they are influenced by large numbers of interacting processes and 'rules' that change over time. They are true uncertainties and the discipline of scenario-planning has developed as a way to explore the alternative futures that might emerge.

Other examples of differences in viewpoint to which science might contribute included: how well, or quickly, technology might be able to address challenges like making alternative energy sources available, or reducing the amount of non-renewable resources consumed in production of food and other products; what size and distribution of population Australia might be able to support in the future; how a society based on sustainable use of resources and focused on all aspects of human wellbeing might function in a globalised world; what we can expect realistically of health technologies; how well Australia might cope with a disease pandemic; how close we might be to levels of environmental decline that could threaten the ability of ecosystems to support human life and wellbeing; and how we might interpret multiple ecological, social, and economic changes in terms of how well Australian society might cope with future shocks (i.e. its resilience).

Chapter Ten



10. Critical pathways

A key part of the conversations about archetypes was to consider how types of future might arise.

Many participants found this a very difficult task. Below some insights are distilled, noting that the aim was not to achieve a deeply considered set of future trajectories but rather to capture initial reactions to the question of pathways to the future which could serve as a foundation for deeper consideration later.

In the growth, restraint, and transformation futures it was thought that substantial changes in values and attitudes were required to achieve desirable outcomes. It was thought that current attitudes, including our love of consumerism, are already setting us on a growth trajectory; however many participants thought this would not lead to a sustainable future without changes to the relationship between production, consumption, and use of non-renewable resources. Population growth, globalisation, and the proliferation of technologies were all seen as drivers of growth futures.

Gradual pathways towards restraint and transformation futures were seen to involve increasing awareness in Australian society about the need for change, probably assisted by technology in gathering and communicating information more effectively, and combined with strong leadership and approaches to governance which encourage all Australians to take responsibility for building new futures. National conversations about what people want of the future and how to get there were seen as important.

There were varying degrees of optimism about whether gradual pathways to desirable growth, restraint, or transformation futures were likely. The alternative pathways involved catastrophes or potentially catastrophic shocks. Certain forms of partial collapse in social and economic systems are followed by periods of compensatory growth. Where restraint or transformation is needed, catastrophes, shocks, or crises were seen as a likely way by which Australians would be led to recognise those needs and be galvanised into action.

Leadership and good governance were recognised as necessary for the growth, restraint, and transformation futures, especially to create conditions under which Australians think about their future and build a national culture of preparing for multiple challenges and opportunities.

The pathways to catastrophe futures mostly involved poor leadership and governance, lack of anticipation or preparation for change, low levels of social cohesion, deterioration of critical infrastructure (including social infrastructure), and futures that 'happen to us' rather than ones we shape.

Chapter Eleven

11. Preferred futures

Given that participants spent time thinking through the extremes within the different scenario archetypes, and found certain commonalties, did any consensus view about desirable futures for Australia emerge?

Although charting preferred futures wasn't the intention of the workshop, there was remarkable consistency among participants in describing the sorts of futures they would like to see. In the conversations about growth, restraint, and transformation futures there was repeated mention of a future Australia that was more caring, community-focused, and fair than present-day Australia. This seemed to be a widely-held preference for the future. The major differences related to perception of how such futures might come about.

When designing the workshop, the organisers expected there might be larger differences in preferred futures among participants and even larger ones across society. Other projects around the world have reported difficulty – because of differences in lifestyle and cultural preferences – in getting diverse groups to identify a common vision for the future. Probably this problem would have arisen if we had asked participants to develop more detailed visions of preferred futures, and possibly those who had very different views felt reluctant to express them in this forum, even though respect for diverse views was encouraged.

Many participants asked when they would get to make decisions and recommendations. It was explained that the workshop was deliberately designed not to go to that stage, as it would direct conversations towards finding consensus rather than on exploring and valuing diversity of viewpoint. We expect that, had the participants been asked to agree on preferred pathways to the future, there would have been considerable disagreement, of the sort normally seen when planning for the future is attempted in organisations or communities. It is not suggested that the sorts of conversations we encouraged in this workshop would avoid these disagreements, but one message to emerge from the workshop is that society would be in a better position to reach agreement on a suite of steps forward if we understood the basis for different preferences.

Chapter Twelve

12. Reflections on the process

The people at this workshop represented only a part of Australian society. They were people who have demonstrated a strong knowledge of public affairs and a willingness and ability to listen to and take account of others' views on complex issues. It was expected that these people would be able to demonstrate how conversations – two-way exchanges of views in a respectful way – can be undertaken and how these can provide a better basis for constructive dialogue about the future than everyone arguing for their view of the world.

By and large, this was achieved. Participants were highly cooperative, and worked willingly to comply with all requests with very few misunderstandings or adverse reactions. This view was reinforced by Dr Allan Parker, the social scientist who has devoted much of his life to observing and analysing how people succeed and fail at conversing. Parker recorded an unusually high level of behaviours which indicated active and respectful listening.

As expected, there was a diversity of views among the participants, reflecting to some degree the diversity of views within Australia society. In designing the workshop, it was assumed that bringing these differences to the surface (and encouraging participants to understand what beliefs and information the differences were based on) was an important first step towards collective action. The feedback from the majority of participants was that they found the experience both liberating (in that they could share their views without having to argue their case in an adversarial way) and eye-opening (in that they became aware of views they had not previously encountered or understood, and saw possible pathways towards desirable and undesirable futures they had not thought about before).

Many participants said they would have liked access to subject experts, such as scientists, but they also acknowledged that such a course might have carried a risk of the conversations being directed by the expert before they had had the chance to explore their beliefs and views. The assumption made by the organisers was that exploring beliefs and views first helps participants be clear about what questions they would like to ask of experts.

Some participants thought that the time allowed for conversations (15-minute blocks in groups of three people) was too short to develop a good understanding of others' views, although other participants found this time

adequate to form an opinion about whether they would like to pursue some of the ideas further. There were suggestions that exploring these differences would have brought out more passion and creativity in the conversations, and participants wondered what was missed because people were 'ducking differences of opinion'.

Any mismatch in depth of knowledge and understanding on an issue also created a barrier to exploring differences further. Where participants felt well-matched in knowledge and understanding with others, they reported conversations having rich details, strong engagement, and novel twists, all of which helped them see things in new ways.

While there was some distaste for taking on the role of scribe, which involved documenting points on the laptop supplied to each group of three, participants were generous and cooperative with their scribing, and our detailed summaries of the archetypes were only possible because of this diligence. Some suggested a better process would be to have scribes allocated to conversations without requiring the scribes to be involved. On the other hand, giving participants the responsibility to record their own points meant that, for the sake of accurate note-taking, there was a stronger requirement for them to listen well to one another.

Participants were tired at the end of the workshop; many found the conversations hard work. Small group size meant that participants were required to be actively engaged at all times and participants also had to share the scribing load. Moreover, facilitators kept interrupting and ending lively discussions every 15 minutes, which often took energy away from thriving conversations and was disruptive for facilitators and participants alike.

While there was a strong willingness among participants to work with uncertainty, ambiguity, and different perspectives, there was also some discomfort at the lack of a requirement for convergence and agreement. There was also doubt about the usefulness of the database of conversation points. For many, the stated purpose of exploring perspectives was not sufficient. Such reactions can be expected at other events of this kind, and so it is worth being very clear about purpose and expectations up front so that participants know exactly what they are signing up to.

The general finding is that this sort of workshop process can work well for groups of people that are coming together for the first time; there is also merit in allowing time for trust to be built before diving into detailed testing of assumptions and challenging of ideas. In the case of the workshop here, trust was not built during the individual 15-minute encounters but during the range of opportunities to interact over the day and a half. The emphasis on listening and understanding, rather than debate, worked well. That being said, a lesson from the workshop is that it is important to provide opportunities to follow up with deeper conversations later where people want to, perhaps allowing subsequent conversations with experts to clarify key points of information. How this might be done is best decided on a case-by-case basis after considering the time that participants have available, what travel is required (for participants and experts), the nature of the issues raised, and the different ways in which people think and express themselves.

Ultimately, one of the greatest lessons was that one reason conversations are difficult is because people go about them in different ways. Some people want, and need, rapid stimulation before entering into a longer discourse on specific aspects identified by the initial discussion. Others, however, find constant interaction overwhelming and want time alone to reflect before re-entering a conversation. As with most complex tasks, there is no one approach that serves all. The kind of archetype-based forum provided in this workshop was successful to a point, particularly for some, but it needs to be one component of a richer set of opportunities if conversations are to be truly inclusive and productive.

Chapter Thirteen

13. Next steps

The present workshop, which was part of the broader 'Australia 2050' project of the Australian Academy of Science, allowed people to explore multiple futures through face-to-face conversations. Participants could develop insights about the future which extended beyond a factual scientific perspective. This booklet has described how different insights can be brought to the surface and sets out how such conversations might be encouraged among Australians more generally. It illustrates how using archetypal stories and designing rolling conversations can bring to the fore people's differing ideas, values, and beliefs about the future. Such an approach might be a useful starting point for communities or organisations who are seeking out the views of multiple stakeholders on specific local issues, or wanting to contribute to a national conversation about the future.

Catalysing a true national conversation about our future will not be easy. We believe the techniques described here could help in a number of ways. These could include:

- Sharing and using the archetype reflections in this booklet as ways to start conversations about the future, or as ways to advance discussions that have stalled. Sharing others' ideas of the future might open up new perspectives for groups.
- Formalising a process to explore these archetypes. This workshop used a 'world café' style process to rotate people around the four main archetypes, a process that allowed them to explore different perspectives without having to hold on to their own, and to bring ideas to the surface.
- Sharing experiences with others so that many conversations can evolve into a national conversation. Learning from each other will identify improvements to the process, and also provide an understanding of how perspectives and reflections change over time.

The workshop we have described and the techniques employed are just the first stage in the iterative living scenarios process described in volume 1 of the Australia 2050 proceedings [1]. Nevertheless, it is clear that without this first step a true national conversation will be impossible. Instead, we will revert to the usual practice of talking past each other rather than to each other. Cascading many local discussions to a national conversation will not be easy and will require multiple inputs for this goal to be achieved. We hope that adopting the process described here will help towards a process whereby concerned and committed individual Australians will contribute to shaping the future of the country in which we live.

References

1. Raupach MR, McMichael AJ, Finnigan JJ, Manderson L & Walker BH (2013), *Negotiating Our Future: Living scenarios for Australia to 2050. Volume 1*, Australian Academy of Science, Canberra, 213 pp. Available at https://www.science.org.au/publications/negotiating-our-future-living-scenarios-australia-2050

2. Raupach MR, McMichael AJ, Alford KJS, Cork S, Finnigan JJ, Fulton EA, Grigg NJ, Jones RN, Leves F, Manderson L & Walker BH (2013), 'Living scenarios for Australia as an adaptive system', in: *Negotiating Our Future: Living scenarios for Australia to 2050. Volume 1*, pp. 1–53

3. Conklin MG (1912), *Conversation: What to say and how to say it*, Funk & Wagnalls, New York and London

4. Dator J (2009), 'Alternative futures at the Manoa School', *Journal of Futures Studies* 14(2):1–18

5. Bezold C (2009), 'Jim Dator's alternative futures and the path to IAF's aspirational futures', *Journal of Futures Studies* 14(2):123–134

6. Raupach MR (2012), 'The evolutionary nature of narratives about expansion and sustenance', in: *Negotiating Our Future: Living scenarios for Australia to 2050. Volume 2*, pp. 201–213

7. Hunt DVL, Lombardi RD, Atkinson S, Austin BRG, Barnes M, Boyko CT, Brown J, Bryson J, Butler D, Caputo S, Caserio M, Coles R, Cooper RFD, Farmani R, Gaterell M, Hale J, Hales C, Hewitt NC, Jankovic L, Jefferson I, Leach J, MacKenzie RA, Memon FA, Sadler JP, Weingaertner C, Whyatt DJ & Rogers CDF (2012), 'Scenario archetypes: converging rather than diverging themes', *Sustainability* 4:740–772

8. Curry A & Schultz W (2009), 'Roads less travelled: different methods, different futures', *Journal of Futures Studies* 13(4):35–60

9. Cocks D (1999), *Future Makers, Future Takers: Life in Australia 2050*, UNSW Press, Sydney

"Conversations are dialogues, not monologues; they are partnerships, not individual activities; they involve listening as well as talking; they are ways to learn from and understand others but are not necessarily a vehicle for information; and they should be polite and respectful."

— Conklin (1912) Conversation: what to say and how to say it

This booklet describes a way to have productive conversations about the future among people with widely different points of view. It shows how their participation might be encouraged and organised by visualising a future Australia through the lens of four 'archetype' scenarios: an Australia undergoing growth, restraint, catastrophe, or transformation. It describes the insights that emerged when a large group of people drawn from many walks of life spent a day-and-a-half sharing their knowledge, experiences, and viewpoints to consider the kind of Australia we could have and might have in coming decades. Most importantly, the processes and outcomes from the workshop are documented here so they can be used, adapted, and re-used by other groups that want to contribute to a national conversation about the future of the country we live in and cherish.

Australian Academy of Science

www.science.org.au

Australian Government

Australian Research Council