RSA

A stitch in time?

Realising the value of futures and foresight

Adanna Shallowe, Aleksandra Szymczyk, Ella Firebrace,
Ian Burbidge and James Morrison

OCTOBER 2020

Acknowledgments

About the authors

We all have an interest in foresight and futures and how change happens. **Adanna Shallowe** has a background in international relations and development and is responsible for harnessing global insights in the RSA's research. **Aleksandra Szymczyk** is a research associate at Manchester Metropolitan University's Policy Evaluation and Research Unit with a background in social anthropology. **Ella Firebrace** has a background in international migration and works across a range of RSA programmes including Cities of Learning. **Ian Burbidge** has a background in local public service and behavioural science and leads the development of the RSA's Living Change approach. **James Morrison** has a background in social and cultural anthropology and works across a range of projects at the RSA.

Contents

REALISING CHANGE

We are the RSA. The royal society for arts, manufactures and commerce. We unite people and ideas to resolve the challenges of our time.

We are the RSA. The royal society for arts, manufactures and commerce. We're committed to a future that works for everyone. A future where we can all participate in its creation.

The RSA has been at the forefront of significant social impact for over 250 years. Our proven change process, rigorous research, innovative ideas platforms and diverse global community of over 30,000 problem solvers, deliver solutions for lasting change.

We invite you to be part of this change. Join our community. Together, we'll unite people and ideas to resolve the challenges of our time.

Find out more at thersa.org

We define our ambitions as:

Our vision

A world where everyone is able to participate in creating a better future.

Our purpose

Uniting people and ideas to resolve the challenges of our time.

We are

A global community of proactive problem solvers.

About the Policy Evaluation Research Unit (PERU)

Established in 2007, the Policy Evaluation and Research Unit at Manchester Metropolitan University is a multi-disciplinary team of evaluators, economists, sociologists and criminologists. We specialise in evaluating policies, programmes and projects and advising national and local policymakers on the development of evidence-informed policy. We work in the UK and Europe across sectors that include criminal justice, education, social innovation and incomes, work and poverty.

About MetroPolis

MetroPolis is a thinktank to develop effective public services, cities and a caring society. Based at Manchester Metropolitan University it is a unique partnership of researchers, policymakers and practitioners who share thinking to tackle key challenges.

The events of 2020 have demonstrated the value of foresight in policy. But also how hard it is to predict the future. Above all, it shown us how complex and fast-moving our world is. If ever there was a need for innovation in policymaking it is now.
Professor Chris Fox, Director of PERU and co-lead of MetroPolis at Manchester Metropolitan University

If the events of 2020 have proved anything it's surely how valuable foresight is when making policy, but also how hard it is to predict the future. We have known for a while that, as a society we face some big challenges: take your pick from a list that includes climate change, the Fourth Industrial Revolution, an ageing population, urbanisation, loneliness and the rise of populism. The Covid-19 pandemic has brought these into stark relief, while also presenting us with new ones. Above all though it has shown us how complex and fast-moving our world is. If ever there was a need for innovation in policymaking it is now.

A combination of big policy challenge and ever-increasing complexity is one of the factors that makes greater investment in futures thinking an attractive idea. One strand of thinking on better policymaking has turned to technologies such as machine learning, AI and the potential of big data. Will these technologies help policymakers understand complex systems and model potential future scenarios, in which policy options can be tested? They certainly have much to offer, but when we proposed this project to the RSA our hunch was that technology was not the whole story. We know from our wider work on innovation in policymaking that new models of innovation have started to break down the distinction between technologically-driven and people-driven innovation. Models of 'open innovation' and 'social innovation' for example, invert traditional models of technologically-led innovation and suggest that innovation is driven by the creation of 'ecosystems' made up of diverse actors who align their goals and collaborate to co-create 'shared value'. Instead of the citizen being seen as a recipient of innovation, in these models citizens and in particular, the people who use services, are the drivers of innovation and work with government and services to co-

create innovative solutions to meet their needs be they better financial services or more effective health services.

This report describes futures thinking as a people-driven, multi-disciplinary project. Technology has a role to play, but so do the arts and humanities. It recognises that futures thinking is an inherently creative discipline which asks fundamental questions about what it is to be human and is necessarily values-driven. Taking this perspective leads the authors of this report to argue for the importance of encouraging all of us to make the future a greater priority and embed long-term thinking into our everyday lives. They make far-reaching and radical recommendations for policy- and decision-makers and organisations across society. We at Manchester Metropolitan University are looking forward to continuing to work with the RSA on bringing them to fruition.

Professor Chris Fox

Director of the Policy Evaluation Research Unit and co-lead of MetroPolis at Manchester Metropolitan University

Notes on reading this report

Futures studies is an academic field and discipline with graduate degree programs, peer-reviewed journals, international academic and professional membership organisations and a rich body of literature. Where we have directly drawn from such resources, we reference them in the footnotes.

We use the term 'futures' as relating to the subject matter and 'foresight' to the competency and practice. We are not talking about futurism or prediction. Strategic foresight, in turn, might be described as an organised and systematic process through which to engage with uncertainty regarding the future. We unpack this definition a little further in the opening chapter and in the Glossary.

In addition, there are a range of guides and manuals on how to apply foresight methodologies in practice. We do not seek to replicate these; such detail is beyond the scope of this report. We have listed many of them in Appendix E for further reference.

We have also adopted the practice of the Long Now Foundation in expressing the year with an additional '0' to give a better indication of the long arc of time; thus, we are publishing this report in 02020.

We draw insights from global practice and knowledge. Although our recommendations can be considered more widely, they tend to a UK focus.

Limitations

We are aware that we are writing from the perspective of a Western, industrialised, educated, rich and democratic society, and therefore we have cultural blind spots to some of the concepts and ideas we explore in this research. We recognise that whilst the society in which we live has largely lost touch with generational wisdom and insight, this is not the case for a vast number of other cultures for whom notions of the long term and our symbiotic relationship with the earth are so central as to not require elaboration. From this perspective, our call for longer-term thinking and practice across society must appear mystifying. A significant number of our interviewees acknowledged this. We value and recognise this perspective. It remains an area we would like to explore further and understand better in subsequent work, and we make this commitment in the recommendations.

Foreword by Matthew Taylor

A stitch in time is an expansive, timely and practical report. The team at RSA and MMU have mapped out important debates and made thoughtful proposals. The report includes a helpful executive summary and an introduction from Professor Chris Fox, which speaks to the core thesis. Rather than repeating or rehearsing the argument, I want to use my brief preface to offer one among many thoughts which has occurred to me after reading the report.

Towards the end, the authors refer to the RSA's established approach to change, summed up in the phrase 'think like a system, act like an entrepreneur'. A stitch in time encourages to think of the temporal qualities of systems and in doing to give more weight to the long term and the possibilities for change which can be illuminated by futures thinking.

An interesting characteristic of systems is that the relationship between the short and long term varies within them. As a football fan, I can suggest an illustration. When it comes to the short-term objective of winning the next game there is little or no trade-off between this and the long-term aim of a successful and financially sustainable football club. All other things being equal, the more wins this season, the better the medium to long term prospects for the club.

In contrast, the decision to splash out in the transfer market on an expensive high salary player may be justifiable in relation to short term victories while also risking medium term finances and long-term viability.

The point here is not simply that thinking about the future is more important for some decisions than others, but that the relationship between short term and long goals differs. In some cases, they point in the same direction (so futures thinking doesn't add anything practical to our insights) in some cases they may conflict, while in others the question of whether or not they align is debatable or inherently uncertain.

Given human cognitive frailties and the many short-term pressures in a society like ours, futures and foresight methodologies are a vital tool in the development of change strategies. But, for me, the lesson of this report is not only that we should seek to think more deeply about the long term future, but also that understanding and questioning the relationship between short, medium and long term action should be an integral part of system analysis and the development of strategies for change.

Matthew Taylor

CEO, The RSA

INTRODUCTION

"**An answer** is always the part of the road that is behind you. Only questions point to the future."
Jostein Gaarder

Introduction

We set out on this research journey to write a provocation around the value, practice and opportunity of futures and foresight methodologies in different contexts, with a focus on their potential for improving public policy and discourse.[1]

We enter this space not as futures and foresight experts, nor are we specifically writing for that audience. We spoke to experts across the field who offered unparalleled depth of knowledge, insight and expertise.[2] As authors we fall into that growing category we might describe as 'curious generalists'. Since the scientific revolution, the world has seemingly favoured deepened knowledge in what appears to be an infinite number of fields. We are not in this camp. We want to know enough about a range of disciplines, to see how bringing diverse insights together can offer new ways of thinking about and addressing some of the more intractable challenges we face as a society. Indeed, many of those we spoke to through this research would not identify as futurists or see themselves as only practicing within this field, and instead offer a breadth of knowledge and experience.

This is the spirit in which this report is offered.

It is aimed for the creative problem solver, the adaptive generalist, the intellectually curious, the changemaker. For those who utilise a range of mental models and frameworks from across disciplines to help make sense of the world and act within it. We see value in exploring what a field such as futures and foresight has to offer in complement to their existing skillset. We have previously referred to such people as systems-

entrepreneurs: those who recognise the need to facilitate change whilst at the same time trying to preserve some stability; those who recognise that no single field has the answer, for there is no single right answer to be found.[3]

Changemakers face a number of challenges in realising the benefits of futures and foresight. On the one hand, such approaches can help us understand what the future might look like so that we might better organise ourselves for that speculative future. On the other hand, it can help us to disrupt and change future scenarios because we believe in better. It is critical that through futures and foresight we can imagine this better future whilst understanding our present, and take tentative steps forward. Of course, we know the map isn't yet drawn – and nor can it be, for reasons of complexity in navigating an evolving landscape.

In the opening chapter, Hindsight, we explore the extent to which concepts of time and the future are at the heart of what it is to be human. We then dig deep into the use of futures and foresight approaches across three core contexts: that of the organisation, the individual policymaker and society as a whole. We frame the report around this structure, with each context forming a core chapter. In each, we identify and explore five ways in which we might realise the value of long-term thinking in a short-term world. We conclude each chapter with a set of insights and recommendations that we have drawn from our research. We offer them with humility and the hope that other interested travellers find these ideas and provocations of interest. If we have sparked new thoughts, ideas or reflections in some of our readers we will

1 See Appendix A.
2 See Appendix B.
3 Hallgarten, J., Hannon, V. and Beresford, T. (2016) Creative Public Leadership: How School System Leaders Can Create the Conditions for System-wide Innovation. [pdf] London: RSA and Innovation Unit Available at: www.thersa.org/globalassets/pdfs/reports/creative-public-leadership.pdf [Accessed 14 October 2020].

8   A stitch in time? Realising the value of futures and foresight

A stitch in time? Realising the value of futures and foresight   9

have succeeded, for we might never know what they may lead to in the future.

The urgency for this research has been accelerated by the shadow cast by the global pandemic of Covid-19. In many ways, the pandemic is amplifying both the shortcomings of society's current modus operandi to respond to something as complex and emergent as a pandemic and the need for longer-term thinking in terms of the kind of society that might emerge from its wreckage. For there remain long-term challenges to address, captured in the Sustainable Development Goals and including the climate crisis, racial justice and wealth inequality. These, and challenges like them, will require long-term thinking that frames short-term actions.

We realised through our research that there is a growing movement to re-prioritise the future and long-term thinking in our everyday lives, communities, organisations and systems. Activists and citizens are taking actions and provoking thinking across the broadest range of disciplines and communities, from the Long Now Foundation to a petition to the UK parliament to establish a citizens' assembly for the future, from Longplayer in London's Trinity Buoy Wharf playing music for a thousand years to the Long-Term Stock Exchange.[4] Popular books include Farsighted, The Good Ancestor, On the Future and The Clock of the Long Now. We have tapped into this work primarily because we were directed by our interviewees where to look, not necessarily because we had previously come across it.

Our hope is that in some small way this report helps amplify such work and invites others on a path of discovery. In that spirit we offer, as recommendations, a set of ideas we feel are worth exploring in more detail in order to take this work forward into a tangible phase of discovery and design.

4   Long Term Stock Exchange (2020) Home | LTSE. [online] Available at: www.ltse.com [Accessed 14 October 2020].

EXECUTIVE SUMMARY

Goal:

One of the primary reasons we need to think about futures and foresight is to help us change course toward different outcomes, embedded in shared ethics. Here we offer a series of recommendations to put this into practice.

Executive summary

Core take-aways

Our research has highlighted a number of insights and ideas about futures and foresight which we have consolidated into twelve core take-aways.

Hindsight

1 **Humanity.** To think about the future and to plan ahead is to be human; our evolution depended on it. Homo prospectus has always had a futures and foresight mindset. How we think about and view the future is vitally important to how we think about and act in the present. In turn, our present context is vitally important to how we think about the future.

2 **Uncertainty.** Futures and foresight offers a way to think about and approach some of our most intractable, complex social challenges, and therefore provides additional mechanisms to help navigate the uncertainty inherent in life in general and social change in particular.

3 **Change.** Tools and methods in change practices tend to focus more on understanding what has happened in the past (hindsight) as opposed to what is about to happen or what we want to see happen in the future (foresight). Futures and foresight therefore offers benefits for those seeking change, particularly as we need to work with a deeper and more nuanced understanding of the hidden social and cultural determinants of our futures.

For organisations

1 **Practice.** To account for the future organisations we have to consider the long-term impact of short-term actions, yet this is not standard practice across many cultures, industries and sectors, fuelled in part by our capitalist economic incentive structures.

2 **Process**. Foresight shouldn't be seen as a stand-alone set of activities but should be integrated into the culture. It needs to run through the organisation's cultural structures and assumptions in order to overcome resistance and add maximum value to the organisation. The more foresight tools and methodologies are part of the strategic life-cycle the more robust the policy- and decision-making process.

3 **Resilience.** Evaluation of foresight methods is not an exact science, given there is no counterfactual, rendering the benefits often intangible. This should not dissuade executives from seeing foresight as a complement to strategy and decision-making processes. Indeed, the resilience that can result from future-proofing is where much of the value can be found. Organisations that question the long term role they play in a system and that continue to change to be relevant and supportive of that future are more adaptive and resilient as a result.

For policymakers

1 **Paradoxes.** Policymakers, in all contexts, have a number of paradoxes to navigate in order to bring value from futures and foresight approaches, including the short-termism of the political or product life cycles and the potential long-term implications of their decisions. A short-term mindset can also convert or over-ride long-term thinking even around obviously long-term products or initiatives, such as built environment projects that have lifespans of decades and therefore impacts and implications for decades.

2 **Competencies.** Futures as a discipline and foresight as a competency are inherently multi-disciplinary and support longer-term, holistic, and systemic thinking. Systems thinking is the backbone of futures thinking - it is *why* futures thinking must be multidisciplinary. The fields of systems science and futures studies emerged side by side in the early to mid-20th century and, indeed, had some of the same founding thinkers.[5]

It is complementary to, and a core skillset of, many people who are seeking change, whether as policymakers, decision-makers, activists, advisors and/or consultants. Many generalists or polymaths count these methods in their repertoire.

3 **Legitimacy.** A crucial challenge relates to the idea of *legitimate futures* which asks the questions 'whose future is it?' and 'who has the power to decide about that future?' Is it policymakers alone? Without transparency of process, it can be difficult to counter charges of paternalism or the 'colonisation of our imaginations'.

For society

1 **Incentives.** If we are not acting in ways that enable our descendants to thrive on the planet, we are colonising their future. Yet it is impossible to underestimate the impact that incentives have in driving short-termism. We need to find ways to value the long run.

2 **Perspectives**. Because the way we think about the future is a product of our values and belief systems, not everyone will view the future in the same way nor give it the same importance. In thinking about the future, we are really challenging the stories we've been told about ourselves, our society and our place in the world.

3 **Movements**. There are organisations and people who are at the leading edge of a growing movement to embed long-term thinking across all aspects of society, drawing upon academia, the arts, business, music and literature. Aligning foresight practice with wider mechanisms of deliberative democracy and engagement is an important opportunity for the use of foresight.

5   See for example the work of Kenneth Boulding.

Stitches in time?

One of the primary reasons we need to think about futures and foresight is to help us change course toward different outcomes, embedded in shared ethics. We need to consider possible futures so we – and our descendants - are not captured by them. This level of flexibility is a necessary response to the complexity of the world and its challenges. We can't assume to stay on a fixed course or we will find ourselves lost and obsolete. What actions could organisations, policymakers and society take to avoid this? We think there are five core asks of each that collectively form a set of 'stitches in time'. Together they might help facilitate and accelerate a transition towards a longer-term perspective.

For organisations

To develop futures competencies:

1 Broaden time horizons
2 Develop capabilities
3 Integrate with existing processes
4 Overcome resistance
5 Evaluate and learn

For policymakers

To develop a futures mindset:

1 Work across disciplines
2 Draw on a range of methods
3 Develop a futures literacy and fluency
4 Identify power dynamics
5 Surface signals of systems change

For society

To develop a futures culture:

1 Make future challenges salient
2 Recognise different perspectives
3 Engage citizens in participatory practice

4 Challenge short-term incentives
5 Think like a system, act like an entrepreneur

Recommendations

We have identified a number of relevant areas of inquiry outside the scope of this initial research piece that warrant further exploration, particularly around the cultural dimensions and indigenous wisdom of futures thinking, the role of the generalist and business maverick, and the potential alignment with participatory democracy practices.

We believe the RSA is a natural home for those interested in the art of change. Inherent in change are notions of the future and how that impacts us today, especially as uncertainty and disruption characterise our futures going forward. With the emergence of a new RSA programme around the idea of regenerative futures,[6] with a vision for humans to thrive as part of the earth's ecosystems in perpetuity, we are keen to co-create an open knowledge network in this space. Our recommendations below form a starting point for these conversations.

In particular, we would like to offer an open invitation to work with us. We are keen to develop a wide community of practice/knowledge network of foresight practitioners and futurists with RSA Fellows at its heart. We want to discuss the idea of futurists and foresight practitioners in residence, experts that are hosted by the RSA working on a core issue, brief or programme.

For organisations

- Establish the chief foresight officer (or equivalent) as a core C-suite role, charged with responsibility for the long-term impact of the organisation. Establish equivalents in public, social, and charity sectors together with mechanisms to share success.

- Develop an incentives and reporting structure and a code of ethics for all businesses that shifts the balance away from short-term, often unsustainable actions whose sole aim is to maximise shareholder value, and prioritise instead longer-term, sustainable practice and value generation for shareholders and for wider society.

- Identify and connect those organisations actively working to embed long-term perspectives into their work. Seek opportunities to align, test and amplify their work so that longer-term time horizons become more of an institutional norm.

For policymakers

- Look at issues of legitimacy in more detail, including the relationship of futures and foresight with other forms of public engagement and deliberation. Examine, in particular, the differences in how societies and cultures think about time and the long-term, what lessons can be shared, and how this can support the long-term response to the short-term pressures of responding to Covid-19.

- Require every government department, public sector organisation, and those organisations delivering services with public funding, to embed foresight thinking into its work, including through the publication of a Future Generations Impact Assessment alongside any significant policy or funding change. Continue to develop futures and foresight as core competency for public policymakers.

- Design and test a new Futures Citizen module, ultimately to form a new further-education qualification, as well be a foundation part of every degree course. It could cover the basics of foresight alongside insights from a range of multi-disciplinary subjects such as systems thinking, complexity, design and innovation, strategy, decision-making, economics, choice and bias, and so on. Make available as a MOOC once developed and tested. This will start to seed and mainstream efforts at making foresight more accessible and culturally acceptable.

For society

- Design and run a citizens' jury on the idea of establishing a third chamber alongside the House of Commons and the House of Lords, mandated with the primary function of representing the interests of future generations. Equip this chamber with the powers to fulfil their functions. Support this by reducing the voting age to 16, recognising that young people have longer remaining on the planet than their grandparents' generation, and that they are old enough to have a say at the ballot-box.

- Establish diverse and inclusive national and regional citizens' assemblies on future generations to inform this work, supported by RSA Fellows with foresight expertise.[7]

- Design some practical micro-experiments that help cement longer-term thinking in people's everyday lives and social contexts. For example, what would it take to enable everyone to have the option of taking mini-

6 For more information, see www.thersa.org/regenerative-futures.

Executive summary

retirements for every decade of work? New mechanisms are needed that enable future generations to live a good life in a context significantly different to that enjoyed by previous generations.

Note: these three recommendations relate specifically to the UK context with which we are most familiar. We invite readers to imagine recommendations appropriate for their own society and culture.

To summarise, these recommendations are mutually reinforcing, as illustrated below.
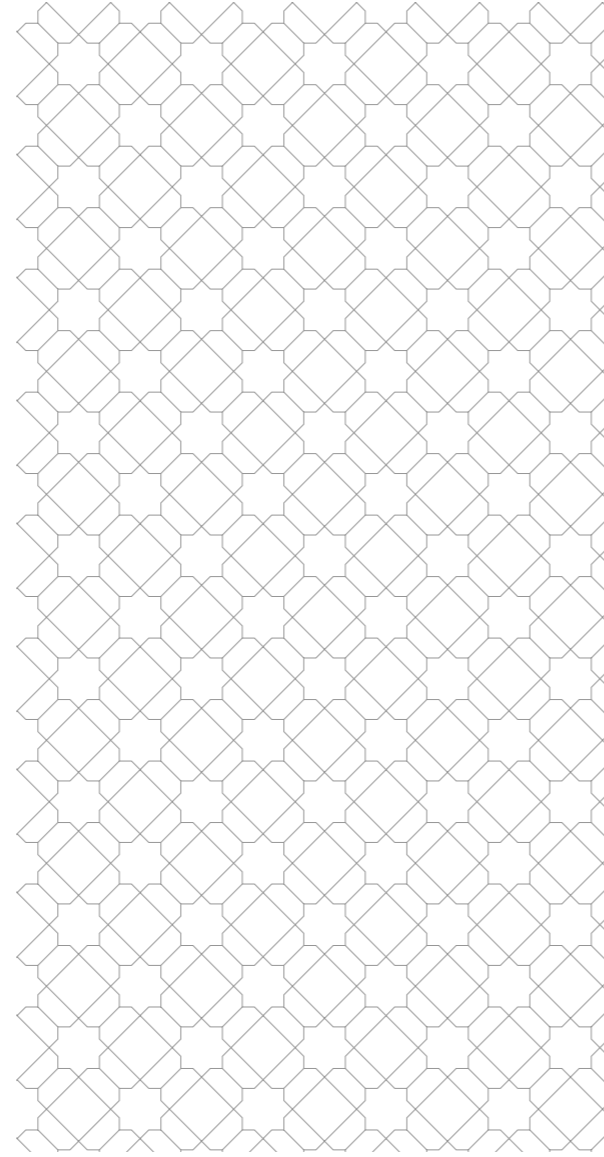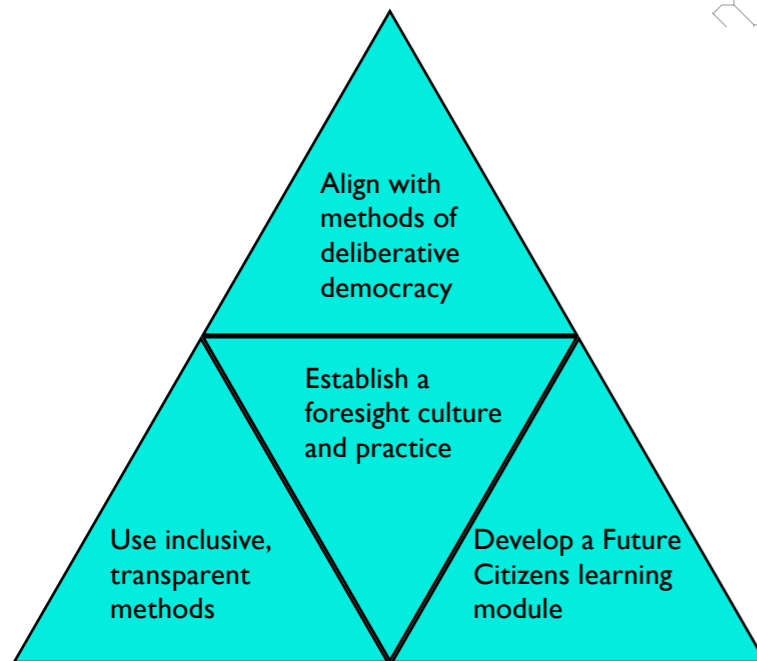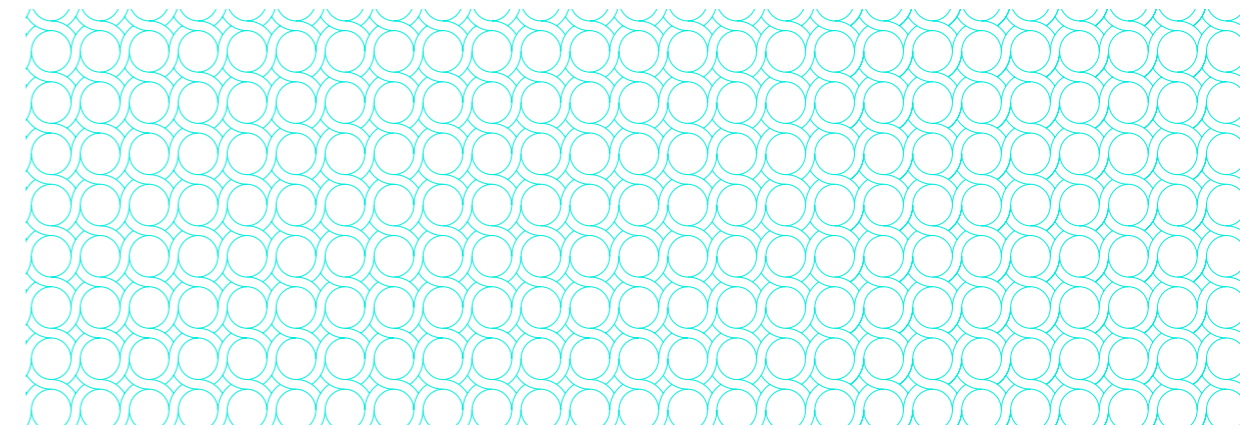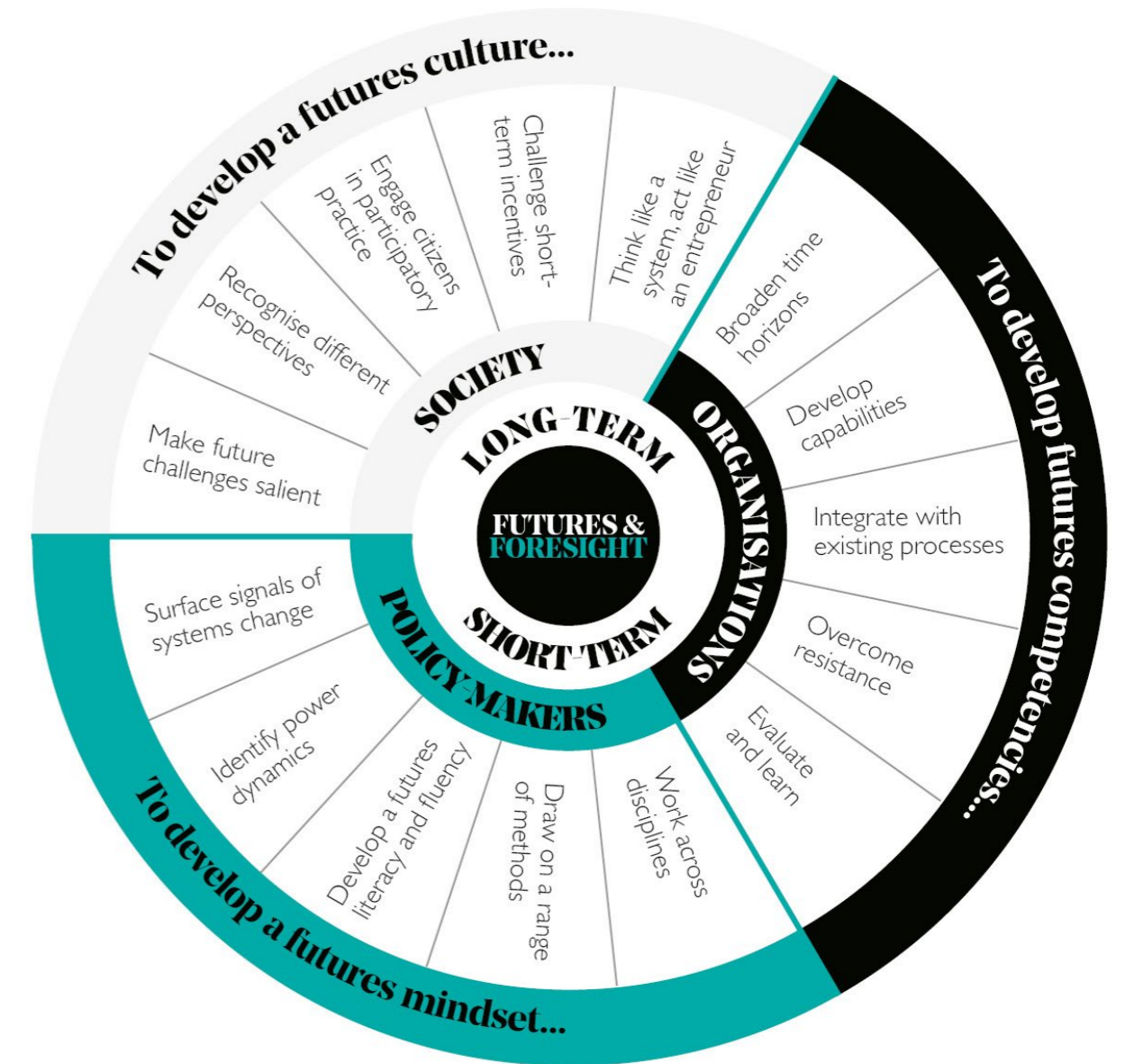

Figure 1: Overview of how we can reoient our society to think about the long term

HINDSIGHT WE HAVE ALWAYS THOUGHT ABOUT THE FUTURE

"**We can't help but live in three time zones simultaneously**, remembering and reliving the past, the roots of who we are now, and planning and worrying about what we have to get done for tomorrow and next week, what we hope to get done this year, and why we want our life to be like five years from now. The past and the future continuously shape our present."[8]

John Bargh

Hindsight: we have always thought about the future

In this chapter we explore how thinking about the future has always been a core part of the human condition and how this has evolved over time, before unpacking futures and foresight and its role in helping us navigate those areas of life and society that are characterised by complexity and uncertainty.

Homo prospectus

The human brain has equipped us with the ability to think, plan ahead, communicate, form larger social groups and cooperate amongst them. Indeed, our ability to project ourselves into other times and situations "could have held an evolutionary advantage strong enough to shape neural architecture itself".[9] This was essential for the retention of information in a time when those communities that thrived did so "not due to their individual intelligences, but to a vast storehouse of information that had been learned by their ancestors and transmitted to the present generation without the help of a written language".[10]

The example of an Inuit tribe in north-western Greenland, hit by an epidemic that killed many of the group's elders, illustrates the need for a critical mass of human brains in which to store critical information pertinent to survival.[11] The tribe rapidly declined because the information the elders held in their memories was lost. Without an alternative means of information storage, such as writing, the loss of collective knowledge was a very real life- and culture-threatening hazard. David Sloan Wilson posits that, ultimately

"the entire pageant of human history, starting 100,000 years ago, can be seen as evolution at high speed, made possible by the transmission of learned knowledge across generations".[12]

Far from being a more primitive forbearer of modern society, hunter-gatherer societies lived sustainably in tune with the planet. Their very survival was dependant on storing and passing down collective knowledge about the environment in which they lived. The agricultural revolution arguably precipitated a shift towards increasing specialisation and costs of failure. Suddenly the costs of an inability to plan ahead for a time when food wasn't plentiful, when specific crops or food sources failed, or stores of food were raided or soiled were paid in lives lost:

"While agricultural space shrank, agricultural time expanded… The Agricultural Revolution made the future far more important than it had ever been before… Concern about the future was rooted not only in seasonal cycles of production but also in the fundamental uncertainty of agriculture… Consequently, from the very advent of agriculture, worries about the future became major players in the theatre of the human mind".[13]

If we accept this notion that the agricultural revolution changed our relationship with both space and time, it follows that similar transformations in how we conceive them have occurred in similarly transformative moments.

8   Bargh, J. (2017) Before You Know It: The Unconscious Reasons We Do What We Do. London: Penguin. p. 288.

9   Seligman M.E.P., Railton P., Baumeister R.F. and Sripada C. (2013) Navigating Into the Future or Driven by the Past. Perspectives on Psychological Science. 2013;8(2):119-141. doi:10.1177/1745691612474317.

10   Wilson, D.S. (2019). This View of Life: Completing the Darwinian Revolution. London: Vintage.

11   Henrich, J. (2015) The Secret of Our Success: How Culture Is Driving Human Evolution, Domesticating Our Species, and Making Us Smarter. Princeton: Princeton University Press.

12   Wilson, D.S. (2019) Op cit. p. 105.

13   Harari, Y.N. (2011) Sapiens: A Brief History of Mankind. London: Vintage. p. 102.

Reinhart Koselleck argues that modernity transformed all domains of European life, including our experience of time. He sees modernity as producing an ever-increasing acceleration of new experiences that we have less and less time to assimilate. Koselleck argues that modernity changed the way that past, present and future related to each other, and that this opened the new temporality of history as a way to assimilate these experiences.[14]

Therefore, concludes Seligman, our species is better named homo prospectus, as "humans are extraordinary among animals in their capacity for the prospection necessary for long-term, shared, stable enterprises such as government, law, schools, commerce, collective bargaining, and retirement planning. Commitments, relationships, values, and convictions, even 'the self' as a persisting entity, are a matter not just of how one has acted or is acting but of how one thinks about the future and how one will or would act in various futures".[15]

Whilst being fundamental to our evolution, there is a shadow side to our ability to project ahead. We often defer thinking about the future; economists have long recognised that we discount future rewards for immediate gain. This makes investing today for our future financial or health benefit a hard sell. Matters are compounded for those living under conditions of scarcity, whether in terms of income or savings, mental bandwidth, social networks, etc. A scarcity mindset compromises our ability to make clear decisions about our future.[16] The future, for those living under the severest conditions and constraints, will be a much different proposition than it is for the richest in society. Scarcity can, indeed, change our perceptions of time.

This plays out as an ongoing and dynamic tension between the needs of the short-term and our responsibilities to the long-term as summarised by Roman Krznaric

(see Figure 2).[17] The notion that to think of the future is an almost uniquely human characteristic, but one that brings with it added layers of responsibility and challenge, yet which is constrained by incentives, is the core theme that weaves through this report.

Box 1: Homo prospectus

"What best distinguishes our species is an ability that scientists are just beginning to appreciate: we contemplate the future. Our singular foresight created civilisation and sustains society. It usually lifts our spirits, but it's also the source of most depression and anxiety, whether we're evaluating our own lives or worrying about the nation. Other animals have springtime rituals for educating the young, but only we subject them to 'commencement' speeches grandly informing them that today is the first day of the rest of their lives. A more apt name for our species would be homo prospectus, because we thrive by considering our prospects. The power of prospection is what makes us wise. Looking into the future, consciously and unconsciously, is a central function of our large brain, as psychologists and neuroscientists have discovered — rather belatedly, because for the past century most researchers have assumed that we're prisoners of the past and the present."[18]

14 Koselleck, R (2004) Futures Past: On the Semantics of Historical Time. Series: Studies in Contemporary German Social Thought. Translated and with an introduction by Keith Tribe. New York: Columbia University Press.

15 Seligman M.E.P., Railton P., Baumeister R.F. and Sripada C. (2013) Op cit.

16 Mullainathan, S. and Shafir, E. (2014) Scarcity. London: Penguin.

17 Krznaric, R. (2020) The Good Ancestor: How to Think Long Term in a Short-Term World. London: WH Allen.

18 Seligman, M.E.P and Tierney, J. (2017) We Aren't Built to Live in the Moment. The New York Times. May 19, 2017. Available at www.nytimes.com/2017/05/19/opinion/sunday/why-the-future-is-always-on-your-mind.html [Accessed 14 October 2020].

Decision-making in complexity

Not only is Covid-19 impacting across social, economic, environmental and technological domains, but one of the fundamental lessons from the global pandemic to date is the intensification of what it is to live and work in uncertainty. Yet our thinking, our actions, our institutions, our structures, our lives all remain largely constructed around the false premise of certainty. We see this promise in the ideas of scientific reality, universal laws and direct causation, the belief that if C happens we can be confident it will be followed by D. This reductive, linear thinking shapes the way we tend to organise our institutions, manage our staff, commission services or develop policy. It imbues us with a false sense of security that if anything major happens, we just need to understand it and make the right choices.

George Lakoff shows that every language in the world has in its grammar a way to express this notion of direct causation, but none has the grammar to express systemic causation.[19] This is the idea that an intervention or action in one part of a complex system will have unknown - unknowable - impacts across other parts of that system. Alicia Juarrero elaborates: "even after the advent of the theories of evolution and thermodynamics, modern science continued to restrict itself to closed linear systems abstracted from their historical and spatial context. Only with the recent development of complexity theory have openness, nonlinearity, time and context come to the forefront."[20]

In other words, we need different approaches to making decisions and acting that are appropriate to the complexity of the environment. We make choices all the time, of course, whether we run a government department, a social enterprise, a home or our own lives. These decisions are either made

under conditions of risk or uncertainty. The former are situations when the potential impacts of the decision are known, corresponding to the idea of direct causation. Events can be largely identified and mitigated against through risk assessments, emergency planning and other such contingencies. The latter are trickier circumstances of uncertainty, where causation is systemic, and the impacts cannot be fully known, appraised and addressed.

The challenge of decision-making is compounded when we try to consider the long-term implications of those decisions. Johnson summarises eight primary factors that contribute to the challenge of farsighted decision-making, they:

- Involve multiple variables
- Require full-spectrum analysis
- Force us to predict the future
- Involve varied levels of uncertainty
- Often involve conflicting objectives
- Harbour undiscovered options
- Are prone to what Kahneman calls 'System I'[21] failings
- Are vulnerable to failures of collective intelligence.[22]

The ability to operate in uncertain circumstances and make sensible choices in ambiguity with imperfect information requires a different mindset and a flexible skillset. As Bill Sharpe puts it, "the practice of future consciousness is also a skill, and the first step into working with the patterns of transformative change is to learn to love uncertainty."[23] How can our leaders - and all of us making choices

19 Lakoff, G. (2014) The All New Don't Think of an Elephant!: Know Your Values and Frame the Debate. Hartford: Chelsea Green Publishing.

20 Juarrero, A. (2002) Dynamics in Action: Intentional Behavior as a Complex System. Cambridge: MIT Press.

21 A reference to Kahneman's distinction of two systems of thinking: a fast, more intuitive system 1, and a slow, more reflective system two. This is from Kahneman, D. (2012) Thinking, Fast and Slow. London: Penguin.

22 Johnson, S. (2018) Farsighted: How We Make the Decisions That Matter the Most [Kindle Edition]. New York: Riverhead Books. loc. 368.

23 Sharpe, B (2013) Three Horizons: The Patterning of Hope. Bridport: Triarchy Press.

Figure 2: The tug of war of time

Six drivers of short-termism

Six ways to think long

Tyranny of the clock
the acceleration of time since the Middle Ages

Deep-time humility
grasp we are an eyeblink in cosmic time

Digital Distraction
the hijacking of attention by technology

Legacy mindset
be remembered well by posterity

Political Presentism
myopic focus on the next election

Intergenerational justice
consider the seventh generation ahead

Speculative capitalism
volatile boom-bust financial markets

Cathedral thinking
plan projects beyond a human lifetime

Networked uncertainty
the rise of global risk and contagion

Holistic forecasting
envision multiple pathways for civilisation

Perpetual progress
the pursuit of endless economic growth

Transcendent goal
strive for one-planet thriving

and decisions, get better at operating with imperfect information? As Keith Grint elaborates, working in such uncertainty requires us to "ask the right questions rather than provide the right answers, because the answers may not be self-evident and will require a collaborative process to make any kind of progress".[24]

Futures and foresight can add value in this space, and it can do so in a couple of key ways. Simply knowing that certain known events will happen, and there is a known and practiced response, enables us to manage risk and mitigate harm. Indeed, there is relative agreement about the core trends impacting society. Whilst we cannot predict the exact form, timing and manifestation of a future pandemic, for example, we can anticipate it happening and prepare accordingly. And by opening our imaginations to the possible, foresight methods enable us to stretch our thinking in new directions, new domains, and thus consider events, ideas and opportunities that might otherwise lay undiscovered. It is in this work that other disciplines such as science fiction, design thinking and art can really add value.

Deep down we know that any sense of certainty we might feel in a complex scenario can only ever be an illusion. We know we can't rely on direct causality and predictable relationships to unpack these problems. Covid-19 amplifies and accelerates this lesson for us all, illustrating on a previously unimaginable scale what happens in a world of emergence and ambiguity.

If we, therefore, accept the premise that institutions and structures built on cause-and-effect logic are now largely impotent to respond to the dynamism of complex challenges, we need to pause and rethink. A new mindset is vital in enabling us to stretch our imagination into new places and to consider the possibilities of new things and new ways of being, doing and acting. Futures capabilities are a critical part of this new mindset to help us better make sense of the now in the context of the long arc of time.

24 Grint, K (2008) Wicked problems and clumsy solutions: the role of leadership. Clinical Leader, Vol 1 Number 2. Stockport: BAMM Publications.

Across time and space

> "Time is…a socially mediated relation between humans and their world."[25]
> Jonathan Martineau

Ari Wallach suggests that "to tackle the challenges of our day we must (re) introduce another dimension - time as well as space - and plot these big problems and their solutions along a broader time horizon".[26] Time as a form of relating with the world around us changes according to our cultures and forms of social relations. Whilst some of the anthropological research is contested given the complexities involved in understanding and translating rare languages, some cultures are thought to have no words for the concept of 'future' and no past tense.[27] If it is not perceived, it is not considered to exist. If at first this seems strange, perhaps we should reflect for a moment on the growth of meditative practice in the west, for mediation is nothing if not a practice of absorption in the present. As Alan Watts observes: "If, then, my awareness of past and future makes me less aware of the present, I must begin to wonder whether I am living in the real world".[28]

What's more, it is through the intimate connection between time and space that we can glimpse the dynamic energy of change. Doreen Massey suggested that "if time is the dimension in which things happen one after the other… of succession, then space is the dimension of things being, existing at the same time: of simultaneity. It's the dimension of multiplicity".[29] This is what the ancient Greeks understood through the notion of 'kairos', of time as a space, an opening up of opportunity. This idea paints the possibilities of infinite futures held within the cutting edge of the present, of trajectories and of multiple directions of travel: to take a train across a landscape is to "cut[-] across a myriad of stories".[30]

The relationships we have with one another that comprise the spaces in which we live presents us with questions of our collective futures, of how we want to live on this planet together and our roles in shaping this. His Holiness the 14th Dalai Lama emphasises this point: "in today's highly inter-dependent world, individuals and nations can no longer resolve many of their problems by themselves. We need one another. We must therefore develop a sense of universal responsibility… it is our collective and individual responsibility to protect and nurture the global family, to support its weaker members and to preserve and tend to the environment in which we all live".[31]

25 Martineau, J. (2016) Time, Capitalism and Alienation. A Socio-Historical Inquiry into the Making of Modern Time. Chicago: Haymarket Books. p. 19.

26 Wallach, A. (2013) Forget short-termism. Wired. [online]. Available at: www.wired.co.uk/article/forget-short-termism [Accessed 14 October 2020].

27 For example, this is thought to be the case with the Piraha language of Brazil.

28 Watts, A (2012) The Wisdom of Insecurity: A Message for an Age of Anxiety. London: Ebury.

29 Doreen, M. & Warburton, N. (2013). Social Science Bites: Doreen Massey on Space. [online] Available at: www.socialsciencespace.com/2013/02/podcastdoreen-massey-on-space [Accessed 08 September 2020].

30 Ibid.

31 Piburn, S.D. (2002) The Dalai Lama: A Policy of Kindness. Delhi: Motilal Banarsidass.

Box 2: RSA trends analysis

Below we have summarised analysis from a number of RSA reports into a table of strategic trends that will impact to varying degrees across global, national and local scales. As Longpath recognise, "more important than any of these individual trends are their points of intersection. Megatrends, we believe, are like tectonic plates – it's when they collide that they yield their most transformative impact".[32]

Environmental crisis	Ageing and diversifying population	Power changes	Centrality of technology	The future of the economy	Potential 'wild-card' disruptors
Climate crisis	Higher life expectancy and ageing population	Move to a poly-nodal world	Tech transforming production and operating models	Massive wealth inequality	Financial crises
More extreme weather phenomenon	Declining birth rates	Decline of US as global hegemon	Increasing ubiquity of AI, automation and 'big data'	Shift of economic power away from the Global North	Global pandemics
Limited resource availability	Urbanisation and population concentration	Resurgence of nationalism and autocracy	New forms of medical technology	New structures of work including 'gig-work' and zero hour contracts	Energy transition
Soil degradation	Increased migration, especially climate-based	New social movements	Increased prevalence of genetic engineering and synthetic biology	Growth of the circular economy	Revolts and regime change
Decreased biodiversity	Stronger role for women	Rise of disinformation	Cheaper renewable energy	Post-materialism and on-demand service models	Limitations of institutional power
Shift to low carbon societies	Increased health comorbidities	Cultural divergence and polarisation eg young/old; rural/urban; wealthy/poor etc	Cyber-security	Global (white collar) organised crime	
New forms of protein and sustainable food sources	Generational handover				

Foresight for policy and strategy

Arguably, then, we can see that the history of futures thinking stems right back to human cognitive evolutionary origins.[33] Indeed, Dr Wendy Schultz outlines five waves (see Figure 3) of futures stretched across the last 10,000 years.[34] The first of these is the *oral wave,* following the traditions of shamans,[35] mystics and oracles. In Greek mythology Cassandra's dilemma is the curse of being granted the *gift of perfect knowledge of the future* but never being believed. Her relevance today is witnessed through unheeded warnings of climate change and the ignored forebodings of a global pandemic that will likely shape decades to come.[36]

The second wave, dating back to the second century BCE, is the *written wave* characterised by the macrohistorians

whose work involved searching and chartering long-term trends, past patterns and cycles of repetition in determining routes of change. Writers like Thomas Moore, who was considered the first to write of a perfect society, coining the word 'utopia', the title of his seminal text and a pun derived from the Greek ou-topos (nowhere) and eu-topos (good place).

32 Longpath (2020) Longpath megatrends. [online]. Available at: www.longpath.org/megatrends [Accessed 14 October 2020].

33 Hines, A. (2020) When Did It Start? Origin of the Foresight Field. World Futures Review, 12(1), 4-11.

34 Schultz, W. L. (2015). A brief history of futures. World Future Review, 7(4), 324-331.

35 "We may define the shaman as a social functionary who, with the help of guardian spirits, attains ecstasy in order to create a rapport with the supernatural world on behalf of his [sic] group members." Hultkrantz, Å (1973) A Definition of Shamanism. Temenos - Nordic Journal of Comparative Religion, 9, 25. p. 34.

36 See for example: Duncan, D. E. (2020) "Prepare, Prepare, Prepare": Why Didn't the World Listen to the Coronavirus Cassandras?. Vanity Fair. [online]. Available at: www.vanityfair.com/news/2020/03/why-didnt-the-world-listen-to-the-coronavirus-cassandras [Accessed 14 October 2020].

Box 3: RSA pressures for change

In previous work we have identified a number of factors that are creating pressures for change, particularly across the public sector:

Increasing	Decreasing
Competition	Public trust
Demand	Funding
Expectations	Relevance
Innovation premium	Cognitive bandwidth
Complexity and ambiguity	Fit of traditional institutions
Technological change	Business models
Disruption	Predictability

The third, of *extraction and enlightenment* and the pursuit of progress through science, technology and rationalism inspired what Schultz regarded as competing narratives of the future between that of nature and the possibilities of science. These were written about by philosophers and later represented in science fiction novels and film. The premonition inspiring Mary Shelley's Frankenstein offered a foreboding tale that grappled with scientific ambition and the consequences of violating the laws of nature. More than just fiction, it can be read as a relevant public policy issue for today, a tale of society and ethics, of scientific creativity, technological advancement and social responsibility.[37]

The fourth wave was one of *systems and cybernetics*, of interconnections and interdependencies. Following the Great Depression and the Second World War came advancements in technical forecasting and systems operations needed to mobilise armies of people and plan the resources needed for their

support. This saw the rise of systems science hand-in-hand with futures studies. The fifth, current wave of *complexity and emergence* and a shift towards deeper understanding of the hidden social and cultural determinants of our futures. And as we discuss further, futures thinking today grapples with questions and explorations of inclusion, democratisation and participation that call for ever more creative means to capture and analyse massive data outputs or create designed experiences to help people connect with potential futures. This is the era in which the multiplicity of futures is 'for everyone to envision'.[38]

It is this context which surrounds the work of today's policy- and decision-makers and those seeking to use foresight practice in their own endeavours. Arguably they are engaging in a tradition as old as humankind itself. The value of

37 Sci Pol (2020) Why 'Frankenstein' Is a Great Science Policy Guide for the Future. Sci Pol. [online]. Available at: www.scipol.org/content/why-%E2%80%98frankenstein%E2%80%99-great-science-policy-guide-future [Accessed 14 October 2020].

38 Duncan, D. E. (2020) op. cit.

foresight is that it has become a well-established field (see Boxes 4 and 5) with a robust academic underpinning, based on the fundamental idea that the future is open and cannot be predicted but that it can be shaped. This philosophy speaks to the human legacy of thinking about the future.

Those working in the field "generally refer to this discipline almost interchangeably, as futures (oriented around the subject matter) or foresight (oriented around the competency), and not futurism or futurology".[39] Strategic foresight, in turn, might be described as an organised and systematic process through which to engage with uncertainty regarding the future, "the ability to create and sustain a variety of high quality forward views and to apply the emerging insights in organisationally useful ways; for example, to detect adverse conditions, guide policy, shape strategy; to explore new markets, products and services. It represents a fusion of futures methods with those of strategic management".[40]

As the field emerges into the mid-21st century, policymakers and practitioners of futures and foresight are facing a core challenge which many of our interviewees discussed. Sitting at the heart of this fifth wave of foresight is the question of whether existing methodologies can accommodate complexity and systems thinking alongside broader principles of inclusion, power dynamics and democratisation of process?

The charge to policymakers is how they can ensure that futures and foresight methods are not deployed as simply reductionist or mechanistic processes, but that they take account of these challenges. In doing so, they are seeking an appropriate balance between the best that each of the five waves offers them, from the magical to the rational, between the art, science and craft of change.[41]

To achieve this balance it is not enough to simply recognise what foresight is and apply its core methods - although

of course this remains an important aspect (see the chapter on policymakers and Appendix E). Such work has to be grounded in a broader perspective, where, at its best, futures and foresight competencies:

- Facilitate exchanges between people, bringing diverse perspectives to the table
- Develop learning and stimulate engagement among all relevant stakeholders
- Broaden the participants' horizons and help develop shared perceptions of challenges.

That these descriptions get at the heart of the role of the policymaker is clear. Further, at its best, foresight offers some advantages (see Box 4) to more traditional policy processes, as:[42]

- An action-driven collective intelligence exercise
- It is structured, systematic, participatory and inclusive
- It deals with the medium to long-term future
- It informs present-day decisions and facilitates joint actions
- It helps plan major spending, define the strategy of your organisation or transition in the economic or political system.

At its worst, of course, like many endeavours, it can be tokenistic, exclusionary, pre-determined or simply diversionary.

39 Candy, S. (2020). Private email correspondence.
40 Slaughter, R. (1997) Developing and applying strategic foresight. ABN Report, 5(10), 13–27.
41 Taylor, M., Conway, R. and Burbidge, I. (2017) Think like a system, act like an entrepreneur. Annual Review of Social Partnerships Volume 2017, Issue 12. [online]. Available at: www.s3-us-west-2.amazonaws.com/tandfbis/rt-files/Docs/ARSP_12_web.pdf [Accessed 14 October 2020].
42 European Commission (2020) Foresight: what, why and how. Science for Policy Briefs. [pdf]. Available at: www.ec.europa.eu/knowledge4policy/sites/know4pol/files/foresight_briefme.pdf [Accessed 14 October 2020].

Beyond the more tried and tested application of methods in governmental and commercial settings, foresight is also increasingly used in various ways in social or community settings. Ultimately it is here that social, economic, environmental and technological trends will play out, and it is here that the opportunity and need to involve citizens in futures exercises and planning needs to be central to any efforts at change.

Box 4: Benefits for policymakers

A simple definition of foresight is the disciplined exploration of alternative futures.[43] For policymakers, foresight techniques and studies help them explore different scenarios in a structured way to confront complex challenges and help create a better future. Foresight helps policymakers to:

- Evaluate current policy priorities and potential new policy directions
- See how the impact of possible policy decisions may combine with other developments
- Inform, support and link policymaking in and across a range of sectors
- Identify future directions, emerging technologies, new societal demands and challenges
- Anticipate future developments, disruptive events, risks and opportunities.

Box 5: FOREN definition

The FOREN (Foresight for Regional Development Network) definition states that foresight involves five essential elements:[44]

- Structured anticipation and projections of long-term social, economic and technological developments and needs.
- Interactive and participative methods of exploratory debate, analysis and study, involving a wide variety of stakeholders, are also characteristic of foresight.
- Forging new social networks. Emphasis on the networking role varies across foresight programmes. It is often taken to be equally, if not more, important than the more formal products such as reports and lists of action points.
- The formal products of foresight go beyond the presentation of scenarios and beyond the preparation of plans. What is crucial is the elaboration of a guiding strategic vision, to which there can be a shared sense of commitment (achieved, in part, through the networking processes).
- This shared vision is not a utopia. There has to be explicit recognition and explication of the implications for present day decisions and actions.

43 European Commission (2020) About foresight in Research and Innovation. [online]. Available at: www.rb.gy/qa9vya [Accessed 14 October 2020].
44 Gavigan J., Scapolo F., Keenan M., Miles I., Farhi F., Lecoq D., Capriati M., and Di Bartolomeo, T. (2001) A Practical Guide to Regional Foresight. European Commission. [pdf]. Available at: www.projects.mcrit.com/esponfutures/documents/European%20Studies/P.%20Gavigan%20J.%20(2001)%20FOREN%20Foresight%20for%20Regional%20Development%20Network.pdf [Accessed 14 October 2020].

Figure 3: Five waves of futures based on work by Wendy Schultz.[45]

1st wave	2nd wave	3rd wave	4th wave	5th wave
Oral tradition	Early Written Age	Extraction and enlightenment	Systems and cybernetics	Complexity and emergence
Following the traditions of Sharman's, seers, mystics and oracles and embedded in mythology	Chartering of long term trends and patterns across history by early macrohistorians	The pursuit of progress through science, technology and rationalism	Advances in technical forecasting and systems operations and growth of futures institutions	Move towards greater understanding of hidden social and cultural determinants of our futures

Timeline entries:
- andra's problem, eek Mythology
- The Oracle of Delphi, 1400BC
- Ibn Khaldun, The Muqaddimah, 1378
- Nostradamus, Les Prophesies, 1555
- Thomas More, Utopia, 1516
- Robert Boyle, 'Wishlist for science', 1660s
- Nicolas de Condorcet, Progress of the Human Mind, 1794
- Jules Verne, 20,000 Leagues Under the Sea, 1870
- Auguste Comte, Positive Philosofy, 1830-1842
- H.G. Wells, the Discovery of the Future, 1902
- USSR First 5 Year Plan, 1928
- William F. Ogburn, Recent Social Trends, 1933
- RAND, 1946-48
- Herman Kahn, Thinking the Unthinkable, 1962
- Shell's Futures Operation, 1967
- SRI Futures Group, 1968
- Donella Meadows, The Limits to Growth, 1972
- GBN, 1988
- Richard A. Slaughter, Integral Futures, 2001
- Sohail Inayatullah, Causal Layered Analysis, 2004
- Stuart Candy, Experiential Futures, 2018

Provocations and challenges

There are a number of challenges and tensions for futures and foresight practitioners to navigate if their application is to maximise value. Of course, almost no one says 'I prefer to only focus on the short-term and I don't care about the future', so it is important to reflect on the reasons why people might dismiss futures and foresight. Here we offer some of the explicit and implicit arguments against futures and foresight so that we can acknowledge and engage with them. We do so in the voice of the protagonist.

Ethical arguments. "Our duty is to real people facing real needs now, not to the uncertain needs that imaginary people may or may not face in the future - and which they can decide how to solve. To quote Lomborg, the alarmism around climate change 'is not only false but morally unjust. It leads us to make poor decisions based on fear, when the world not only has gotten better, but will be even better over the century'".[46]

Epistemological arguments. "We will always know much more about the present, and with more precision. The more distant our focus the less clearly we see and therefore the more prone we will be to misinterpretation and mistake".

Democratic arguments. "We can exercise real accountability in democracies. Once we start talking about future citizens, who cannot express a view as they don't yet exist, we end up making value-based assumptions about what they would want, thus replacing democracy with a form of futuristic paternalism".

Conceptual arguments. "If markets and policymaking work well there should be no difference between the short and long term. If people think a company is going to go bust it should impact its value now (as is happening with carbon divestment). There are, in turn, many

45 Schultz, W. (2015) Op cit.
46 Lomberg, B. (2020) How climate change alarmists are actually endangering the planet. The New York Post. [online]. Available at: www.nypost.com/2020/07/11/how-climate-change-alarmists-are-actually-damaging-the-planet [Accessed 14 October 2020].

decisions taken now that will usher in long-term benefits, from social investment in infrastructure to personal investment in pensions".

Tactical arguments. "It is hard enough to accept trade-offs and sacrifices today for the benefit of people we know. Are you really asking me to make sacrifices for the unknown billions to come as well?"

Psychological bandwidth arguments. "Of course, I would love to think about the needs of society and people living in the future, but I am living here and now under constrained and challenging circumstances. I have a hard enough time thinking about my immediate future, how I'm going to feed my family with my with low and uncertain wages. I have little certainty about the next few weeks let alone about the next few generations. It is all too much to think about".

Just-another-tool argument. "I have more than enough to think about in order to do my job effectively. I'm good at using the methods that have served me well to date. I just don't have the time to learn new ones".

Fatalism argument. "What will be will be. The future is so uncertain as to leave little point in acting now".

These are reflected in our research, were we identify. These are issues of commission – who decides who is involved in futures work; omission – who speaks for those who cannot be involved because they have no current voice; and colonisation – who has the right to defer today's problems for future generations to fix?

These are important arguments to address. In this report we go on to explore the opportunities for organisations, policymakers and society to adopt more of a futures mindset. In doing so we illustrate how leading practitioners in the field have overcome these arguments.

Hindsight: we've always thought about the future

"But the future is still not here, and cannot become a part of experienced reality until it is present. Since what we know of the future is made up of purely abstract and logical elements - inferences, guesses, deductions - it cannot be eaten, felt, smelled, seen, heard, or otherwise enjoyed. To pursue it is to pursue a constantly retreating phantom, and the faster you chase it, the faster it runs ahead".
Alan Watts[47]

Core take-aways
Humanity. To think about the future and to plan ahead is to be human; our evolution depended on it. Homo prospectus has always had a futures and foresight mindset. How we think about and view the future is vitally important to how we think about and act in the present. In turn, our present context is vitally important to how we think about the future.
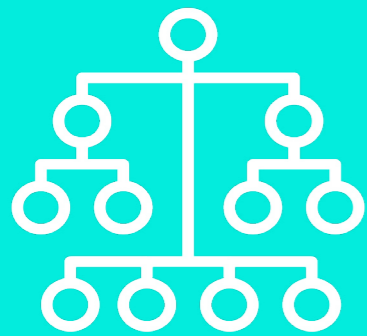
Uncertainty. Futures and foresight offers a way to think about and approach some of our most intractable, complex social challenges, and therefore provides additional mechanisms to help navigate the uncertainty inherent in life in general and social change in particular.

Change. Tools and methods in change practices tend to focus more on understanding what has happened in the past (hindsight) as opposed to what is about to happen or what we want to see happen in the future (foresight). Futures and foresight therefore offers benefits for those seeking change, particularly as we need to work with a deeper and more nuanced understanding of the hidden social and cultural determinants of our futures.

47 Watts, A. (2012) op cit. [Kindle Edition]. pg. 60, loc. 526.

"To start, our brains evolved to create certainty and order. We are uncomfortable with the idea that luck plays a significant role in our lives. We recognise the existence of luck, but we resist the idea that, despite our best efforts, things might not work out the way we want. It feels better for us to imagine the world as an orderly place, where randomness does not wreak havoc and things are perfectly predictable. We evolved to see the world that way. Creating order out of chaos has been necessary for our survival."

Annie Duke[48]

For organisations: develop futures competencies

In this chapter we explore the role of foresight in an organisational context, offering five building blocks for organisations seeking to embed it in institutional process and practice and thus secure long-term value:

1. Broaden time horizons
2. Develop capabilities
3. Integrate with existing processes
4. Overcome resistance
5. Evaluate and learn

Broaden time horizons

A crisis serves to accelerate and intensify pre-existing trends, forcing leaders of organisations, governments and communities to take immediate, short-term actions to mitigate the immediate effects. [49] Later come questions of preparedness and vulnerability: 'why didn't we see it coming?' The answer, usually, is that it was anticipated, though perhaps not in its exact form, timing and impact. For many in the public health and infectious disease control, a global pandemic is not a surprise.

Foresight capacity within institutions offers a set of mechanisms through which such possible events can be anticipated. Its deployment is generally accelerated by such a shock as crises render the need for the business or organisation to fundamentally re-evaluate its purpose, operating model and resilience. A critical role of futures and foresight is therefore to offer a set of tools and approaches that support this endeavour.

Whilst the work of the Shell futures unit, one of the best-known examples, began developing scenario planning techniques in the late 1960s, it was during the tumultuous 1970s and 1980s that the foresight mindset really became embedded within Shell. Across the organisation, foresight practice gained recognition and highlighted the inherent value of challenging assumptions and testing business strategy against what is plausible and not necessarily based on experience or the present moment. Within the private sector corporate foresight typically supports strategic planning and decision-making, for example identifying new markets, developing innovative solutions and highlighting potential areas of risk.

Foresight can also function as an in-house observatory to gauge new socio-economic trends or as a thinktank dedicated to deep foresight activities on mega trends, weak signals and future innovations in specific fields. Although previously affiliated with the military or national security fields. corporate foresight is widely applied in a range of industries such as professional services (eg Arup), financial services (eg Aviva), information and communications technology (eg BT) and consumer goods (eg Proctor and Gamble).

Perhaps unsurprisingly, given the breadth of issues the public sector is concerned about, governments are also major proponents of futures and foresight work. For a country like Singapore, adopting a foresight mindset within the public service and government agencies was determined by assessing its social and economic vulnerabilities and geopolitical challenges as a small island state with an ethnically diverse population. The Singapore foresight system is one of the better known in the public sector (see Case study 1).

48 Duke, A. (2019) Thinking in Bets: Making Smarter Decisions When You Don't Have All the Facts. London: Portfolio.

49 Interview with Graham Leicester, International Futures Forum.

For organisations: develop futures competencies

30

31

A stitch in time? Realising the value of futures and foresight

A stitch in time? Realising the value of futures and foresight

31

Strategic planning and foresight can provide a range of benefits at regional and local levels of government and public services too. Here the potential lies in helping assess and respond to local risks (eg coastal erosion or the ageing population in Norfolk, UK), as well as offering a framing for thinking and talking about other local issues and pressures that citizens care about. In this way it can support the development of a vision and strong narrative for the future wellbeing and prosperity of local communities. For example, both Norfolk County Council and the devolved combined authority of Manchester have set goals for net carbon emissions by 2030 and 2028 respectively. Their future-focused strategies and implementation plans span visions for the local environment and infrastructure (including housing and transport), for society (including health and wellbeing) for jobs, industry and technology and community empowerment.

Shocks can also accelerate the appetite for foresight in the third sector. Precipitated by the largely unexpected outcomes of Brexit and the 2016 US presidential election, the Omidyar Network was motivated to investigate how it might do things differently and thus decided to develop its internal foresight capacity. As a philanthropic investment firm committed to catalysing economic and social change, the Exploration & Future Sensing team executes the organisation's foresight mandate. This aims to identify weak signals, blindspots, and emergent ideas through sense-making, translate and disseminate them through dialogue, creative communications and storytelling, and incubate and test innovative solutions.

When viewed in the rear-view mirror of time, exogenous shocks of varying magnitudes and durations can re-emphasise the importance of futures and foresight, not just through anticipation of disruption and potential response mechanisms, but also by facilitating a longer-term view of the world and our place in it. It is this broadening of time horizons that offers much of the institutional benefits from foresight.

Box 6: Ministries of futures

In the age of risks and uncertainties siloed assessments of future risks and departmental scenario planning are leaving governments unprepared, equipped only for a linear, predictable response, built on analogue data.[50] Ministries of futures, such as the UAE's Ministry of Possibilities and Bologna's Civic Imagination Office, point the way for a new, integrated, cross-governmental capacity for the structured, real-time, data-driven design of integrated predictive models, future scenarios, and risk analysis.

Case study 1
Singapore foresight system

While the practical origins of the Singapore foresight system can be traced back to experiments within the Ministry of Defence in the late 1980s, its philosophical foundations were arguably laid in 1979.[51] The Minister for Foreign Affairs at the time, S Rajaratnam, made the case for long term planning and future oriented thinking in a speech in which he stated that 'only a future-oriented society can cope with the problems of the 21st century".[52]

The Scenario Planning Branch within the Ministry of Defence undertook scenario studies, with security as their primary concern. In 1991, the government determined that scenario planning could be a tool for long-term strategic and policy development. Strategic foresight in this context focused on socio-economic challenges, threats and aspirations, highlighting, too, the growing prominence of foresight to policymaking as the practice became more aligned to national strategy planning within central government.

This evolved through various iterations including in 2003 the Scenario Planning Office becoming the Strategic Policy Office to reflect its enhanced work scope and responsibilities. At the executive level foresight was prioritised as a practice *and* a culture within the public service, articulating the sponsorship and support from the highest levels of government and underscoring the whole-of-government approach to long-term thinking and planning.

In addition, a series of shocks and crises reinforced the need for foresight in the Singapore government, including the Asian financial crisis of 1997, the terrorist attacks of 11 September 2001, various pandemics including SARS in 2003, the global financial crisis of 2008 and the growing tensions between the USA and China. This collectively catalysed the political mandate for a foresight mindset and with executive leadership and support the mandate created a fertile environment for a foresight culture to flourish.

"Only a future-orientated society can cope with the problems of the 21st century"

50 Johar, I. and Begovic, M. (2020) A way forward: Governing in the age of emergence. UNDP/Dark Matter Labs. [online]. Available at: www.awayforward.undp.org/ [Accessed 14 October, 2020].

51 Public Service Division, Singapore (2011) Conversations for the Future Volume One: Singapore's Experiences with Strategic Planning (1988–2011). [pdf]. Available at: www.csf.gov.sg/files/media-centre/publications/conversations-for-the-future.pdf [Accessed 14 October, 2020].

52 Kuah, A.W.J. (2013) Foresight and Policy: Thinking About Singapore's Future(s).]pdf]. Available at: ink.library.smu.edu.sg/cgi/viewcontent.cgi?article=1111&context=lien_research [Accessed 14 October, 2020].

32   A stitch in time? Realising the value of futures and foresight

A stitch in time? Realising the value of futures and foresight   33

Develop capabilities

A pre-requisite of an institutional foresight culture and mindset is a strategic commitment at the executive level. Organisations must recruit, retain and retrain skilled individuals who are able to conduct foresight studies and know how to use foresight methods and embed them within existing processes. Central to this work is the ability to design and facilitate participatory processes and dialogues, to distil emerging insights and implications, and to translate them into context for those involved in strategy formulation or policymaking. Such practitioners may include, but not be limited to, foresight specialists, policymakers, researchers and analysts. Indeed, we talk later in the report about the value an understanding of foresight approaches offers as a complement to the methods and models of other disciplines.

Achieving widespread understanding of foresight work is crucial given its potential to impact all aspects of the business. Relevant personnel need to be engaged, particularly these charged with addressing a particular problem or challenge, the key decision-makers, strategists, accountants, evaluators and others tasked with dissecting the risks and opportunities involved in making sense of uncertain futures and implications for policy implementation.

Some governments address this challenge by ensuring that most public servants have a basic knowledge of foresight and that decision-makers receive customised training so that they understand its value to public policy. In Singapore, the Centre for Strategic Futures host a series of FutureCraft workshops to introduce key foresight skills and toolkits to public officers. These include training in basic foresight tools and facilitation techniques using a specific public policy issue and scenario planning methodology.[53] The UK and the EU have also introduced foresight as alongside the core competencies of policymakers.

With foresight methods generally not as embedded across local government, and under the challenge of austerity and reducing funding, there are specific challenges for local decision-makers to overcome in their use of foresight approaches. One approach is to undertake light-touch training, capacity building and role creation. A concerted effort for this kind of approach was undertaken at Norfolk County Council where Dr Andrew Staines, assistant director for strategy, innovation and performance sought to upskill staff internally before embarking on deploying foresight methods in their work.

Capabilities extend beyond the organisational boundaries, too. It is critically important to increase the understanding of foresight exercises amongst partner agencies, the public and other key stakeholders. Indeed, involving 'outsiders' from other disciplines can provide helpful perspective, challenge and understanding. Peter Padbury, chief futurist at Policy Horizons Canada, illustrated how running a parallel process which involves outsiders (in this case, those outside of the public sector) can also benefit the foresight activity. Policy Horizons Canada involved young people in their foresight exercises to gain diverse perspectives and help surface shifts in values and attitudes within the public domain.

As ever, communication is key. In every organisational context, communications and public engagement personnel, supplemented perhaps by anthropologists, storytellers, designers and other creatives, can be engaged as a core part of the foresight work. This can stretch beyond the simple post hoc communication of emerging insights to include the design and accessibility of the sessions and the information sharing throughout the process.

53 Centre for Strategic Studies (2020) FutureCraft. [online]. Available at: www.csf.gov.sg/our-work/future-craft/ [Accessed 14 October, 2020].

The development of capabilities in organisations committed to foresight methods stretches beyond simply conducting one-off exercises. Rather it expands to include the development of a futures mindset and culture within vital teams across the organisation.

Box 7: Policy Competencies

A knowledgeable and skilled policy professional considers the long-term impact and potential outcomes of policy recommendations; understands the future prospects, opportunities and challenges in the policy area; communicates these effectively; is aware that there are a range of tools to develop futures-thinking and foresight; commissions the building of such evidence; engages with experts in the field of futures-thinking and foresight. The Policy Profession Standards describe the skills and knowledge required by policy professionals at all stages of their career, and provide a framework for professional development.[54]

Integrate with existing processes

Introducing a futures perspective can create new possibilities for organisations in their strategic and transformational work as well as in everyday project management and planning. To realise these benefits, it is imperative that foresight exercises are not viewed as 'optional extras' but rather become an integral part of the strategy and policymaking toolbox. Developing the architecture needed to support a foresight mandate and capability within an organisation is crucial.

Typically, organisations establish foresight units at the senior executive level or with a direct reporting function to the executive management team which has a clear responsibility to champion, deliver, coordinate and support foresight activities. This aligns the unit with strategic planning and risk management functions and also allows them to incubate and catalyse foresight capabilities and coordinate the mainstreaming of foresight activities throughout the organisation. Regular and consistent foresight activities enhance the practice and understanding of foresight within an organisation. These may respond to political commitments or foresight obligations set out in legislation or arise from a significant government proposal.

The more foresight tools and methodologies are part of the policy or strategy life cycle the more robust the process. Such a process is illustrated in the 'futures bridge' (see Figure 4). It can be seen that the ideas and insights that emerge from foresight work can best influence the policy cycle at the 'formulate policy' stage.[55] It is often difficult to make this link in practice, however, and the influence of foresight on policy cannot be assumed.

Further opportunities to embed futures and foresight may occur as part of a review process when the entire organisation is geared up for a strategic refresh;[56] for governments this may coincide with an electoral cycle. In Finland each government on assuming office indicates, via the government programme, its vision and action plan which also identifies the theme for the government foresight report. The release date of the report is timed to allow the report findings to inform current government activities and reviews. For organisations operating in the philanthropic space,

54 Policy Profession (2019) Policy Profession Standards: a framework for professional development. [pdf]. Available at: www.assets.publishing. service.gov.uk/government/uploads/system/uploads/attachment_data/ file/851078/Policy_Profession_Standards_AUG19.pdf [Accessed 14 October, 2020].

55 Government Office for Science (2017) Futures Toolkit, version 1.0. [pdf]. Available at: www.assets.publishing.service.gov.uk/government/ uploads/system/uploads/attachment_data/file/674209/futures-toolkit-edition-1.pdf [Accessed 14 October, 2020].

56 See Case study 2: Futures and foresight in a financial services organisation (FSO).
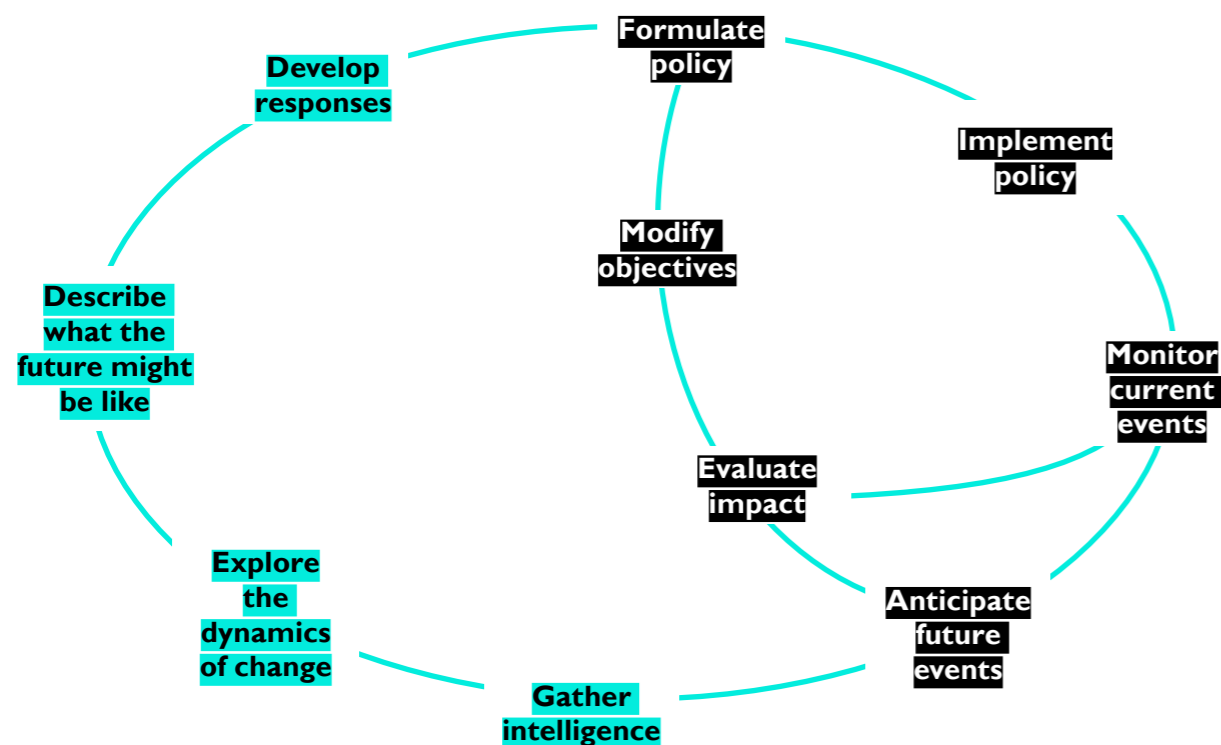
the output from a foresight exercise can inform action planning as well. For the Omidyar Network, the opportunities which emerge from trends surfacing or sector deep-dives are used to establish a pipeline of experiments or a suite of innovative ideas ideal for testing and scaling.

It is crucial to reinforce the point that foresight is not a process to be ticked off, as if we were producing, say, the end of year accounts: "Futures work is highly relational.[57] It's about not just when, but also who, and where you are. It's not a compliance process you can just step through automatically, checking boxes; much less a product to buy and be done with it. It's more like dancing. I expect to see more organisations realising they could use a few dancing lessons". Many interviewees discussed this need to prompt a 'sense of empathy and sympathy for the future 'us' that would have to live in [an envisaged world] and the challenges we would face'.

Building empathy for the future into organisational processes that are designed for efficiency, compliance and risk mitigation in policy- and decision-making may seem antithetical. Yet it is here that the clear added value can be seen, stretching thinking beyond the short-term, bringing in different perspectives and challenging the underpinning thinking within a team or organisation.

Aligning foresight work with key decision points helps give it both currency and legitimacy. Currency is the way in which there is a shared and common understanding amongst all actors across the organisation or government, building a shared language that helps remove barriers and siloed group think between departments. Legitimacy is the extent to which the output of any foresight exercise helps test assumptions, build resilience, stress-test existing policy directions and create space for new innovative solutions to emerge. Achieving these is to add value to the business.

Figure 4: The futures bridge

57 Candy, S. (2020). Personal email correspondence.

36   A stitch in time? Realising the value of futures and foresight

---

Box 8: Embedding foresight within policy

Singapore's Centre for Strategic Futures, which forms part of the new Strategy Group in the Prime Minister's Office, operates as a central node in a network of foresight units within government. This supports collaboration, decision-making and standardisation of training and learning activities across the rest of the public service. Other countries have a more devolved and networked approach. In Germany there is no centrally directed foresight body or system, but instead a collage of independent yet publicly supported or funded institutions.

Within the Finnish foresight system there is no single unified top down approach but rather an integration of multiple actors from the public, private and third sectors which overlap and participate with flexibility and independence.[58] This system consists of national level actors (such as the Finnish Parliament's Committee for the Future, ministries and government agencies and The Finnish Innovation Fund Sitra), regional level actors (such as regional councils and municipalities), and other foresight actors (such as think tanks, companies, universities, NGOs and interest groups). There are several networks connecting these, the main one being the national foresight network coordinated by the Prime Minister's Office The Finnish government foresight report typically targets the mid-term policy review to act as a reference for government progress and ministerial reviews. Furthermore, political parties in upcoming elections are provided with information to help them design campaign platforms that better address emerging and futures challenges.[59]

In the UK, the Government Office for Science has the mandate for UK foresight activities. It draws insights from a multitude of actors and collaborators from thinktanks, corporate foresight professionals, academia and from networks within the public sector. There remains scope for futures to be adopted in more systematic and inclusive ways by UK local authorities and the local public sector., where time and budgetary constraints limit the ability to effectively integrate foresight into business planning cycles.

58 Kuosa, T. (2011) Practicing Strategic Foresight in Government: The Cases of Finland, Singapore and the European Union. [pdf]. Available at: www.forschungsnetzwerk.at/downloadpub/RSIS-Monograph19.pdf [Accessed 14 October, 2020].

59 OECD (2019) Strategic Foresight for Better Policies. [pdf]. Available at: www.oecd.org/strategic-foresight/ourwork/Strategic%20Foresight%20for%20Better%20Policies.pdf [Accessed 14 October, 2020].

Futures and foresight in a financial services organisation (FSO)

This case shows how working with an internal champion can broker and facilitate the integration of futures and foresight processes. An action learning set was established in a medium-sized UK-based financial services organisation in an attempt to engage with a wider set of staff in the FSO.

Futures and foresight was suggested to one manager who was concerned with the strategic development of the organisation and was aware of the limitations on thinking of the previous 10 years, during which the organisation, and the sector as a whole, had come close to disaster. Futures and foresight seemed an attractive new direction to explore. A time horizon of 2025 was quickly agreed but it took longer to find the focus: "The future of FSO services" and an outcome of: "sustain why the FSO community is here". Participants explored questions such as:

- How is regulation changing and what do we need to put in place?
- How will people's attitudes and emotions towards financial needs change across generations?
- How will self-ownership and self-knowledge of services evolve?
- Will people be able to afford to save and want to save for tomorrow?

- How will we innovate for success? Are we fit for purpose?

Researching these questions enabled participants to link a consideration of the future with possibilities in the present. A review of learning so far had revealed that futures and foresight had "allowed the time and space to start the development of an internal capability that is aligned to supporting our long-term growth aspirations". As employees, they could see how futures and foresight was "now starting to ground our work in actionable outcomes". One way of doing this was to develop mini-scenarios as part of the key task of integrating futures and foresight into organisational life. As a result of the interest shown in the mini-scenarios and the experiences of using the futures and foresight tools, this work had an early benefit when the outcome of a process enabled a decision on interest rates which provided for a significant financial saving.

> Futures and foresight "allowed the time and space to start the development of an internal capability that is aligned to supporting our long-term growth aspirations"

Overcome resistance

It is critical to secure the support of senior decision-makers in futures and foresight processes right from the start. Naturally this is best achieved by including them in foresight exercises, ensuring the work is seen by others as critical to the business. A fundamental challenge of embedding any new idea, function or initiative in any organisation or community is overcoming what the RSA has previously referred to as the 'system immune response'.[60] This is the activation of a series of responses designed to crowd out new ideas and initiatives and protect the status quo, whether for reasons of risk, reputation, incentives, comfort, media or others. The introduction of futures and foresight must be sensitive to this likely push-back.

In government, the increasing demand for futures and foresight appears to be tempered by concerns over its predictive power, risks of accountability, and challenges over evidence of impact. On the one hand, are those saying that a longer-term mindset is needed now more than ever, due in large part to the failures of traditional economic thinking,[61] as "our economy is based on the belief that we can extract resources boundlessly, use them inefficiently, and discard them wantonly, drawing from the planet more than it can regenerate and polluting more than we can clean up".[62] On the other hand, are those wary of placing too much stall in futures and foresight approaches, given the inherent human desire for certainty.[63]

Several interviewees noted that policymakers dislike uncertainty with there being this "hidden set of assumptions that there is a robust policy, but not a transformative policy". Indeed, this is the three-step 'diagnose, prescribe, implement' process summarised by Adam Kahane that emphasises policymaking is often a path-dependent and technocratic exercise.[64] There remains a danger that foresight gets over-simplified as part of this process favouring certainty. The array of what was described as 'hot foresight', 'readymade' or 'off-the-peg futures' was seen to devalue the practice causing 'futures fatigue'. Linked to this, the over-emphasis on disaster speculation and causality is considered by many to be disempowering, preventing decision-makers from feeling like they are able to do something now in order to deal with the bigger issues.

Interviewees frequently cited challenges around advocating the work and the value of futures and foresight processes and projects. They commented on the need to embed a wide range of additional communication tools and approaches into their foresight process to build visibility, gain traction and attention from different audiences including key decision-makers. One observation, that "communicating the project is more than half the battle" is mirrored by another, that "unless advocacy is hard baked into the approach, you won't persuade people to pay attention to it".

Identifying foresight champions within organisations and spotting the points in policy processes where their skills can be most effectively leveraged is vital; such a network of practitioners can really demonstrate value by being connected horizontally with their peers as well as being embedded within vertical hierarchies. Setting up the right organisational infrastructure was seen as important in this endeavour with

60 Conway, R., Burbidge, I., Maani, S. and Timmons, L. (2018) Move fast and fix things: how to be public entrepreneur. RSA. [pdf]. Available at: www.thersa.org/reports/move-fast-and-fix-things [Accessed 14 October 2020].

61 See Raworth, K. (2017) Doughnut Economics: Seven Ways to Think Like a 21st-Century. London: Cornerstone.

62 Figueres, C. and Rivett-Carnac, T. (2020) The Future We Choose: Surviving the Climate Crisis. London: Manilla Press. p. 41.

63 As discussed in Chapter 1.

64 Kahane, A. (2017) Collaborating with the enemy: How to Work with People You Don't Agree with or Like or Trust. San Francisco: Berrett-Koehler Publishers.

teams building a strong network base and community of practice given legitimacy by senior sponsors and champions. Supporting this is the considerable amount of capacity building and training that futures teams are investing in. Over the years, the capacity building arm has become a consistent function that's actively prioritised by the Singaporean Centre for Strategic Futures even in unusual circumstances and futures literacy is the core of UNESCO's mission and vision.

Evaluate and learn

For foresight to become firmly established as a core policy tool, it must overcome senior decision-makers conservatism in adopting new methods and tendencies towards control. Developing robust impact evaluation mechanisms is important in achieving this, as it allows practitioners to clearly demonstrate their value to senior decision-makers.

Of course, it is much more simply said than done. There are many factors that make the impact of foresight particularly challenging to measure. The most immediate barrier is the scale at which projects using foresight operate. Frequently having a scope in excess of 10 years, such projects would require substantial resources to evaluate longitudinally. In almost all cases, the demands of such an evaluation are prohibitive. As such, foresight practitioners use other metrics to evaluate the impact of their work. One common (and non-resource intensive) method is to survey foresight workshop participants on how the exercises changed how they *think* about the future. These are intended to measure the impact of foresight at an individual level. While it is important to record the change in the futures mindset, such evaluation methods only operate in the immediate term and do not show impact over the length of a project.
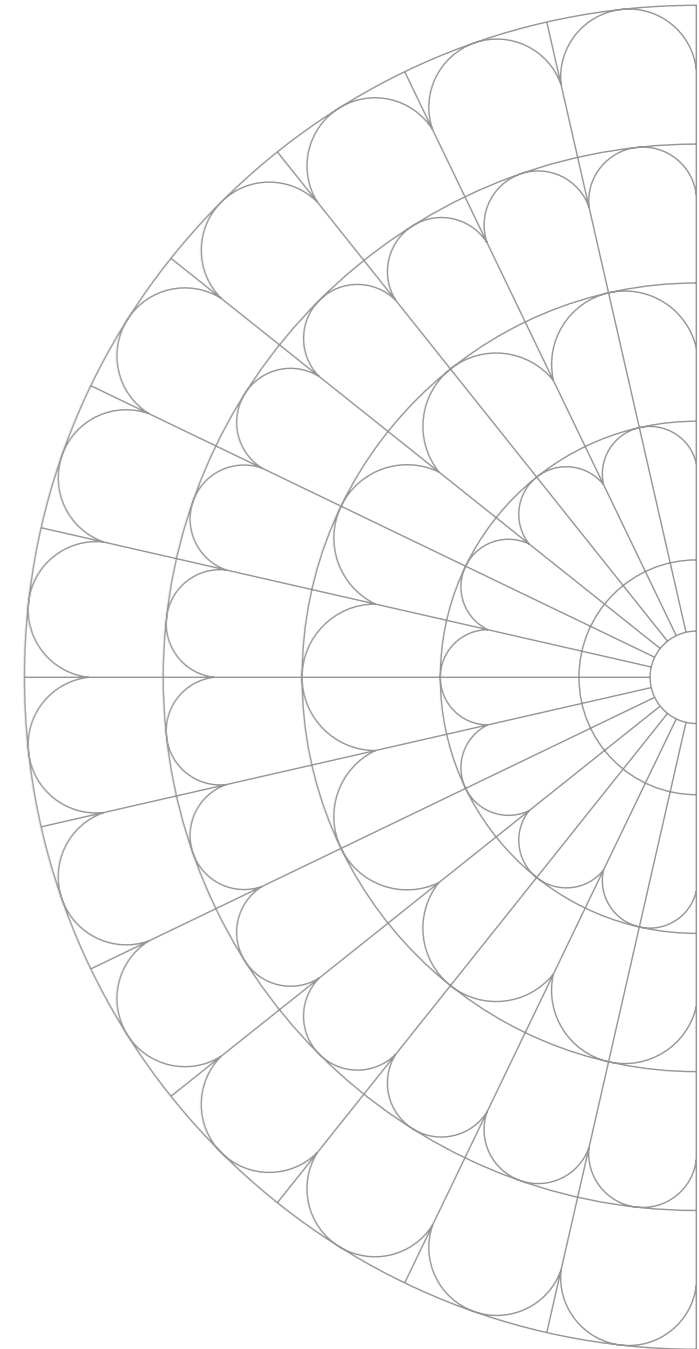
Many of the impacts from this work are therefore intangible and can be difficult to separate from other processes. As foresight is used to guide strategic direction, so the impact of identifying appropriate trends or avoiding bad decisions can be unknowable - there is often no counterfactual.[65] The evaluation of policy implementation, strategic decisions or project delivery can be hard enough before factoring in the impact foresight has had on these processes. It is important, too, to distinguish between process and outcome evaluation, particularly to avoid the traps of outcome bias.[66] The quality of the process can be more important that the ultimate result for, as we have previously discussed, foresight is about stretching thinking and imagination into new possibilities more than it is about prediction.

Some organisations have adopted other metrics by which they measure impact. In client- or outcome-oriented businesses, these are focused on simple, often quantitative measures such as how much money the foresight team generates (or might have saved) for a firm, how many bids it supports, how many times its reports are downloaded, as well as client satisfaction surveys. One interviewee cited an example of a financial institution that saved £0.25m through the identification and application of emerging consumer trends to their business model. Finnish thinktank Sitra have perhaps done more work than most on this conundrum (see Case study 3).

Internal evaluation can be supplemented with learning processes. Insights and practices from other disciplines and perspectives support learning, and many organisations create or engage with a network beyond their institutional boundaries. In 2014, the Rockefeller Foundation established the Searchlight Network which "was an international community of practice that utilised pro-poor foresight activities to identify problems and opportunities as they emerged in the Global South".[67] The network deployed a programme of horizon scanning and trend monitoring, aimed at informing strategic philanthropic decision-making. The Omidyar Network are developing capacity across an emerging staff network and linking it into wider communities. Similarly, many governments learn from others through communities of practice and global foresight networks. One of the most prominent networks is hosted by the OECD, the Government Foresight Community which convenes annually to exchange ideas and effective foresight practice. Appendix F lists out some of those we came across in our research.

---

65 With the occasional business example, such as the contrasting approaches taken by Kodak and Fuji in response to emergence of digital photography (see for example: Kmia, O. (2018) Why Kodak Died and Fujifilm Thrived: A Tale of Two Film Companies. PetaPixel. [online]. Available at: www.petapixel.com/2018/10/19/why-kodak-died-and-fujifilm-thrived-a-tale-of-two-film-companies [Accessed 15 October 2020].

66 See, for example: Interaction Design Foundation (2016) Outcome Bias – Not All Outcomes are Created Equal. [online]. Available at: www.interaction-design.org/literature/article/outcome-bias-not-all-outcomes-are-created-equal [Accessed 15 October 2020].

67 Martin-Breen, B. (2014) Using Foresight to Surface Social Problems. Rockefeller Foundation. [online]. Available at: /www.rockefellerfoundation.org/blog/using-foresight-surface-social-problems [Accessed 15 October 2020].

40   A stitch in time? Realising the value of futures and foresight

A stitch in time? Realising the value of futures and foresight   41

Sitra: evaluating impact

EVALUATING IMPACT

Evaluating the impact of foresight is difficult and resource intensive. Sitra provides an excellent example in how to do this effectively.

itra, the Finnish futures thinktank, provides an exemplary case study in how to evaluate the impact of foresight. Sitra begins its evaluation process by asking: "why evaluate futures work and foresight?"[68] Not only does evaluation inform strategic management, it also creates forums for learning and feedback loops, enhancing the practice of the entire organisation. In doing this, Sitra focuses not simply on the outcomes of a foresight exercise, but on the process and how outcomes are produced, whether successful or not. It also considers different perspectives on impact. It ranges from the individual level, considering how it has improved people's futures literacy, to the organisation level, where it looks at futures preparedness and how the organisation makes such a of foresight.

Sitra expands the scope of evaluation from specific projects or processes to the impact of futures work in society.[69] This is because evaluation using the traditional logic model of input–output–outcome–impact is rooted in linear thinking, whereas Sitra understands its actions and the environment in which it operates to be more complex, particularly given its ambition for systemic change. There are five key principles that underpin Sitra's approach to evaluation:

1 Taking into account the long-time span of societal changes

2 Applying a holistic approach to systemic changes

3 Focusing on contribution of an organisation (instead of attribution when it is not possible)

4 Supporting learning and development during the evaluation process, and

5 Using methodologies that are appropriate for the evaluation purpose and context.[70]

Having a set of clearly defined core principles enables Sitra to develop impact evaluation questions and goals that cohere around these principles.[71] Evaluation is not a one-size-fits-all type of activity. The design requires adaptation to the exercise and having an agreed set of principles facilitates this. From this, Sitra then conducts analysis of its impact using a range of methods, from measuring changes in how Finnish people think about the future, analyses of futures discourse in the media, bibliometric analysis of Sitra's work in academic journals, governmental reports and other expert publications, and assessments of how Sitra has progressed in achieving its strategic goals. These all combine to turn evaluation into a process of capacity building and organisational learning, which in turn recursively improves Sitra's futures work.

> Sitra begins its evaluation process by asking: "why evaluate futures work and foresight?"

68 Parkkonen, P. (2019) How can futures work and foresight be evaluated?. Sitra. Available at: www.sitra.fi/en/blogs/how-to-evaluate-futures-work-and-foresight/ [Accessed 15 October 2020].

69 Vataja, K., Dufva, M., & Parkkonen, P. (2019). Evaluating the Impact of a Futures-Oriented Organization. World Futures Review, 11(4), 320–330. https://doi.org/10.1177/1946756719858802

70 Ibid, p. 322.

71 For more information on these questions and goals, see Ibid, p. 323.

For organisations: develop futures competencies

"I have all my life been considering distant effects and always sacrificing immediate success and applause to that of the future. In laying out Central Park we determined to think of no result to be realised in less than 40 years".[72]
FL Olmsted

Core take-aways for organisations

- **Practice**. To account for the future, organisations we have to consider the long-term impact of short-term actions, yet this is not standard practice across many cultures, industries and sectors, fuelled in part by our capitalist economic incentive structures.

- **Process**. Foresight shouldn't be seen as a stand-alone set of activities but should be integrated into the culture. It needs to run through the organisation's cultural structures and assumptions in order to overcome resistance and add maximum value to the organisation. The more foresight tools and methodologies are part of the strategic life-cycle the more robust the policy- and decision-making process.

- **Resilience**. Evaluation of foresight methods is not an exact science, given there is no counterfactual, rendering the benefits often intangible. This should not dissuade executives from seeing foresight as a complement to strategy and decision-making processes. Indeed, the resilience that can result from future-proofing is where much of the value can be found. Organisations that question the long-term role they play in a system and that continue to change to be relevant

and supportive of that future are more adaptive and resilient as a result.

Recommendations for organisations

- Establish the chief foresight officer (or equivalent) as a core C-suite role, charged with responsibility for the long-term impact of the organisation. Establish equivalents in public, social and charity sectors together with mechanisms to share success.

- Develop an incentives and reporting structure and a code of ethics for all businesses that shifts the balance away from short-term, often unsustainable actions whose sole aim is to maximise shareholder value, and prioritise instead longer-term, sustainable practice and value generation for shareholders and for wider society.

- Identify and connect those organisations actively working to embed long-term perspectives into their work. Seek opportunities to align, test and amplify their work so that longer-term time horizons become more of an institutional norm.

72 Rybczynski, W. (2000) A Clearing in the Distance: Frederick Law Olmsted and North America in the Nineteenth Century. New York: Scribner.

For policymakers: develop a futures mindset

"**The unknown of our experience is not the same as the unknown of knowledge.** Moving into the unknown and making it known in a new way is just what we living things do... Each moment grows from the commitment of the preceding one into a particular path, a holding together of the whole with skilful care."[73]
Bill Sharpe

For policymakers: develop a futures mindset

In this chapter we turn our focus to those working in our private, public and third sector organisations and unpack the methods and mindset required to effectively draw on and utilise strategic futures and foresight. We explore five areas of value that long-term thinking and foresight can bring for executives, strategists, policy- and decision-makers - in fact anyone concerned with the success and long-term health of your organisation:

1 Work across disciplines

2 Draw on a range of methods

3 Develop a futures literacy and fluency

4 Identify power dynamics

5 Surface signals of systems change

Work across disciplines

Futures as a discipline sits nomadically within and across the fields of economists, engineers, sociologists, philosophers, geographers, historians and technologists, to name but a few. It adds value to the work of those variously labelled as polymaths, boundary spanners,[74] problem solvers or systems conveners;[75] those whose specialism is, in part, about making unusual and unexpected connections. These are the generalists who operate across disciplines and draw on methods and insights from them all.

This is borne out by many of those we interviewed who often described themselves as multi-disciplinary and eschewed categorisation. They cited the growing interest in, say, art and design in foresight work. Whilst design was seen to add a level of pragmatism, art was seen to strengthen participation, imagination

and communication: "art allows human beings to innovate. It takes you up a level up from abstraction, so you make novel connections". By fabricating things and using visualisations that people can touch, feel and see helps to open up new conversations about preferred futures and futures we want to avoid. It offers a set of ingredients "like playdoh" that reflect the "malleability or plasticity of futures", that challenge entrenched ideas and accepted norms.

One interviewee asserts that "if we acknowledge the fact that the future is not about the future per se, but about the present, we have to acknowledge the relevance of every discipline". This argument is taken one step further by a further interviewee who said, "futures is a mosaic; it is all other disciplines!", and by another, "futures is by its nature a trans-disciplinary field. It always involves engaging with a range of other fields and perspectives, and this is among its greatest and most distinctive strengths".

Following basic scientific rules of research, the field's core basis of understanding is rooted in empirical knowledge produced in all other disciplines and human cultural knowledge.[76] Describing the futures field as *post*-disciplinary serves here as a provocation. Kwamou Eva Feukeu (UNESCO) asserts that the way futures is structured as a discipline or field of studies limits its accessibility and reinforces hierarchies in knowledge acquisition even though "anticipation is done by literally everyone". Wendy Schultz describes complexity science and systems thinking as sister disciplines growing in parallel to the futures field, asking the same ultimate questions around the nature of change, time and awareness.

73 Sharpe, B. (2013) Op cit. p. 97.

74 Williams, P. (2002), The Competent Boundary Spanner. Public Administration, 80: 103-124. doi:10.1111/1467-9299.00296

75 The RSA are part-sponsoring the forthcoming work Systems Convening Handbook by Bev and Etienne Trayner. More information on systems conveners here www.wenger-trayner.com/systems-convening.

76 Kuosa, T. (2010) Evolution of futures studies. Futures 43. 327 – 336.

What makes the work of futurists ground-breaking or innovative is not always the novelty of an approach, but more about "colliding different worlds together". It is therefore unsurprising that we found no singular entry point or career trajectory for our interviewees whose backgrounds ranged from marine biologists, to technologists, designers, physicists and philosophers. Many we interviewed talked about how having a range of futures and foresight methodologies supplemented their existing set of policy tools and strategy mental models. Unconstrained to only foresight methods, they recognise the need for this work to be in service to something bigger, and thereby reach outside the field to utilise design, strategy, communications, influencing and other approaches. Few, to be fair, *only* did futures and foresight work, and most recognised the danger of it being seen as an isolated discipline rather than a complementary one.

To this end, the more diverse a futures project team in terms of lived experience and background as well as disciplinary interest, the better on all fronts. Diversity and divergent thinking provide greater challenge to otherwise unquestioned assumptions on how the world works. This in turn opens new possibilities of uncovering useful and unusual insights - "somebody's weak signal is somebody else's driving force".[77]

Draw on a range of methods

Over the years, the approaches and methods in the toolkits of futures and foresight practitioners have grown and with it, the acceptance of the field across business, governments, thinktanks, civil society and philanthropic organisations. Some practitioners stand behind more traditional forecasting, scenario building

and strategic planning tools, many of which have stemmed from methods pioneered by Royal Dutch Shell during the 1970s oil crisis.

With scenario planning, for example, there are over two dozen very different tools for creating and exploring alternative possible futures. It typically follows a process of identifying the core issue(s) and relevant timeframe, highlighting key trends and drivers of change and agreeing the two issues of greatest uncertainty. These then form the two axes of a 2x2 framework, and each of the four quadrants becomes a scenario which is populated with stories to bring it to life. Indicators are identified which may offer signals that one of the scenarios is emerging, and strategic responses are assessed. The point of such a process remains not in its predictive power, as we have previously seen, but in the new mind space and thinking that it takes participants to.

For those pursuing a more transformational paradigm, there is growing popularity in combining foresight and more experimental methods. This approach not only enables greater adaptability to an increasingly complex operating environment but also enables practitioners to create deeper connections with potential futures. Again, their applications are strengthened by the breath of fields and disciplines that are introduced and by the diversity of stakeholders included along the way.

In operational and planning settings, a futures framing woven in with research, analysis, economic modelling and a quantitative evidence base was regarded by many interviewees as a pragmatic or a more 'sellable' approach than those designed to create radical shifts in thinking in isolation. The UK's Government Office for Science (GOS) Futures Toolkit (Appendix E) for policymakers and analysts includes classic

77 Interview with anonymous foresight expert.

techniques born from the Shell traditions alongside some more emerging methods. These methods centre around gathering intelligence about the future, exploring dynamics of change, describing potential futures and developing and testing strategy.

Operating settings that have much more transformational intent have given rise to a spectrum of creative approaches that can be augmented to suit their context. The work of Wendy Schultz is helpful in its breath, application and theoretical underpinning (see Figure 5), and seminal texts in this area include Robert B Fowles' Handbook of Futures Research,[78] Wendell Bell's seminal Foundations of Futures Studies (Vols 1 and 2),[79] and the Millennium Project's Futures Research Methodology (Version 3).[80]

Over time, images of the future have often been divisible into the 'possible, plausible, probable and preferable', with 'plausibility' often emerging as a primary operating assumption for scenario planning. Schultz challenges this framing, arguing that for futurists, plausibility is a maladaptive concept as it doesn't provide a bold or radical enough basis to consider deep structural change. We illustrate some of the challenges with the futures cone in Box 9.

Schultz therefore advocates for the consideration of what she describes as "crazy futures" and has developed the Manoa scenario building method to maximise these differences, consider alternative futures and explore emerging issues. In her Jigsaw inventory of methods (see Figure 5), Schultz outlines a wide selection of methods that consider alternative futures, but also impacts of change, awareness of change, preferred futures and strategy and change management.
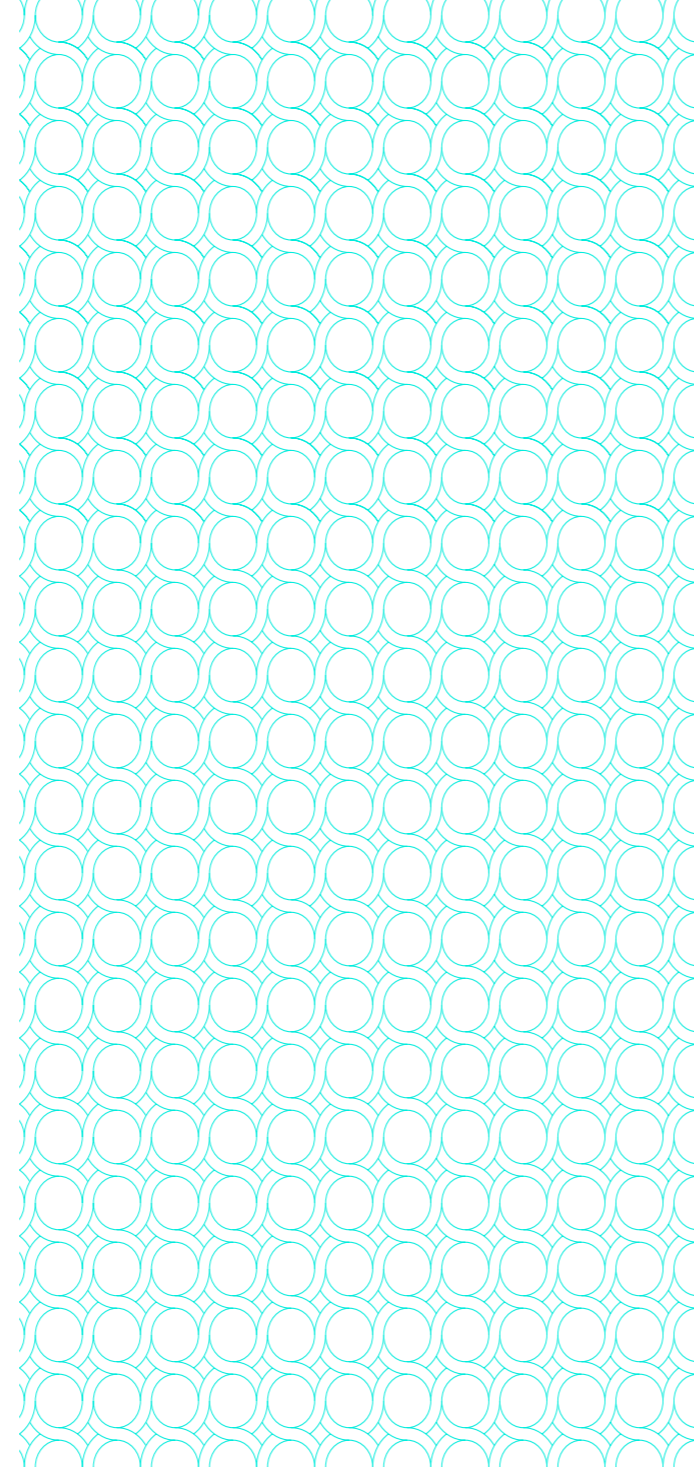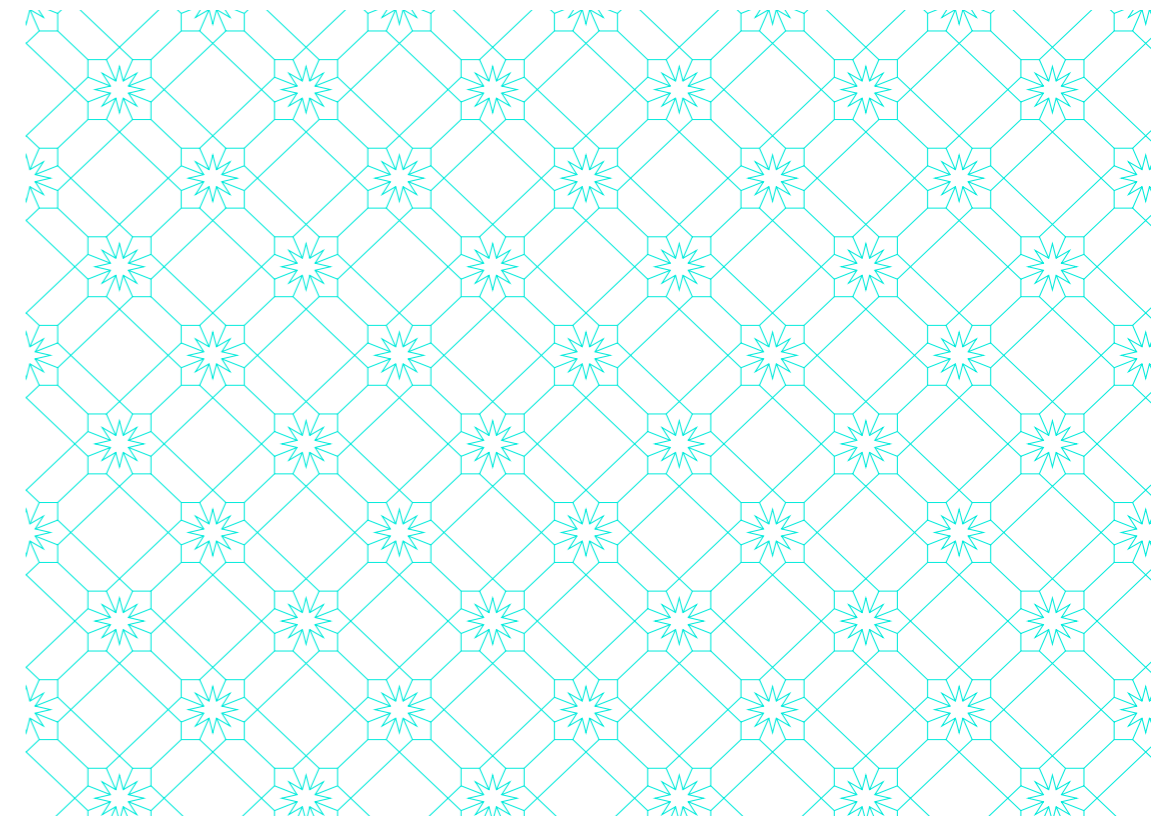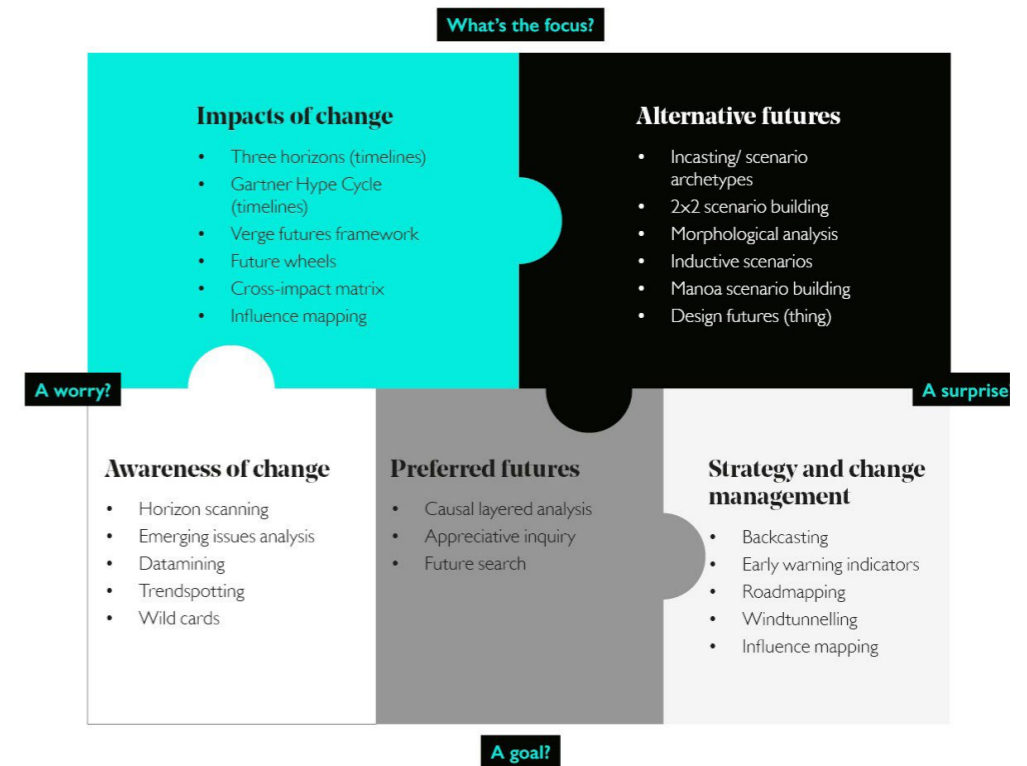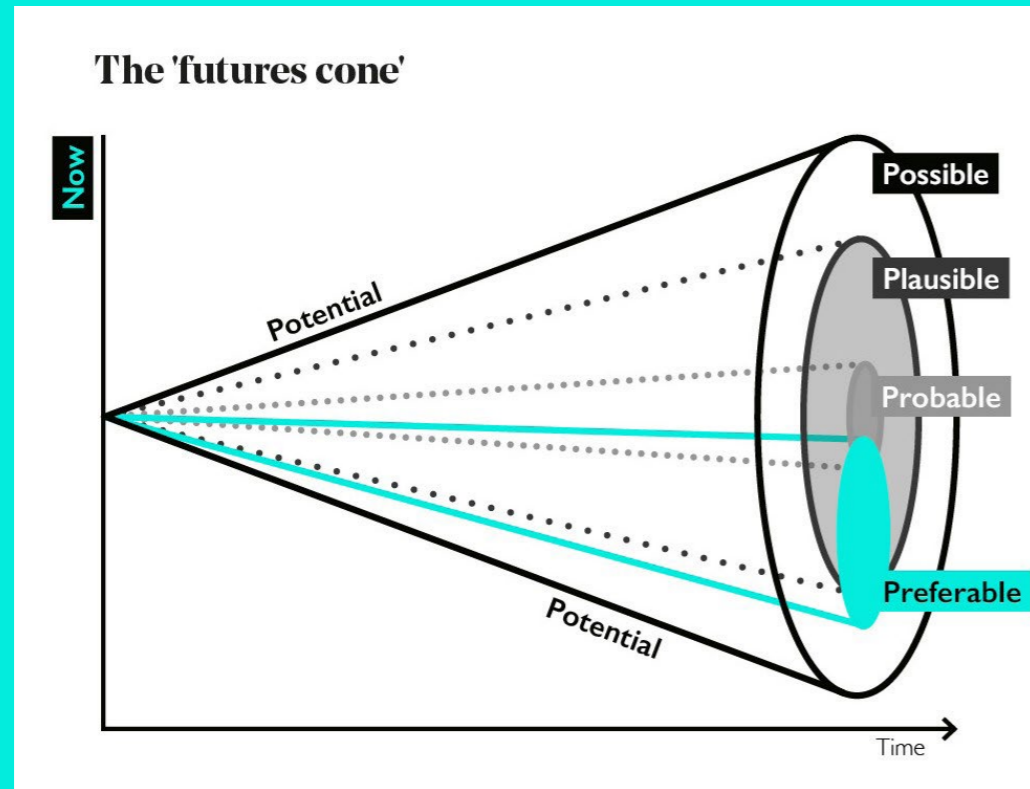
Figure 5: Schultz's jigsaw methods inventory

78 Fowles, J. (ed.) (1978) Handbook of Futures Research. Westport: Greenwood.

79 Bell, W. (1997) The Foundations of Futures Studies: Human Science for a New Era: Values, Objectivity and the Good Society. Abingdon: Routledge.

80 Glenn, J.C. and Gordon, T. J. (2009) Futures Research Methodology - Version 3.0. Washington D.C.: The Millennium Project.

Box 9: Futures Cone

The futures cone is an iconic representation of possible futures, setting out what is preferred in a particular context, together with what is possible, plausible and probable: [81]

The 'futures cone'

Now

Possible

Plausible

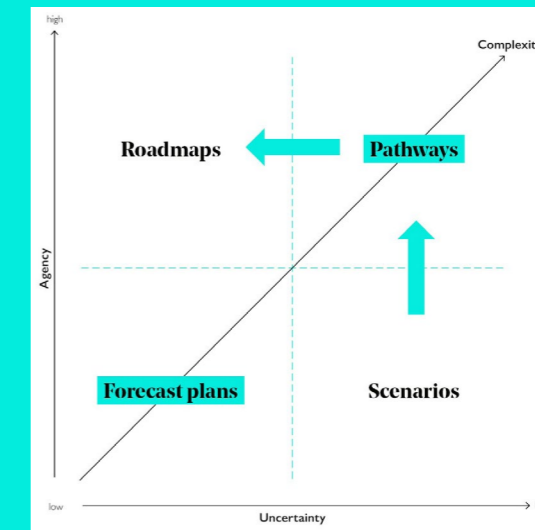Probable

Preferable

Potential

Potential

Time

However, there are some fundamental challenges raised in respect of the futures cone and the way it seems to over-simplify concepts. Whilst this is in some ways necessary for it to have communicative power, it hides some deficiencies, such as:

- Our futures don't all start from a singular time and space
- Who defines the future?
- Whose preferences are shaping the future?
- How to bring multiple perspectives together?
- The future isn't ours to colonise from the present
- The visual is seen as too linear yet things don't evolve in neat cones: no scope for shocks or crises reshaping the cone(s).

Box 10: Pathways for transformation

The framing below from Bill Sharpe illustrates how different categories of futures methods (forecasts, scenarios, pathways and roadmaps) can be shown to correspond to the twin variables of (a) whether the methods enhance agency, and (b) their relationship to uncertainty about the future. [82]

high

Complexity

Roadmaps

Pathways

Agency

Forecast plans

Scenarios

low

Uncertainty

high

"Four domains indicate the relative strengths of different tools and approaches. For example, scenarios are generally most useful when the future is highly uncertain, but often on their own have limited capacity to identify strategies for achieving different futures. Roadmaps tend to be most useful in circumstances where there is greater certainty, where they provide clearer directions for change. New pathways approaches are emerging, which aim to enhance agency in situations of high uncertainty. The arrows indicate that some scenario approaches, depending on how they are applied, also can work well in the high uncertainty and high agency domain, and that many existing pathways approaches are aligned more closely with roadmaps."

Develop a futures literacy and fluency

Futures literacy is a capability that allows people to understand the world around them and the role that the future plays in this. It requires a range of tools to *imagine*. Futures fluency is the wide acquaintance with, and ability to *sensemake* a diverse array of existing images of the futures as a foundation to imagining and anticipating original images of the future. A person who is futures literate has the necessary skills and imagination to introduce the concept of the future, which by definition does not yet exist, into the present. [83] As we have seen, we all do this to varying degrees in our own lives.

Contrast the difference, however, between anticipating the future and anticipating emergence of the future. This is not mere semantics, for they are different ideas of "the form the future takes in the present". [84] If we anticipate the future, we are doing so with a specific goal or end state in mind - 'retire at age 60', say, or 'restrict rises in global temperatures to 2 degrees by 2040'. The future becomes a planned objective that those vested in it, or motivated by it, attempt to achieve. If we anticipate emergence, we seek instead to make sense of, and change, the present. We remain open to the emergence inherent in complex systems and, rather than

81 Voros, J. (2017) Big History and anticipation: Using Big History as a framework for global foresight. In: R. Poli (ed.) Handbook of anticipation: Theoretical and applied aspects of the use of future in decision making. New York: Springer International. doi:10.1007/978-3-319-31737-3_95-1

82 Sharpe, B., Hodgson, A., Leicester, G., Lyon, A., and Fazey, I. (2016). Three horizons: A pathways practice for transformation. Ecology and Society, 21(2), [47]. doi.org/10.5751/ES-08388-210247.

83 Miller, R. (ed.) (2018) Transforming the future: Anticipation in the 21st century. Abingdon: Routledge.

84 Ibid, p. 2.

trying to control them, work with them to make sense of the present. As a result, we do not try to structure the future because we are no longer constrained by probability or desirability.

These distinctions have important implications for policymakers. Anticipating the future is the dominant mode of thought that people use in day-to-day life. We draw comfort from the certainty this provides however illusionary its nature. Yet it remains a powerful force shaping the way that we relate the future with human agency, because we like to think that if we do a particular set of activities in the present they will lead to a particular set of outcomes in the future. Strategic plans are based on this thinking. By centring goals in our formulations of the future, we are "colonising the future with today's idea of tomorrow".[85] We see organisational vision or mission statements setting out this future in today's corporate language, but it can only ever be shaped by today's context and thinking.

It is this challenge that anticipating emergence seeks to address. To make sense of, and engage with, emerging complexity we need a different mindset and approach. Working with spontaneity and improvisation and seeking continuous learning are at the heart of this if we are to make sense of emerging complexity. For Miller, this is crucial "in becoming able to embrace complexity rather than just lamenting it as some cursed and inescapable source of 'wicked problems'".[86] The UNESCO Futures Literacy Laboratory, headed by Miller, is currently testing the hypothesis that anticipating emergence makes it easier to understand novelty and thus invent and innovate.

The implications of this on policymaking are clear. Policymaking generally operates on the basis of identifying problems and seeking to resolve them. Recognising that other modes of anticipation exist and could be more conducive

to understanding the future offers a challenge to that central premise of policymaking. Anticipation-for-emergence (AfE) illustrates the point previously made that the technocratic assumption underpinning policymaking – that almost any problem can be solved through the application of sufficient knowledge – is a false one. Indeed, AfE offers policymakers a valuable alternative to this paradigm. Firstly, they can make the shift to an emergent approach to the future; not seeking to control it but dealing with complexity as it emerges. Secondly, they can engage in a programme designed at improving people's future literacy. Adopting such a capability-based approach requires the relinquishing of power by policymakers and trusting that people know their own contexts better than anyone else. The long-term potential of this is huge and necessarily unknowable.

Futures literacy therefore involves both how we think about the future (an ontological perspective) and how we create knowledge about the future (an epistemological perspective).[87] Riel Miller argues that how we think about the future - the ontological - is ultimately crucial, given the future's non-existence. It is this challenge that places futures work at the heart of the human condition, as explored in the opening chapter.

Identify power dynamics

A crucial challenge to strategic foresight relates to the idea of *legitimate futures*. It asks the questions 'whose future is it?' and 'who has the power to decide about that future?' 'Who runs the exercises, who is involved, and who isn't?' There was a widespread recognition of the importance and value of ensuring foresight processes are co-designed to be inclusive, particularly in government and on issues of wider societal importance.

85 Ibid. p. 21
86 Ibid, p. 22.
87 Ibid.

Such an effort towards inclusivity and diversity of perspective inevitably requires those convening the work to cede some power and control over the process. Without this transparency it can be difficult to counter potential charges of paternal approaches to foresight or the "colonisation of our imaginations"[88]. An inclusive effort serves both to improve the outcomes of exercises and to increase the popular legitimacy of any policy emerging from the foresight initiative.

Truly participatory foresight must therefore go beyond inclusion and challenge these inherent power dynamics. In turn, some of the power dynamics at play are difficult to surface and as a result can be less clearly understood. In order for foresight exercises to avoid reproducing the power relations of the present, they must do more than merely include non-expert voices and recognise that those from the future can't, of course, be physically present.

Though many practitioners stressed that they made their exercises as inclusive as possible, very few mentioned that they included non-experts in the formulation of the exercises themselves. They remained in the language of policymakers rather than those who they would affect. This remains a barrier to truly participatory exercises. The rebalancing of power relations will be difficult but necessary to realise foresight's full potential.

Other practitioners are challenging the potential coloniality of the discipline, exploring the concept of 'colonising the future'. They argue that foresight is rooted in the colonial mentality in as much as it seeks to describe, control and conquer the future. As explored by British author and futurist Ziauddin Sardar, "futures studies is increasingly becoming an instrument for the marginalisation of non-Western cultures from the future"[89]. By problematising

this approach, critical theorists have attempted to emphasise the constant interplay between past, present and future[90]. As Roman Krznaric[91] describes, "we have colonised the future. We treat the future like a distant colonial outpost devoid of people, where we can freely dump ecological degradation, technological risk and nuclear waste, and which we can plunder as we please… The tragedy is that the unborn generations of tomorrow can do nothing about this colonialist pillaging of their futures".

Pupul Bisht has built upon this through her ongoing work to decolonise foresight. She has done so by developing the first non-Western foresight method. Based on the storytelling tradition of Kaavad from Rajasthan, it incorporates multiple dimensions, temporalities and narratives within a single exercise.[92] It is through innovative work such as this, and in engagement with indigenous wisdom and traditions, that foresight practice can start to open out again.

Surface signals of systems change

The strongest tools in supporting policy development are ones that can cope under the complexity of public policy environments, providing structure in more rigorous and systematic ways. We have seen the emergence of experimental methods of data gathering and analysis that leverages big data to support enquiries. Whilst they may offer mechanisms and processes for surfacing early signals of change, they remain of limited in their value in complex systems.

88 Term used by Kwamou Eva Feukeu during interview.
89 Sardar, Z (1993) Colonizing the future: the 'other' dimension of futures studies. Futures 25(2), 179 – 187. doi.org/10.1016/0016-3287(93)90163-N.
90 Hideg, E. (2002) Implications of two new paradigms for futures studies. Futures, 34(3), 283-294.
91 Krznaric, R (2020) Op cit. [Kindle Edition]. loc. 159.
92 Bisht, P. (2017) Decolonizing Futures: Exploring Storytelling as a Tool for Inclusion in Foresight. [pdf]. Available at: www.core.ac.uk/reader/154171898 [Accessed 25 July 2020].

Traditional methods such as forecasting or 'super' forecasting extrapolate past data to make predictions in the future, usually done through trend analysis of quantitative data sets. A challenge for policymakers, though, is that when working in complex systems, "the last thing that happened is almostnever informative about what's coming next".[93]

Backcasting is also used as a strategic planning tool. It starts by defining desired outcomes in the future and working backward to decide on an implementation plan that will help to achieve those outcomes. We have already touched on some of the challenges with these methods. There are far too many variables to control for and assumptions of direct causality leave these predictive tools vulnerable to error, particularly if the goal is to anticipate and manage risk. Indeed, most futurists and foresight practitioners we spoke to warned against any claims that the approaches and methods in the many toolkits had anything resembling predictive power.

Sidecasting, a method developed by Dave Snowden, seeks to address these challenges. It is built on complexity theory and allows dominant and minority patterns to be identified through a multi-experiential, mass engagement software tool called SenseMaker.[94] This software collects and analyses data in real time and allows us to understand the present and the possible directions the present is capable of shifting. One of its strengths is in its ability to map out different patterns spatially and, in turn, allows interventions to be altered and adapted appropriate to the context.

One of the strengths of using methods such as the Three Horizons framework is that it asks participants from across the system in question to recognise three mindsets in play at any one point of time.[95] This is the idea that there are 'pockets of the future visible in the present', wherein a core challenge is to identify those emerging elements of the longer-term, visionary 'third horizon'.

The Horizons Foresight Method designed by Peter Padbury and associates from Policy Horizons Canada integrates more well-known horizon scanning methods to detect weak signals of change, whilst also harnessing our natural mental capacities to model the future. This is what Padbury calls "the inner game of foresight" - working with people's mental models which comprise incomplete and sometimes wrong representations of reality.

Padbury describes the importance of tapping into and surfacing the often-well-honed mental models that policy analysts and leaders use, in order to test underlying assumptions that shape their decisions.[96] This is done by mapping systems and visualising how they can evolve under different conditions and with different drivers for change. It is the emphasis on sharing individual mental models in constructing a collective understanding of a system that makes this method unique, offering a means for policy and decision-makers to feel better prepared in dealing with dynamic changes within different policy contexts.

93 Flack, J. and Mitchell, M. (2020) Uncertain Times. Aeon magazine. [online]. Available at: www.aeon.co/amp/essays/complex-systems-science-allows-us-to-see-new-paths-forward [Accessed 15 October 2020].
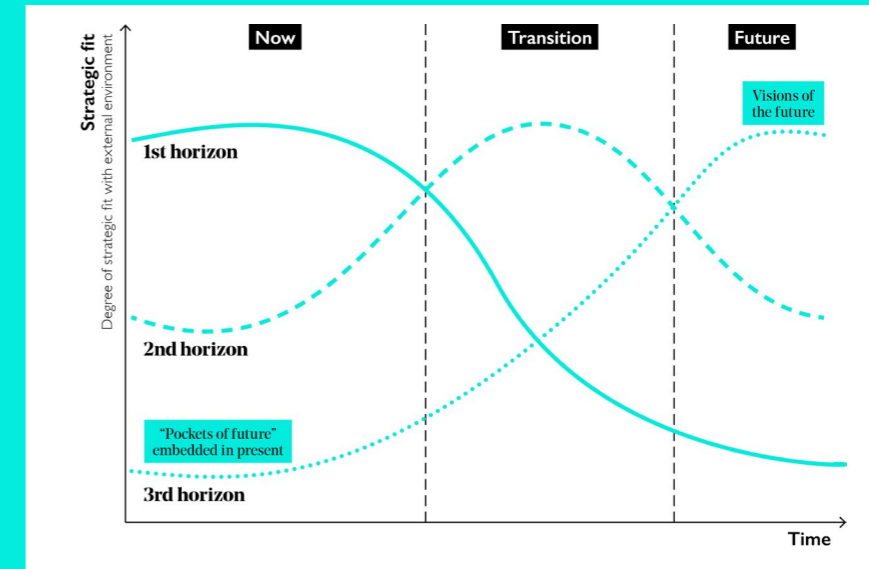
94 For more information, see www.sensemaker.cognitive-edge.com.

95 Sharpe, B. (2013) Op cit.

96 Padbury, P. (2020). An Overview of the Horizons Foresight Method: Using the "Inner Game" of Foresight to Build System-Based Scenarios. World Futures Review, 12(2), 249-258.

Box 11: Three horizons

Systems complexity can be revealed by frameworks such as the three horizons model, which illustrates the idea that three time horizons are always present in the here and now.[97] The prevailing mindset, represented by Horizon 1, is the domain of the manager. existing resources, structures and incentives largely enable the systems of horizon one to maintain their hegemony. However, there also exist trends and innovations that are starting to disrupt the dominance of Horizon 1.

Also present, and more subtly hidden within the prevailing system, are those seeds of the future that are starting to emerge. They are what will ultimately form the infrastructure of Horizon 3, but for now they remain largely hidden from sight, or seen as too far-fetched to be of concern. The domain of the visionary, Horizon 3 will eventually be the new Horizon 1.

The domain of the entrepreneur, the emergence of Horizon 2 represents a more immediate challenge to the 'business as usual' of Horizon 1. It is the entrepreneur who facilitates the transition between Horizon 1 and 3. So many governmental initiatives are small scale and disruptive Horizon 2 innovations, yet their failure to spread is often due to the ability of Horizon 1 to 'capture' them through its 'immune response' to change.

We might, in simple terms, think of the car being powered by first the internal combustion engine, then the hybrid and the electric engine.

The relevance of this model for policymakers and others is as a mechanism of understanding that different time horizons are already operating in the present, and the forces that interact between them, making change a tectonic process. It is important to recognise this should we need to negate the potential criticism that futures work could, at worst, offer scenarios or ideas without any practical account of how those futures might emerge.

97 Sharpe, B. (2013) Op cit.

54   A stitch in time? Realising the value of futures and foresight

A stitch in time? Realising the value of futures and foresight   55

For policymakers: develop a futures mindset

"The challenge we all face is how to maintain the benefits of breadth, diverse experience, interdisciplinary thinking, and delayed concentration in a world that increasingly incentivises, even demands, hyperspecialisation."
David Epstein

Core take-aways for policymakers

- **Paradoxes**. Policymakers, in all contexts, have a number of paradoxes to navigate in order to bring value from futures and foresight approaches, including the short-termism of the political or product life cycles and the potential long-term implications of their decisions. A short-term mindset can also convert or over-ride long-term thinking even around obviously long-term products or initiatives, such as built environment projects that have lifespans of decades and therefore impacts and implications for decades.

- **Competencies**. Futures as a discipline and foresight as a competency are inherently multi-disciplinary and support longer-term, holistic, and systemic thinking. Systems thinking is the backbone of futures thinking - it is why futures thinking must be multidisciplinary. The fields of systems science and futures studies emerged side by side in the early to mid-20th century and, indeed, had some of the same founding thinkers.[98] It is complementary to, and a core skillset of, many people who are seeking change, whether as policymakers, decision-makers, activists, advisors and/or consultants. Many generalists or *polymaths* count these methods in their repertoire.

- **Legitimacy.** A crucial challenge relates to the idea of legitimate futures which asks the questions 'whose future is it?' and 'who has the power to decide about that future?' Is it policymakers alone? Without transparency of process, it can be difficult to counter charges of paternalism or the colonisation of our imaginations.
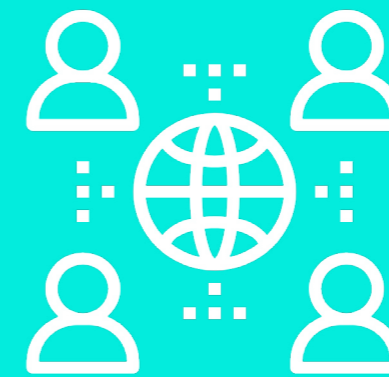
Recommendations for policymakers

- Look at issues of legitimacy in more detail, including the relationship of futures and foresight with other forms of public engagement and deliberation. Examine, in particular, the differences in how societies and cultures think about time and the long-term, what lessons can be shared, and how this can support the long-term response to the short-term pressures of responding to Covid-19.

- Require every government department, public sector organisation, and those organisations delivering services with public funding, to embed foresight thinking into its work, including through the publication of a Future Generations Impact Assessment alongside any significant policy or funding change. Continue to develop futures and foresight as core competency for public policymakers.

- Design and test a new Futures Citizen module, ultimately to form a new further-education qualification, as well be a foundation part of every degree course. It could cover the basics of foresight alongside insights from a range of multi-disciplinary subjects such as systems thinking, complexity, design and innovation, strategy, decision-making, economics, choice and bias, and so on. Make available as a MOOC once developed and tested. This will start to seed and mainstream efforts at making foresight more accessible and culturally acceptable.

98   See for example the work of Kenneth Boulding.

"**One of the things nearing extinction is the art of longing.** As in, wanting something you cannot immediately have. If anything positive is to come from the situation the world collectedly finds itself in, it is my great hope that speed, instant gratification, and over stimulation are swapped out for longing, imagination and relational connection. For a child or teenager to sit thoughtfully and ponder what is to come, to hope for or envision something amazing, to dream of a place or a future"[99]
Brian Transeau (BT)

For society: develop a futures culture

For society: develop a futures culture

In this chapter we identify and explore the value of long-term thinking in a social and community context. This is an area of interest that is likely to be amplified as we emerge from Covid-19 with - in many countries - a renewed recognition of the role and value of community in the quality of our lives. We identify and explore a number of means of recognising and realising this value:

1 Make future challenges salient

2 Recognise different perspectives

3 Engage citizens in participatory practice

4 Challenge short-term incentives

5 Think like a system, act like an entrepreneur

Make future challenges salient

Futurists, foresight practitioners and researchers have used creative means to connect people with otherwise hard-to-grapple future scenarios. The resulting rise in the use of Experiential Futures (EFX) practices helps people connect to possible futures through mixed media interventions. These include immersive performances, role-playing, simulation and the creation of 'artefacts from the future'. The use of games and trend cards in creating deeper personal experiences through active experiences helps in this endeavour. using the arts to lift data and words from something one dimensional into something tangible, "opens promising new avenues for attempting complex collective acts of empathy, conversation, and deliberation in the public sphere".[100] The ambition is to bring possible futures

to life by creating something more salient, tangible and textural. Artefacts that enable participants to feel, hear and smell speaks to the notion that, in part, what we think and do is a product of our environment.

Such artefacts are not only reserved for museums and general public intrigue, but augmentations of potential realities have also served to influence policy decisions. Anab Jain for example created a 'pollution machine' exhibited in the Future Energy Lab commissioned by the United Arab Emirates.[101] The noxious mixture of gases that simulated 2034 predicted air quality in the UAE was presented to, and inhaled by, ministers as part of the exhibition. In turn, this experience was thought to be a contributing factor in prompting government officials to invest more heavily in renewable energy.

Ethnographic Experiential Futures, pioneered by Stuart Candy and Kelly Kornet, draws both from experiential futures (interactive and tangible experiences) and ethnographic futures (research into people's perceptions and personal images of the future). The result is a scaffolding for making people's images of alternative futures (a) legible, and then (b) graspable, using whatever means fit the context. The Field Guide to Ethnographic Experiential Futures lays out the logic and principle design choices at each instruction.[102]

Taking again the public policy issue of pollution and the environment as an example, Stuart Candy and Kelly Kornet gathered research on the future hopes and fears of environmental activists living in heavily polluted industrial areas.

They subsequently translated these into scenarios and then curated an exhibition of artefacts from the future to represent these scenarios, before returning to participants to consult with them on how their images of the future had been brought to life. They argue that the potential for Experiential Ethnographic Futures is in allowing parties to track evolving images of the future over time, thereby supporting social foresight through participation and community deliberation. It is perhaps no surprise then that the emerging field of 'ethnofutures' has its roots in anthropology, pioneered by anthropologist and ethnographer Robert Textor,[103] who could be said to have founded it as a subdiscipline within futures studies in the late 1980s. It is the fourth core domain used by the UK government's Policy Lab in the design of

their futures projects, alongside design, art and systems thinking.

In a similar vein, weaving storytelling, narratives and anecdotes in participatory futures and foresight, whilst not a new trend, is growing in use across contexts. They can be used, for example, as an entry point into reframing scenarios, perhaps as something that resonates or alters a person's thinking in some way. Story telling can present a way in for people to engage with content that might otherwise be hard to understand, be disengaging or discouraging. Particularly with diverse groups of participants bringing different experiences and expertise, and where common ground is difficult to establish, storytelling can be used to create a more neutral space without losing meaning to flatten the playing field.[104]

Case study 4

United Arab Emirates: The Museum of the Future

"Designing our own future is the key to actualising our dreams and aspirations "

Sheikh Hamdan bin Mohammed Al Maktoum – Crown Prince of Dubai.[105]

The Museum of the Future is an initiative of the Dubai Future Foundation committed to exploring the future of science, technology and innovation. It hopes to focus on the 'human story of the future' (not simply on the high-tech gadgets) through immersive experiences and exhibitions.

The Museum was first launched as a series of temporary accelerator programmes on the role of technology in fields such as climate change, food security and health care. It is expected that themes would also be displayed at the opening of the museum later this year in addition to other themes such as the future of outer space, spirituality and healthcare and wellness.

99 Brian Transeau, 'BT', is a DJ, producer and composer. This quote is taken from his discussion of his 2020 trance album The Lost Art of Longing. Lake, E. (2020) BT Describes Each Song On His New Album. Trance Farm. [online]. Available at: www.trancefarm.com/2020/08/09/bt-describes-each-song-on-his-new-album [15 October 15, 2020].

100 Candy, S. and Kornet, K. (2019) Turning foresight inside out: An introduction to ethnographic experiential futures. Journal of Futures Studies, 23(3), 3-22.

101 Krznaric, R. (2020) Op cit.

102 Candy, S. and Kornet, K. (2017) A field guide to ethnographic experiential futures. Journal of Futures Studies.

103 Textor, R. B. (1995) The ethnographic futures research method: An application to Thailand. Futures 27 (4), 461 - 471. doi.org/10.1016/0016-3287(95)00011-K.

104 A common theme referenced by several interviewees.

105 The National News (2020) Sheikh Hamdan tours Dubai's Museum of the Future. [online]. Available at: www.thenational.ae/uae/government/sheikh-hamdan-tours-dubai-s-museum-of-the-future-1.966392 [Accessed 15 October 2020].

Recognise different perspectives

There remains the unavoidable fact that we all think differently about the future. Much as we might say we recognise the importance of the long-term view, the way this manifests in our personal values and behaviours varies significantly between us. In other words, it is crucial to recognise that we all view abstract notions such as time in general, and the future in particular, through different lenses.

One of the ways we seek to understand these differences in perspective at the RSA is through a version of cultural theory, originally conceived by Mary Douglas and further developed by Michael Thompson and others.[106] It teaches that there are three core human motivations to act: belief in authority and hierarchy; belief in relationships and solidarity; and belief in individual aspiration and enterprise. They are joined by a fourth; fatalism, a form of inaction. In illustrative terms, we can characterise each of these three active motivations by a method of organising and a role:

- Belief in authority and hierarchy is represented by the state and the manger, with a focus on rules and order

- Belief in relationships and solidarity is represented by civil society and the convenor, with a focus on values, equality and norms

- Belief in individual aspiration and enterprise is represented by the market and the entrepreneur, with a focus on incentives, opportunity and freedom.

In any given situation all three perspectives are present in a dynamic balance. This goes right down to our daily motivations – why do we do things? We might act because we are told to

(hierarchy), because it's the custom of the group or society we belong to (solidarity), or because we choose to for our own reasons (individual enterprise). As these are core human motivations, generally the best way to solve problems and make progress is to find ways of combining them.

These distinctions illuminate one of the core challenges we face when we engage people in conversation about the future: each will offer up a valid yet competing set of values and ideas about how to act. We can best illustrate this by looking at the climate crisis, which remains the most pertinent example of the need for long term thinking and short term action. Hierarchical actors tend to believe we need strong global governance and planning; the solidaristic and community perspective is that the world is about to come to an end unless we all radically change our ways now, and individualists argue that even if climate change as a thesis is correct, the consequences will be "neither catastrophic nor uniformly negative".[107] Finally the fatalists, of course, will say there's no point in acting: what will be, will be.

All four perspectives offer up conflicting explanatations of climate change (see Figure 6) and therefore the required policy response in the present. None is necessarily wrong, but by the same token none of them are by themselves completely right, either. The insight for those charged with curating conversations and processes about the future is that there are not just structural and power challenges to overcome, but also value-driven ones.

106 See Burbidge, I (2017) Altered States. RSA Journal, Volume CLXIII No.5569, Issue 1 2017 Available at www.medium.com/rsa-journal/outdated-public-services-must-empower-people-to-achieve-change-70d7c6a3f3f0 [Accessed 15 October 2020] and Taylor, M. (2016) Towards a fully engaged organization. [online]. Available at: www.thersa.org/blog/matthew-taylor/2016/01/towards-a-fully-engaged-organisation [Accessed 15 October 2020].

107 Verweij, M (2006) The case for clumsiness. In: M. Verweij and M. Thompson (eds.) Clumsy solutions for a complex world: Governance, Politics and Plural Perceptions. London: Palgrave Macmillan. p. 15.

At their best, the tools and insights that futurists have developed enable these conflicting world views to be heard and accommodated. The central challenge of such collaboration, as Adam Kahane defines it, is that "in order to make our way forward we must work with others, including people we don't agree with or like or trust, while in order to avoid treachery, we must not work with them".[108]

Engage citizens in participatory practice

As we explored in the discussion on power dynamics, the inclusion of 'non-expert'[109] citizen voices is widely recognised as crucial to successful outcomes in foresight initiatives.[110] Participatory foresight is practice that seeks to achieve this by explicitly engaging the figure of the outsider and offering them the opportunity to question dominant discourses on the future.[111] It can result in fewer blind spots as non-experts are often more willing to challenge erroneous orthodoxies and/or previously held assumptions. Many foresight practitioners stressed that they sought to make their exercises as participatory as possible, acknowledging that it leads to better outcomes and increased engagement with target communities.

However, there are barriers to achieving this in practice. Creating a truly participatory foresight exercise is both costly and time consuming, while those commissioning the work are often reluctant to commit to this. One interviewee commented that a major barrier to implementing participatory foresight in policymaking was fear on the part of policymakers, who often have a desire for control. It is necessary to convince policymakers that the inclusion of non-expert voices actually

increases the efficacy of the exercise by diluting any biases, helping produce a consensus, and offering insight in how best to communicate the work to the public. They concluded that despite initial scepticism, every inclusive foresight exercise had satisfied those who commissioned it.

In addition to producing better outcomes in foresight exercises, increased inclusion augments the power of foresight as a tool for co-creating a shared idea of the future and helping participants recognise which shared principles are most important in the present. Several practitioners stated the greatest value of foresight was in its ability to generate consensus in this manner. For example, the creation of the Milton Keynes (MK) Futures 2050 involved contacts with 20,000 citizens in the area.[112] This helped create a shared vision of the long-term future which is now used to guide short- and medium-term policymaking in the city. In this respect, foresight exercises can operate as a form of deliberative democracy, in which citizens are involved in the policymaking process. The RSA has piloted many deliberative democracy programmes and a fruitful line of inquiry could be the expansion of this more systematically alongside foresight exercises.[113]

108 Kahane, A. (2017) Op cit. p. 9.

109 We are using the terms 'expert' and 'non-expert' in the sense it is referred to in the literature – an expert being someone holding academic and/or professional qualifications and/or experience on a subject while a non-expert does not. However, we also hold that a person taking part in a foresight exercise as a 'non-expert' may indeed meet the RSA's own definition of an expert as someone with lived experience of an issue.

110 Nikolova, B. (2014) The rise and promise of participatory foresight. Eur J Futures Res 2, 33. doi.org/10.1007/s40309-013-0033-2

111 Ibid, p. 33.

112 For more information, see www.mkfutures2050.com.

113 See recent RSA work in this space here www.thersa.org/projects/deliberative-democracy
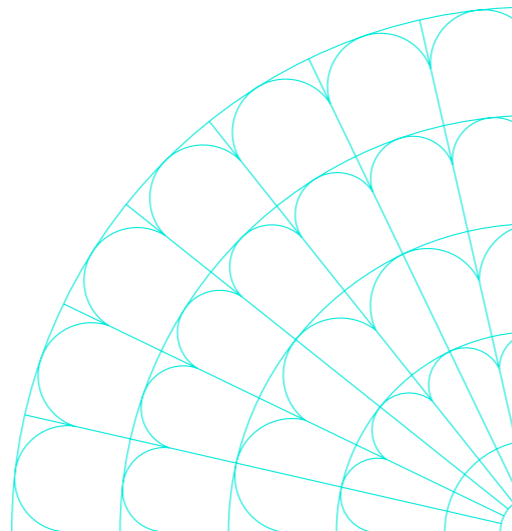
Figure 6: Culture theory: table illustrating the four perspectives on the future offered by culture theory

Those who are…	Motivated by authority	Community-motivated	Individually-motivated	Fatalists
See long-term as…	not merely the continuation of the short-term.	almost upon us and the short-term severely truncated.	the continuation of the short-term.	an irrelevant concept, as is the short term.
See the future as…	controllable.	fragile and inter-connected.	opportunity.	becoming whatever it will be.
Actions…	if we know what long-term sustainability looks like, we can make appropriate interventions in the short term.	we'll all need to work now to avoid future challenges.	innovators will find solutions to any future challenges.	there's no point in acting now over something you can do little about.
Beliefs…	experts will find solutions to any future challenges.	radical change is needed if there is to be a future at all.	doing well in the here and now is the best guarantee for doing well later on.	individuals are best left to the hand fate dealt them.

The democratic potential of foresight align with prefigurative foresight which is focused on creating a desired vision of the future and utilising foresight as a tool to help realise it.[114] Foresight exercises in this vein are participatory and are used to co-create shared values and principles and consider how these translate into the future that people aspire to. By bringing into being this collective vision of the future, not only can participants begin work to realise it, but these foresight exercises can reveal new insights about the present.

There is high potential for using foresight in this manner in policymaking. It can increase the awareness of the hopes, desires and fears of citizens, helping policymakers be more responsive to these, as well as increasing buy-in through higher rates of inclusion in the democratic process. This reinforces the sense that foresight holds the promise of being an emancipatory practice rather than merely a technocratic policymaking tool.

114 We borrow the term 'prefigurative' from the concept of prefigurative politics, which seeks to reconfigure social relations by creating small communities embodying such values in the present, thereby prefiguring future social change. Cornish, F., Haaken, J., Moskovitz, L. and Jackson, S. (2016) Rethinking prefigurative politics: introduction to the special thematic section. Journal of Social and Political Psychology, 4 (1), 114-127.

Singapore: conversations for the future

CONVERSATIONS FOR THE FUTURE

The Singapore Conversation offered an opportunity for Singaporeans to come together and ask: 'where do we want to go as a country and as a people?'
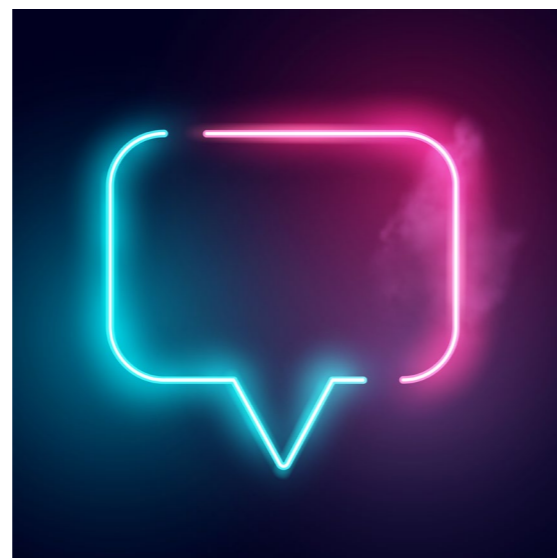
The Singapore Conversation was a yearlong national participatory foresight exercise undertaken by the government of Singapore. Initiated in 2012 and completed in 2013, according to officials, it was the opportunity for Singaporeans "come together to ask 'where do we want to go as a country and as a people?'"[115]

The initial phase of the project was designed to be deliberately open and emergent as officials were keen to remove any implicit biases to ensure that the public surfaced the issues and concerns that were of paramount importance them. The feedback and summaries of the initial phase were then used to inform the structure of the second phase where the dialogues were focused around specific issues and sectors such as jobs, healthcare, housing and education.

The central aim in the design was to ensure the highest level of participation as possible. The dialogues and materials were available in seven languages and technology was also used to enhance audience reach and access.

Members of the public were able to participate via multiple channels, namely:

- Centrally organised and facilitated dialogues hosted by government agencies
- Delegated dialogues hosted by various third sector organisations such as welfare organisations, trade unions and special interest groups
- Online platforms and websites

- Door to door One Singapore Conversation Survey.[116]

As a result, more than 47,000 Singaporeans participated in the One Singapore Conversation. This foresight exercise generated twelve distinct perspectives and identified five core aspirations from the people of Singapore: Opportunities, Purpose, Assurance, Spirit and Trust.

It also created a critical feedback loop to policymaking whereby government agencies implemented changes or identified ways in which the individual and the community can more actively participate in the policymaking process.

The outcomes of the exercise also fed into the government's policy review process and provided a welcome pause to 'reaffirm, refresh and recalibrate' policy directions.

With such a bold ambition, the One Singapore Conversation required manpower from several government agencies and more than 40 third sector organisations. It was highly resource intensive and time consuming.

However, it empowered participants to become focused on a collective visioning process of the future of their country and thus cultivated an intrinsic trust and support in the work of policymakers.

More than 47,000 Singaporeans particpated in the conversation

115 Heng, S. K. (2012) Creating our future, through our national conversation. 26 August. University Cultural Centre, Singapore. Available at: www.businesstimes.com.sg/bt_files/NDR_Speech_Heng_Swee_Keat.pdf [Accessed 15 October 2020].

116 For more information, see www.reach.gov.sg/read/our-sg-conversation.

Challenge short-term incentives

We tend to discount the future to levels that make such considerations invisible in decisions and actions today. Through our research we have found that how we think about and view the future is vitally important to how we think about and act in the present, and our present context is vitally important to how we think about the future. Underpinning all three areas of the organisation, the policymaker and the community is the recurring theme of incentives.

It is not for nothing that Charlie Munger imports us to "never, ever, think about something else when you should be thinking about the power of incentives."[117] Our dominant incentive structures militate against long-term thinking. We are driven by shareholder returns, the next election, by promotions and bonuses and pensions, by consumption and reputation, and ultimately by the idea that many things won't impact us because we'll be long gone: from that company, that community, and ultimately from this life. How do we act as though we actually have 'skin in the game', when incentives generally mean we don't?

Our predisposition towards short-term thinking is mirrored across our political and economic systems, thinking that prefers immediate fixes, regardless of the potential for unintended consequences that make things worse over the long run. Short-term stakeholder returns are prioritised over long-term corporate sustainability, short-term consumption is prioritised over longer-term environmental stewardship of precious resources, the immediate challenge of global emissions and the climate emergency is deferred to future generations with no idea of how to actually accommodate the costs of addressing it in the here-and-now. As

Ari Wallach elaborates, "a politician who reduces the proportion of coal energy on the grid will face the wrath of the coal lobby and the labour unions when campaigning for re-election. A CEO who seeks to implement zero-energy operations might hurt profits over the next handful of business cycles and meet the vengeance of seething stockholders when quarterly earnings are announced".[118]

Laszlo Zsolnai is clear that "decision-makers who strongly discount things in space and time are interested neither in the solution of long range ecological and human problems, nor in the global impacts of their activities on the natural environment and human communities. Discounting the future impacts of present generations is ethically indefensible because it renders extremely low weight to the interest of future generations".[119]

Into this debate comes the idea of social contract accounting, that we need mechanisms for fairly accounting for future impacts in our present operations (see Box 13). Indeed, many are in turn encouraging us to reconsider the notion of the short-term, from calls to establish a 'parliament for the unborn' (See Box 13: Parliament for the unborn) that holds policymakers to account to a 1000-year long musical composition playing without repeat in London's only lighthouse (see Case study 6). Roman Krznaric, writing in The Good Ancestor, set out six drivers of short-termism and six ways to think long (see Figure 2: Tug of war of time).

Perhaps the heart of the effort required to review and realign incentives is to find ways that this work counters the former and facilitates the latter.

117 Farnham Street (2017) The Power of Incentives: The Hidden Forces That Shape Behavior. [online]. Available at: www.fs.blog/2017/10/bias-incentives-reinforcement/ [Accessed 15 October 2020].

118 Wallach, A. (2013) Op cit.

119 Zsolnai, L. (2010) Respect for future generations. [pdf]. Available at: www.laszlo-zsolnai.net/sites/default/files/3/documents/Respect%20for%20Future%20Generations.pdf [Accessed 15 October 2020].

Box 12: Parliament for the unborn

The parliament for the unborn. No matter how rich or smart the future generations are, they simply cannot fix species extinctions, ocean acidification, or melted permafrost. [120] The legitimacy of today's decisions should be subject to scrutiny. In 2019, in Wales, the world's first Minister of Future Generations was appointed as a means of institutionalising this type of scrutiny. Democracy for the future rests on a third parliamentary house, with elected citizens who will represent the interests of future generations on par with those representing the interest of our current ones.

Box 13: Social contract accounting

Paul Barnett summarises the idea of social contract accounting as follows: "Valueism and social contract accounting are practical management approaches underpinned by strong philosophies that date back to the time of Aristotle. More recently the approaches can be seen reflected in the values and practices of the Quaker industrialists who created great value and much wealth. And the wealth they created produced shared prosperity and social capital investments in the form of model villages. Examples of value-led businesses are to be found in the form of long-lived companies the world over. Profits were the means to the ends in all such companies, and the ends were always the creation of real value. Valueism is an updated version of these ideas. It is values-led, human-centred and focused on creating widely shared lasting prosperity, or Aristotle's idea of Eudemonia, ie human flourishing and wellbeing". [121]

Case study 6

Longplayer

Jem Finer, composer of Longplayer, says that "while Longplayer is most often described as a 1000 year-long musical composition, the preoccupations that led to its conception were not of a musical nature; they concerned time, as it is experienced and as it is understood from the perspectives of philosophy, physics and cosmology. At extremes of scale, time has always appeared to me as baffling, both in the transience of its passing on quantum mechanical levels and in the unfathomable expanses of geological and cosmological time, in which a human lifetime is reduced to no more than a blip".

"A human lifetime is just a blip"

120 Johar, I. and Begovic, M. (2020) Op cit.

121 Barnett, P. (2019) Introducing valueism and social contract accounting. [online]. Available at: www.blogs.lse.ac.uk/businessreview/2019/03/28/introducing-valueism-and-social-contract-accounting [Accessed 16 October 2020].

Wales: The Well-being of Future Generations Act

Seven well-being goals

To make sure we are all working towards the same purpose, the Act puts in place seven well-being goals. The Act makes it clear the listed public bodies must work to achieve all of the goals, not just one or two.

A prosperous Wales

A resilient Wales

A more equal Wales

A healthier Wales

A Wales of cohesive communities

A Wales of vibrant culture & thriving welsh language

A globally responsible wales

In 2015, the Welsh Assembly passed the Well-being of Future Generations (Wales) Act, committing its sustainable development ambitions within legislation. The act is about improving the social, economic, environmental and cultural wellbeing of Wales and ensuring that the decisions taken today are not at the expense of the future generations' wellbeing. [122]

It outlines seven wellbeing goals which public bodies must collectively achieve and 'sustainable development principle' or five ways of working that should be employed by public bodies to ensure achieve that ambition. They are long-term, prevention, integration, collaboration and involvement.

The Act created the post of the Future Generation Commissioner who acts as the 'guardian for future generations' and promotes sustainable development. It also requires that a report is prepared every five years in order to report on progress of the goals and to give an assessment of improvements made by public bodies. It "provides practical advice, guidance and tools for public bodies grappling with making the aspirations set out in this ground-breaking law a reality for people in Wales" [123].

Wales is the only government to legislate for the needs of future generations and to embed delivery of UN Sustainable Development Goals. Other countries such as Canada, Portugal, Gibraltar and even the UK parliament are keen to adopt similar legislation.

Wales is the only government to legislate for the needs of future generations

122 For more information, see:: www.futuregenerations.wales/about-us/future-generations-act.

123 Future Generation Commissioner for Wales (2020) The Future Generations Report 2020. [pdf]. Available at: www.futuregenerations.wales/wp-content/uploads/2020/07/FGC-Eng-Exec-Summary.pdf [Accessed 15 October 2020].

Think like a system, act like an entrepreneur

Societies face a myriad of complex social challenges. If we are to successfully do so, to make inroads on issues as diverse as global migration, social justice, wealth distribution, food poverty - the list goes on - we need people who are adept at navigating "a white water world - a world of dynamic flows in which so much of what we do and know is radically contingent on the context at the moment one is looking at it, or operating in it… one must… be constantly scanning, probing, and finding ways to understand that context and its underlying forces, so that one can act in it, and with it, not against it or outside of it".[124]

In previous work the RSA has called those able to navigate this complexity, seeking change whilst simultaneously creating stability, 'systems entrepreneurs'.[125] They are people who exhibit the skillset and mindset needed to 'think like a system and act like an entrepreneur', to both see the bigger picture in all its complexity and yet to act decisively when and where needed to effect change. And they do so because they want to address some of the most vexing, complex challenges society faces.

The value that people with these capabilities can bring to an organisation, a community or a problem is often intangible and difficult to assess. In turn, those with this skillset and mindset are difficult to fit into traditional organisational hierarchies or community structures. They can often end up being seen as fringe, institutionally 'homeless', socially counter-cultural or simply a maverick.[126]

Yet they see the value and insight to be gained by combining disciplines: "when you step into an intersection of fields, disciplines or cultures, you can combine existing concepts into a large number of extraordinary new ideas".[127] Compared to other scientists, for example, Nobel

Laureates are "at least 22 times more likely to partake as an amateur actor, dancer, magician, or other type of performer".[128] It should therefore be of little surprise that there is growing interest in the integration of sociological and anthropological techniques and research.

If we see change as including the evolution and potential resolution of societal challenges at some point in the future, then we can see the value of futures and foresight to those seeking change. One of the strengths that anthropologists, sociologists and geographers in particular bring to this work is awareness of cultural, spatial and behavioural change as it relates to long-term societal evolution and transformation. This is the art of thinking like a system, of seeing the bigger picture.

The complexities and intractable nature of current challenges or imagined future scenarios can constrain or even stymie our ability to think of, and act on, possible solutions, a form of paralysis by analysis. Avoiding the direct causality and path dependency often associated with policymaking is another core consideration. Taking a less prescriptive and more adaptive approach offers an antidote. It can help overcome information overload and enable policymakers, activists and those seeking change to make more emergent and responses at key points in time. This is the art of 'acting like an entrepreneur', anticipating future societal, public policy or business challenges and interrogating otherwise unchallenged assumptions for the benefit of creating more adaptive, resilient systems.

124 Pendleton-Jullian, A and Seeley Brown, J. (2018) Design Unbound, Volume 2: Ecologies of Change. Cambridge: MIT Press. p. 369.

125 Hallgarten, J., Hannon, V. and Beresford, T. (2016) Op cit.

126 See, for example, www.maverickwisdom.com/business-mavericks.

127 Johansson, F. (2017) The Medici Effect: Breakthrough Insights at the Intersection of Ideas, Concepts, and Cultures. Boston: Harvard Business Review Press. p. 6.

128 Epstein, D. (2019) Range: How generalists triumph in a specialised world. New York: Macmillan. Kindle ed. loc 486.

As well as avoiding risk and paths that lead to disaster or dystopia, it's just as important to consider different compelling narratives and preferred visons of the future that generate hope.[129] For this reason, we can understand why in equal measure, futures thinking has been described as 'science', but for many it is also an 'art' and a 'craft'.[130] It is therefore important to not only consider futures thinking as a technical skillset, but also a mindset. Those with both are going to be increasingly invaluable to society. They are the catalysts for change required for society to gain the momentum needed to shift cultures towards the long term.

For society: develop a futures culture

"Civilisations with long 'nows' look after things better. In those places you feel a very strong but flexible structure which is built to absorb shocks and in fact incorporate them".[131]
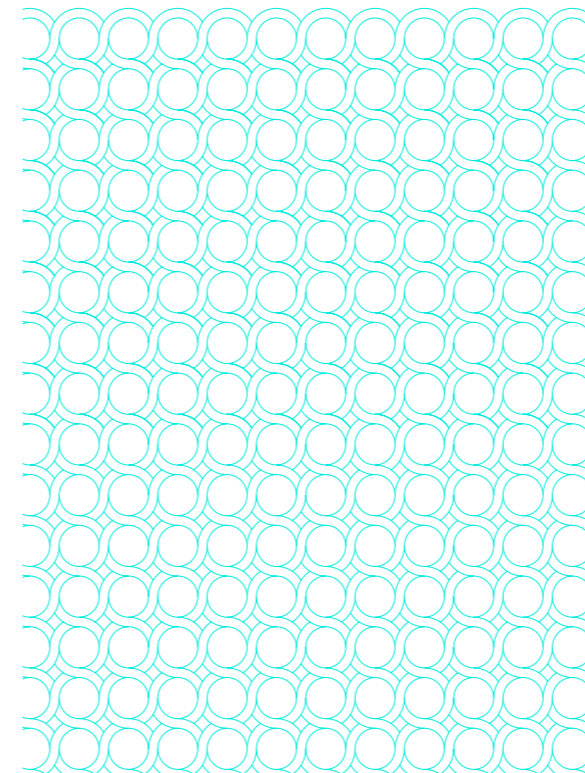Brian Eno

Core take-aways for society

- **Incentives.** If we are not acting in ways that enable our descendants to thrive on the planet, we are colonising their future. Yet it is impossible to underestimate the impact that incentives have in driving short-termism. We need to find ways to value the long run.

- **Perspectives**. Because the way we think about the future is a product of our values and belief systems, not everyone will view the future in the same way nor give it the same importance. In thinking about the future, we are really challenging the stories we've been told about ourselves, our society and our place in the world.

- **Movements**. There are organisations and people who are at the leading edge of a growing movement to embed long-term thinking across all aspects of society, drawing upon academia, the arts, business, music and literature. Aligning foresight practice with wider mechanisms of deliberative democracy and engagement is an important opportunity for the use of foresight.

129 Miller, R. (2018) Op cit. p. 300.

130 Leicester, G. (2004) Seven Prompts: A Report for the Scottish Parliament. [pdf]. International Futures Forum. Available at www.internationalfuturesforum.com/projects.php?pid=11&dl=ocgzfglsyo [Accessed 15 October 2020].
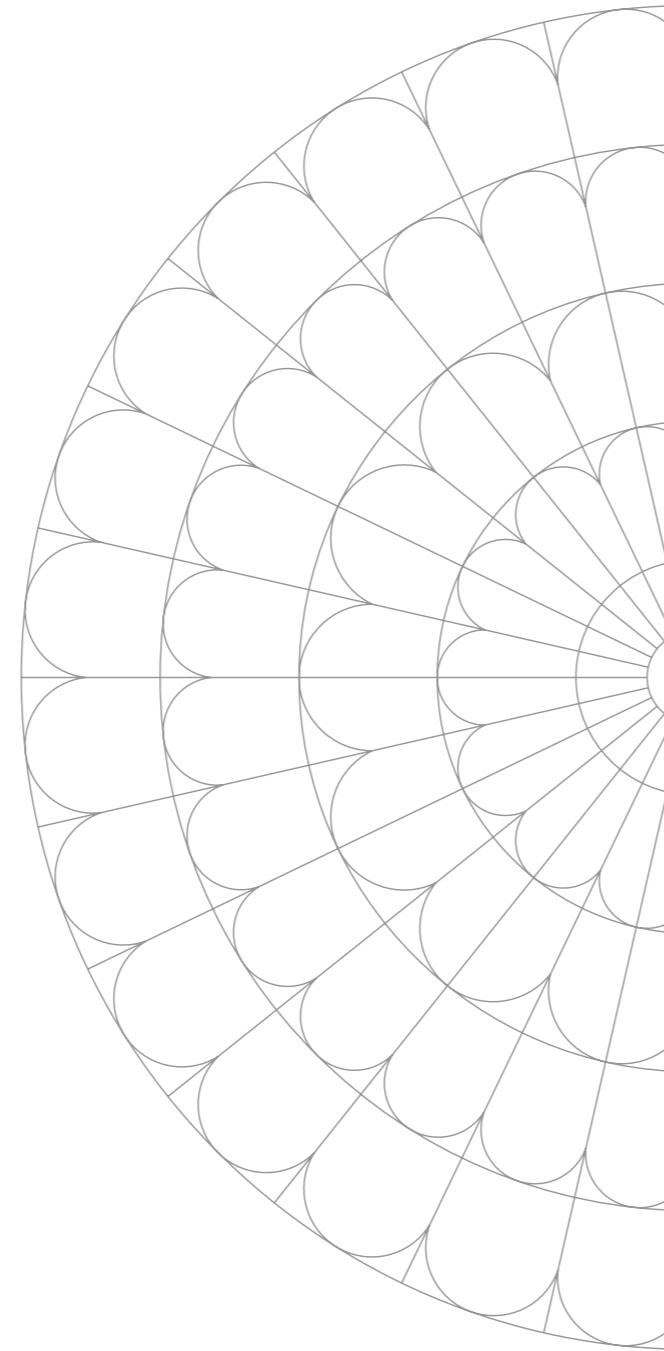
131 Brand, S. (2018) Pace Layering: How Complex Systems Learn and Keep Learning. [online]. Available at: www.jods.mitpress.mit.edu/pub/issue3-brand/release/2 [Accessed 15 October 2020].

Recommendations for society

- Design and run a citizens jury on the idea of establishing a third chamber alongside the House of Commons and the House of Lords, mandated with the primary function of representing the interests of future generations. Equip this chamber with the powers to fulfil their functions. Support this by reducing the voting age to 16, recognising that young people have longer remaining on the planet than their grandparents' generation, and that they are old enough to have a say at the ballot box.

- Establish diverse and inclusive national and regional citizens' assemblies on future generations to inform this work, supported by RSA Fellows with foresight expertise.[132]

- Design some practical micro-experiments that help cement longer-term thinking in people's everyday lives and social contexts. For example, what would it take to enable everyone to have the option of taking mini-retirements for every decade of work? New mechanisms are needed that enable future generations to live a good life in a context significantly different to that enjoyed by previous generations.

Note: *these three recommendations relate specifically to the UK context with which we are most familiar. We invite readers to imagine recommendations appropriate for their own society and culture.*

132 There is an extant call for a National Citizens' Assembly of the Future. See: www.petition.parliament.uk/petitions/321196 with more details here www.theunfinishedrevolution.net.

FORESIGHT: WE NEED TO THINK LONGER-TERM

Foresight approaches and techniques can facilitate and support the kind of multi-disciplinary working, critical thinking and radical action that are necessary to effect change.

Foresight: we need to think longer-term

The rate of change in the world and the degree of uncertainty has amplified immeasurably over recent times. We find our operating systems suspended, decoupled or in flux. New modes and methods of communication and connection have allowed ideas to travel fast, creating new openings for shifts in societal values as well as behaviour. Disruptive forces today are multifaceted and ambiguous with root causes that are difficult to discern, interacting in ways that are impossible to predict, leaving us with few counterfactuals and less than perfect data. As a result, society faces a range of complex challenges: Covid-19, racial injustice, political polarisation, global warming, refugee crisis to name but a few.

At the heart of work to address these lies a dichotomy. On the one hand are those who believe we can define and pursue a vision for the future that sees the relevant issue addressed. On the other hand are those who suggest that such a definition is illusionary. Complex scenarios continuously shift over time and as a result of our interventions, so we should define instead the direction not the destination. We should understand the present sufficient to identity where there is the possibility of change, and that this work enables a journey of discovery. Yet without a vision and the sense of purpose it helps galvanise, the desire to act in the present can be undermined and the imaginative leaps it can help foster remain unrealised.

A foresight approach offers a way forward.[133] The role of future-oriented techniques is not to anticipate the future as 'it exactly will be' but to set the stage for a learning process which fosters adaptation and prepares for future challenges. The RSA's exploration of the future of work is one such example.[134] Understanding and working with these nuances is what the RSA calls the necessity of 'living change'; the idea that we can neither mandate nor prescribe a solution to be implemented, but need mechanisms for proceeding into the unknown that is, after all, the greatest characteristic of the future.[135] This philosophy, change as an art *and* science, underpins our call to 'think like a system, act like an entrepreneur'. Those bringing this philosophy to life offer a pragmatic entrepreneurialism, bringing a wide skillset and a flexible mindset to the challenge of our time. We argue in this report that futures and foresight should be a fundamental part of this work.

Foresight approaches and techniques can facilitate and support the kind of multi-disciplinary working, critical thinking and radical action that are necessary to effect change. We recognise the value of these approaches for those trying to make the world a better place, to effect systems change, to open up our imaginations to the possibilities of what could be. Yet there remains a shadow side to foresight. It can be easy to dismiss as irrelevant to the present and just another distraction. There is a danger it is seen as 'just another tool' to be added to all the other models that strategists, management consultants and CEOs advocate.

It turns out that looking at futures and foresight is not as straightforward as finding and sharing good practice. At a deeper level, thinking about the future taps into some of the deepest notions of what it is to be human and how we see our place in the unfolding universe. Our reading and conversations have taken us beyond foresight as a discipline, touching on philosophy and semiotics, anthropology and incentives, mysticism and decision-science, art and loss. As James Baldwin said, "any real change implies the breakup of the world as one has already known it, the loss of all that gave one a sense of identity, the end of safety".[136] We must attend to this work appropriately for, as we touched on in the section on different perspectives, people will approach change, and feel loss, in different ways.

As an institution of over 260 year's standing, the RSA is well-placed to contemplate longevity and the long term, to see the wide arc of time and to advocate for a longer-term perspective. We recognise we are building on a legacy that, if projected into the future, would take us to 02285. Our ultimate hope, therefore, is that this paper in some way stimulates more people to think more deeply about the longer term. Perhaps then we might bring new approaches to the disruptive times we are currently living through, with Covid-19 upending our daily patterns of life and prefiguring challenges to come. Of which none loom larger, nor will dwarf Covid-19, more than the climate crisis. Will our descendants look back in 02285 and see that 2020 was the precursor to a positive shift in the way we come together and organise as a society? Was the adoption of a longer-term perspective, stimulated by futures and foresight methods and mindsets, at the heart of this shift?

We certainly hope so.

133 Vecchiato, R., Favato, G., di Maddaloni, F. and Do, H. (2019) Foresight, cognition, and long☐term performance: Insights from the automotive industry and opportunities for future research. Futures & Foresight Science 2:e25. doi.org/10.1002/ffo2.25 https://doi.org/10.1002/ffo2.25.
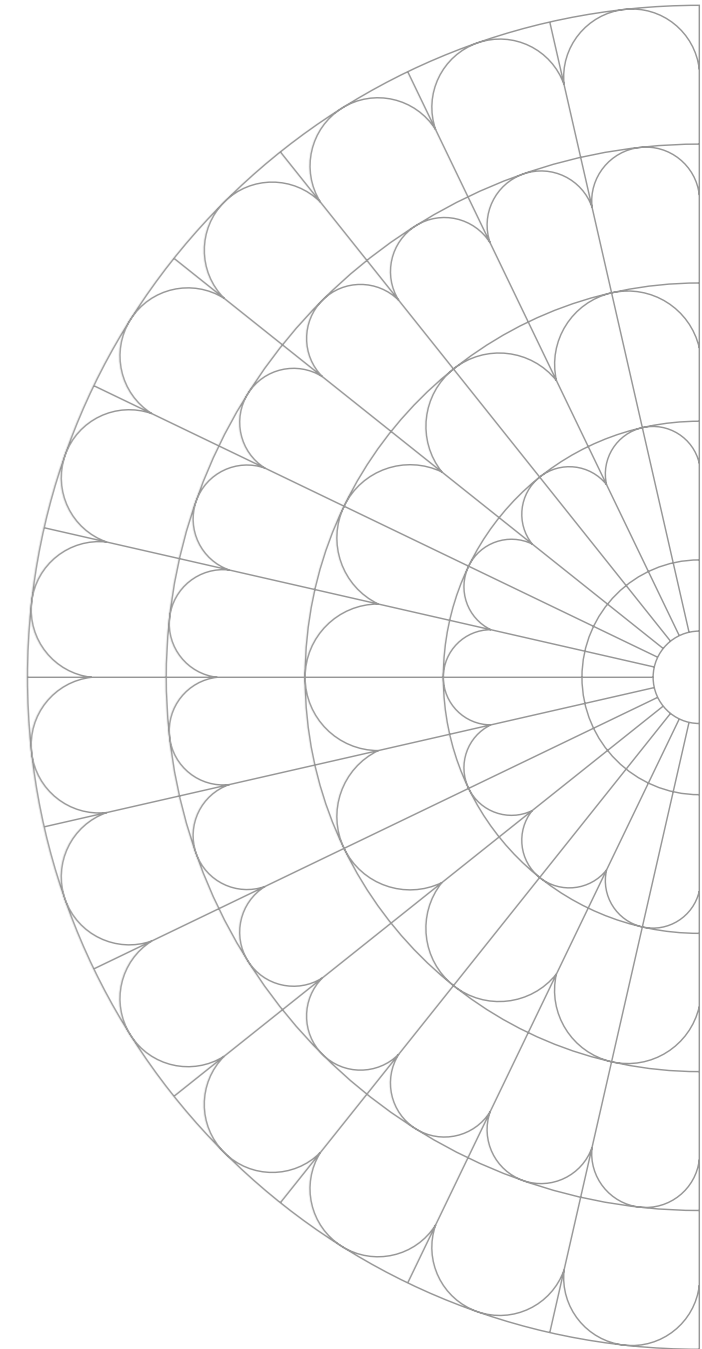
134 Dellot, B., Wallace-Stephens, F. and Mason, R. (2019) The four futures of work: coping with uncertainty in an age of radical technologies. RSA. [pdf]. Available at: www.thersa.org/reports/the-four-futures-of-work-coping-with-uncertainty-in-an-age-of-radical-technologies [Accessed 15 October 2020].

135 RSA (2020) Our approach to change. [online]. Available at: www.thersa.org/approach [Accessed 15 October 2020].

136 Baldwin, J. (1991) Nobody Knows My Name: More Notes Of A Native Son. London: Penguin.

Appendices

A. Scope of research

We are cognisant that futures and foresight is an increasingly well-established and respected field and discipline across a number of industries and sectors, not least of which government, the energy, insurance and tech sectors. By supplementing a literature review with a range of interviews covering policymakers, practitioners, RSA Fellows and others we have sought answers to a core research question, supplemented with a number of lines of enquiry:

"What benefits do foresight methods offer to support policymakers, to support practitioners and to stimulate public dialogue on key issues"?

Current practice

We sought to scope the kinds of foresight work currently informing policymakers and gauging the demand among policymakers for foresight given what we already know about the increasingly complex policymaking environment we face. How are foresight methodologies helping us to address known future trends such as an ageing population, loneliness, AI, Work 4.0 and the environmental crisis, for example?

Key research questions include:

- Where do we see good practice in this area?
- What is the state of the art in applying foresight methodologies to policymaking?
- How do foresight methodologies complement existing policymaking tools?

- What methods exist, when are they best used, and in which contexts?

Emerging practice

We will look at how foresight methodologies are developing and what opportunities new technologies (big data, AI, etc) and new social processes (crowdsourcing, new social movements, etc) present for innovation in foresight and future planning work. We will look at the industries that have always put significant resource into foresight such as the big oil companies and the banking sector and, latterly, the big internet/tech companies such as Google, Apple, Tesla, etc.

Key research questions include:

- What is innovative in foresight methodologies?
- What is the scope to develop more innovative and rigorous approaches?
- What does the future of this field look like, how is it developing?

Opportunities for change

A crucial aspect of this initial work will be to explore the opportunities for impact that are arising within the field, for example by combining insights from different fields, or by new and emerging methodologies. What, in other words, is the future direction of foresight methodologies? What are the opportunities for change that the field itself embraces and how can it seize them? We are particularly keen to assess the use of these methodologies in a systems-thinking context.

Key research questions:

- What can policymakers do to better understand the driving forces affecting the future development of their policy area?

- What other sectors/industries use foresight methodologies and what can we learn from them, eg conflict resolution, social innovation, energy sector?
- What is the potential to supplement foresight methodologies with insights/knowledge/approaches from other disciplines, eg arts, humanities?

B. Method and interviewees

This short research piece included an initial literature review to surface the key terms, applications and practice around the field and discipline of futures and foresight. We scanned examples of policy and practice and sought interviews that addressed the core ideas that started to emerge from this review.

We then undertook a number of interviews designed to gain insights from leading figures in the field and those applying futures and foresight methods in their work. We also identified a number of RSA Fellows working in this space or using foresight methods as part of their work, whether as consultants, academics or practitioners.

Our thanks and appreciation are given to all those who gave up their time to talk to us:

Dr Andrea Cooper, Connected Places Catapult

Dr Andrew Staines, Norfolk County Council

Dr David Atkinson, York St John University

Dave Snowden, Cognitive Edge

Erica Bol, European Commission

Eshanthi Ranasinghe, Omidyar Network

Fiona Lickorish, Foresight consultant

Dr Geci Karuri-Sebina, South African Node at The Millennium Project

Graham Leicester, International Futures Forum

Dr Hannah Knox, UCL

J Paul Neeley, Neeley Worldwide

Jeanette Kwek, Centre for Strategic Futures

Professor Jeff Gold, York St John University

Josef Hargrave, Arup

Julian Cox, Greater Manchester Combined Authority

Kwamou Eva Feukeu, UNESCO

Dr Laurent Bontoux, EU Policy Lab

Mikko Dufva, Sitra

Cllr Peter Marland, Milton Keynes Council

Peter Padbury, Policy Horizons Canada

Pupul Bisht, Decolonising Futures Initiative

Dr Riel Miller, UNESCO

Stephen Bennett, Policy Lab, Cabinet Office

Dr Stuart Candy, School of International Futures/Carnegie Mellon School of Design

Tanja Hichert, Stellenbosch University

Dr Wendy Schultz, Infinite Futures

Yvette Montero Salvatico, Kedge

C. How the RSA has found value in foresight

The RSA has had a long-storied relationship with futures and foresight thinking dating back to the 19th century. Since its foundation the RSA used cash prizes called premiums to tackle social and economic problems. However, by the 1840s, the Society was in trouble, as the period of the Premium ended. The Society decided to focus on bridging the widening gaps between new specialisms and hoped that the integration of different disciplines would lead to the development of new technologies.

It was not until the 20th century – specifically during the 1950s, that the Special Activities Committee in the Society sought to look at future trends. But this resulted in few outcomes.

Then in the 1960s the Society hosted a series of three conferences – 'The countryside in 1970' which sought to convene conservationists from different walks of life to come together to look ahead into the future of the British countryside. These conferences led to the emergence of environmentalism in the UK and covered topics such as toxic waste in rivers, agriculture and pollution.

Most recently, in 2018 in response to the changing nature of work brought on by technology, the RSA's Future Work Centre used scenario planning to design the Four Futures of Work. The foresight exercise in this instance resulted in four distinctive scenarios for the UK labour market in 2035 and thus enabled the research team to highlight critical challenges that may face workers and offer policy and practice interventions as potential remedies.

Earlier this year, the RSA explored how to reimagine the future of health and social care from the lessons learnt in the wake of the Covid-19 global pandemic.

D. Glossary of terms

Core terminology is defined below. More detailed information can be found in the Toolkits and guides in Appendix E.

Foresight is the capacity to think strategically about the future.

Futures studies known also as futures research is an academic discipline about alternative futures which seeks to understand the underlying structures that gives rise to future events, trends or behaviour.

Strategic foresight is an organised and systematic process to engage with uncertainty regarding the future.

 "The ability to create and sustain a variety of high quality forward views and to apply the emerging insights in organisationally useful ways; for example, to detect adverse conditions, guide policy, shape strategy; to explore new markets, products and service".[137]

Richard Slaughter

Futures literacy is a capability developed within UNESCO, that offers insights on how we approach unforeseeable challenges by using the future to innovate the present.

Weak signals are indicators of a potentially emerging issue, that may become significant in the future.

A **trend** is an emerging pattern of events that suggest change. A driver is a current or emerging trend that may have an impact on development of the policy or strategy area of interest.

A **megatrend** is a direction of development over time that is large or global in scale which will significantly affect the future.

Horizon scanning is the systematic process of looking for early

137 Slaughter, R. (1997) Op cit.

warning signs of change in the policy and strategy environment by examining potential threats, opportunities and developments.

Images of the future are what we imagine the future to be based on existing trends, assumptions or our own preferred desires.

Scenario planning is a futures methodology that uses stories which describe alternative ways the external environment might develop in the future for medium to long-term strategic planning.

Systems thinking is a holistic approach to analysis that focuses on the way that a system's constituent parts interrelate and how systems work over time and within the context of larger systems.

E. Toolkits and guides

European Political Strategy – Strategic Foresight Primer

cor.europa.eu/Documents/Migrated/Events/EPSC_strategic_foresight_primer.pdf

European Commission Competence Centre on Foresight

ec.europa.eu/knowledge4policy/foresight_en

A Field Guide for Ethnographic Experiential Futures by Stuart Candy and Kelly Kornet

futuryst.blogspot.com/2017/06/ethnographic-experiential-futures.html

Policy Horizons Canada Foresight Training Modules

horizons.gc.ca/en/resources/

Practical Foresight Guide, Chapter 3 – Methods by Dr Michael Jackson, Chairman, Shaping Tomorrow

www.shapingtomorrow.com/media-centre/pf-ch03.pdf

Save the Children Strategic Foresight toolkit

resourcecentre.savethechildren.net/node/16327/pdf/strategic_foresight_toolkit_online.pdf

Stanford University Playbook for Strategic Foresight and Innovation

app.box.com/s/i1q85p829xm1ez0xl0r9mjp2ana2ov9r

Sitra FutureMakers Tool-box

www.sitra.fi/en/projects/toolbox-for-people-shaping-the-future/

UK Government Office for Science – The Futures Toolkit

assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/674209/futures-toolkit-edition-1.pdf

UNDP Global Centre for Public Service Excellence Foresight Manual

www.undp.org/content/undp/en/home/librarypage/capacity-building/global-centre-for-public-service-excellence/ForesightManual2018.html

NESTA Futures Explainer

media.nesta.org.uk/documents/Nesta_FuturesExplainerPDF.pdf?_ga=2.4516851.1744272569.1582538685-1864039281.1579186513

Appendix F. International foresight institutions

A selection of institutions for further information:

International foresight institutions

Association Internationale Futuribles (1960)

World Future Society (1966)

World Futures Studies Federation (1973)

Association of Professional Futurists

RAND Corporation

Stanford Research Institute (SRI International)

Scanning the Horizon (hosted by the International Civil Society Centre)

Academic centres

Pontifical Gregorian University, Italy

Turku School of Economics, Finland

Corvinus University of Budapest, Hungary

University of Houston-Clear Lake, Texas

Hawaii Research Centre for Futures Studies

Long-term thinking

Long Now Foundation

Longpath Labs

Appendix G. Why we need to value the long-term

At the heart of our inquiry has emerged the idea that not only should we look to a long-term time horizon more systematically and more often, but that our best efforts to make the future salient in the present can remain fundamentally flawed, for reasons we have explored. Any future we might think about, when we stretch our thinking far enough, is not going to be inhabited by us but by our descendants. And they have no voice in the present. This is the danger of our colonialising their future.

It doesn't have to be this way, of course. Many people and cultures - especially those not from a Western cultural perspective - have always thought and acted generationally in order that they remain living in equilibrium with our planet. Others have advocated for a longer-term perspective across all aspects of society. Their voices are multiple and varied.

There is not the scope to include in the body of this report the different quotes we have come across in our research. However, we felt it was important to find a way to include them, and so we have added this appendix.

"The destiny of our species is shaped by the imperatives of survival on six distinct time scales. On a time scale of years, the unit is the individual. On a time scale of decades, the unit is the family. On the time scale of centuries, the unit is the tribe or nation. On a time scale of millennia the unit is the culture. On a timescale of tens of millennia, the unit is the species. On the time scale of eons, the unit is the whole web of life on our planet. Every human being is the product of adaptation to the demands of all six time scales. That is why conflicting loyalties are deep in our nature. In order to survive, we have needed to be loyal to ourselves, to our families, to our tribes, to our cultures, to our species, to our planet".

Freeman Dyson[138]

"Thinking long-term is psychological. It's what you learn right at the beginning. It's not just an intellectual, 'Oh gee, I'm going to be a long-term thinker. I'm going to read three books and understand how to do it.' It's something that goes deep back into your past".

Esther Dyson[139]

"The human family doesn't inhabit Earth simultaneously. People have lived here before us, some are living now and some will live after us. But those who come after us are also our fellow human beings. We must do to them as we would have wished that they would have done to us if it was they who had inhabited this planet before us. We must realise that the principle of reciprocity also has a vertical dimension: you shall do to the next generation what you wished the previous generation had done to you. It's as simple as that. You shall love your neighbour as you love yourself. This must obviously include your neighbour generation. It has to include absolutely everyone who will live on the Earth after us".

Jostein Gaarder[140]

"Not many of us in modern western culture know our ancestors very far back. We are isolated in time from both the past and the future. If we can't imagine back seven generations, how do we think ahead seven generations? We must be able imagine those seven generations ahead of us so that we can be the ancestors they need us to be".

Constance Washburn[141]

"Becoming a good ancestor is a formidable task. Our chances of doing so will be determined by the outcome of a struggle for the human mind currently taking place on a global scale between the opposing forces of short-term and long-term thinking. The great silent majority of future generations is rendered powerless and airbrushed out of our minds".

Roman Krznaric[142]

"Climate change should be of concern to all who care about intergenerational justice – which should be every one of us. If we fail to act as we should, future generations will be powerless to undo the inexorable consequences of our failure. Hence our profound moral responsibility to them. Failure to make hard choices now will rob our children and grandchildren of their rightful future".

Christiana Figueres[143]

"Samoset knew that land came from the Great Spirit, was as endless as the sky, and belonged to no man".

Dee Brown[144]

138 Dyson, F. (1992) From Eros to Gaia. New York: Pantheon. p. 241.

139 The Long Now Foundation (2020) Long-term Perspectives During a Pandemic. [online]. Available at: www.medium.com/the-long-now-foundation/long-term-perspectives-during-a-pandemic-cf99335cf897 [Accessed 15 October 2020].

140 Gaarder, J.. (2020) The Ethics of the Future. The Huffington Post. [online]. Available at: www.huffpost.com/entry/ethics-future_b_8576266 [Accessed 15 October 2020].

141 Washburn, C. (2018) Harvesting the Evolutionary Gifts of Our Ancestors. Deep Times. [online]. Available at: www.journal.workthatreconnects.org/2018/07/20/harvesting-the-evolutionary-gifts-of-our-ancestors [Accessed 15 October 2020].

142 Krznaric, R (2020) Op cit. [Kindle Edition]. loc. 120.

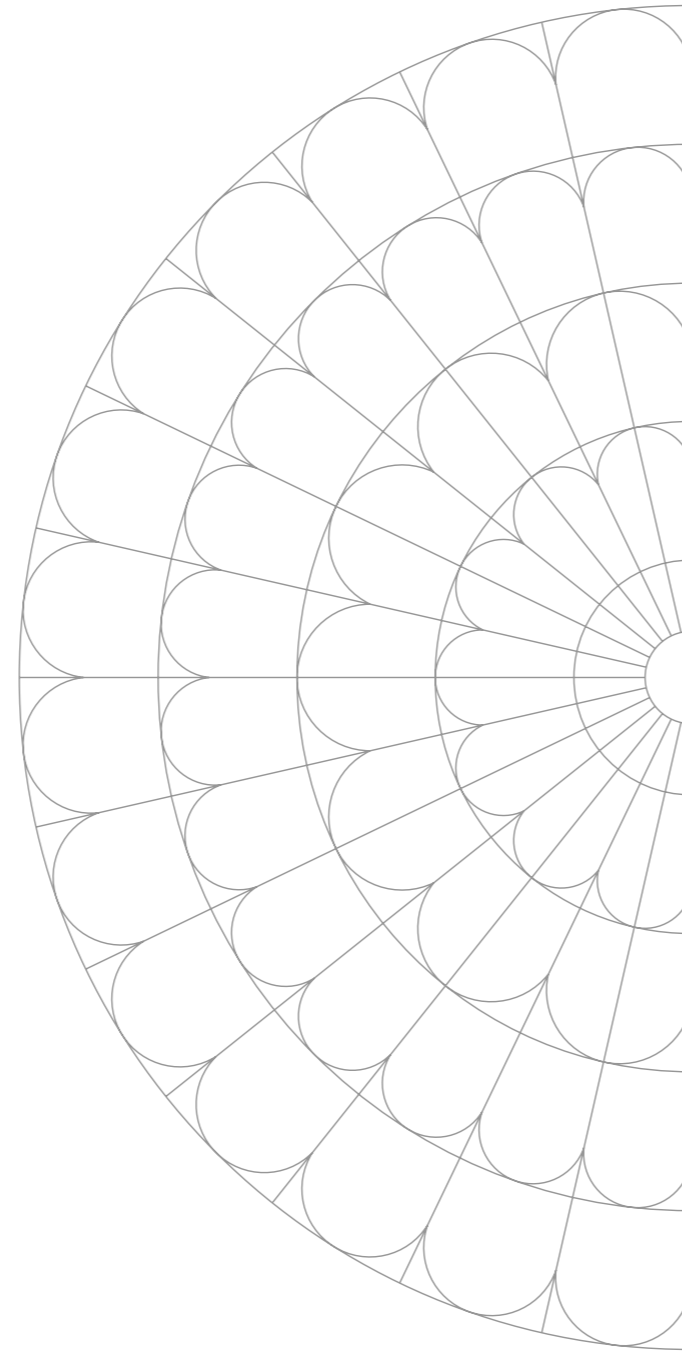143 Figueres, C. and Rivett-Carnac, T. (2020) Op cit. p. 17

144 Brown, D. (1970) Bury My Heart at Wounded Knee: An Indian History of the American West [Kindle Edition (2012)]. loc. 155.

"Our cosmic horizons are far more extensive than those of our forbears. And we've entered the anthropocene era when one species, ours, can determine the entire planet's fate. The collective 'footprint' of humans on the Earth is heavier than ever; today's decisions on environment and energy resonate centuries ahead and will determine the fate of the entire biosphere, and how future generations live".

Martin Rees[145]

"Thus moral responsibility demands that we take into consideration the welfare of those who, without being consulted, will later be affected by what we are doing now. Without our choosing it, responsibility becomes our lot due to the sheer extent of the power we exercise daily".

Hans Jonas[146]

145 Rees, M. (2018) Deep Time. [online]. Available at: www.medium.com/the-long-now-foundation/deep-time-30e03071ae8a [Accessed 15 October 2020].

146 Jonas, H. (1996) Toward an Ontological Grounding of an Ethics for the Future. In: H. Jonas (ed.) Mortality and Morality. A Search for the Good After Auschwitz. Evanston: Northwestern University Press. pp. 99-112.

We are the RSA. The royal society for arts, manufactures and commerce. We're committed to a future that works for everyone. A future where we can all participate in its creation.

The RSA has been at the forefront of significant social impact for over 250 years. Our proven change process, rigorous research, innovative ideas platforms and diverse global community of over 30,000 problem solvers, deliver solutions for lasting change.

We invite you to be part of this change. Join our community. Together, we'll unite people and ideas to resolve the challenges of our time.

Find out more at thersa.org

RSA