THE FUTURE OF DECISION MAKING

From personal choice to planetary impact

Nobel Prize Dialogue Sydney Virtual Event

Report of Proceedings

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Executive Summary

The Nobel Prize Dialogue Sydney 2023 Virtual Event on *The Future of Decision Making: From Personal Choice to Planetary Impact* was held on 16 June 2023 Australian Eastern Standard Time.[1] A diverse, multidisciplinary group of 140 thought leaders, subject experts and university students met online to explore the future of human decision making and ways to address pressing global issues more effectively.

The Nobel Prize Dialogue Sydney is a collaboration between Nobel Prize Outreach AB[2] and Sydney-based institute for active policy Global Access Partners (GAP).[3]

Nobel Prize Outreach AB extends the reach of the Nobel Prize to millions of people around the world through inspirational events, digital media and special exhibitions and activities related to the legacy of Alfred Nobel and the achievements of Nobel laureates. Its Nobel Prize Dialogues[4] are open, cross-disciplinary forums that aim to deepen the dialogue between the scientific community and the rest of society. They bring together Nobel laureates, world-leading scientists, policy makers, youth and thought leaders in a conversation about complex, grand challenges of today.

In an Australian first, the 16 June Nobel Prize Dialogue was hosted from Sydney in partnership with GAP, following GAP's innovative Second Track approach to group collaboration which focuses on positive thinking, long-term engagement, and personal interest in achieving concrete results.[5]

During the day's proceedings, Nobel laureates and senior figures from industry, government and academia offered key insights from neuroscience, debated the implications of artificial intelligence (AI) and agreed with the need for new ways to engage the public in decision making, given the long-term existential challenges of climate change and technological disruption. The discussions facilitated under the Chatham House rule of non-attribution encouraged participants to offer their own proposals to improve public debate and understanding and bolster democratic government at a time of unprecedented change.

In the opening session, the Dialogue's keynote speaker, Vice-Chancellor of The Australian National University (ANU) and Nobel Laureate **Prof Brian Schmidt AC**, called for the responsible use of new technologies and enlightened collective decision making to ease the pressure on planetary resources. In Session One, **Baroness Susan Greenfield CBE**, Founder and CEO of Neuro-Bio Limited, explained the complex neuroscience behind human thought, while Berkley Professor of Physics and Nobel Laureate **Prof Saul Perlmutter** spoke about new forms of democratic consultation and the importance of critical thinking in school curricular to enable rational inquiry and informed debate.

In Session Two, Director of ANU School of Cybernetics **Prof Genevieve Bell AO** explored the history and future of cybernetics,[6] before **Lee Hickin**, National Chief Technology Officer of Microsoft Australia, traced the difficult path that technology companies must take between innovation, commercialisation and social responsibility in deploying AI.

In the third and final session, Co-Director of the Centre for Sustainability and Energy at BI Norwegian Business School **Dr Per Espen Stoknes** enumerated the psychological and sociological reasons why existential threats are sometimes ignored. He was followed by **Dr Ian Watt AC**, Chair of the International Centre for Democratic Partnerships (ICDP) and one of Australia's most distinguished public servants, who offered his thoughts on the processes and principles that generate good decision making in government.

The most promising propositions and ideas suggested by participants will be progressed by GAP Taskforces over the following year. These included using GAP's Second Track process to develop new decision-making frameworks to deal with complexity; fostering a more rational collective approach to decision making; and leveraging technology to enable participatory democracy and public sentiment analysis on topical issues.

Other proposals included encouraging the teaching of critical thinking skills and the scientific method to more school and university students regardless of their area of study; the wider use of 'deliberative polling' in which socially representative samples of citizens interact with stakeholders and experts; and more research into the effects of social media on political polarisation and ways to combat misinformation.

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Recommendations

New frameworks for decision making: Long-term thinking for the greatest benefit to humanity

1. **Explore novel ways to include long-term thinking and intergenerational challenges in democratic decision-making processes.**

   Opportunity: Establish a GAP Taskforce to consider successful approaches to incorporating long-term thinking in democratic decision making, particularly in the Australasia context, and develop new frameworks for more inclusive, rational and long-term collective decision making to deal with pressing global issues.

Strengthening democracies for the common good

2. **Investigate how participatory democracy processes – such as deliberative polling or citizens' assemblies – can be used to navigate complex and contentious issues and how AI and other technologies can support participatory processes.**

   Opportunity: Establish a GAP Taskforce to evaluate successful models of participatory democracy processes and identify where these models might be applied in Australia and the Australasia region and how new technologies such as generative AI can support them.

Critical thinking education for all

3. **Encourage the teaching of the principles of scientific thinking to all school students, regardless of their area of study, to encourage rational inquiry and enable informative debate.**

   Opportunity: Establish an Australian pilot of the Nobel Prize Outreach's high school programme *Scientific Thinking for All: A Toolkit*.

Video recordings of the Virtual Event are available on Global Access Partners' YouTube channel

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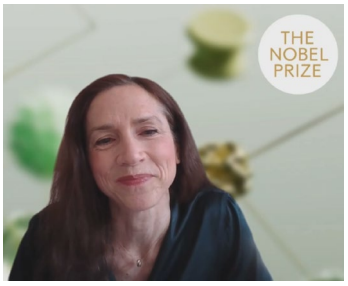
Welcome and Setting the Scene

Introduction



Laura Sprechmann, CEO of Nobel Prize Outreach AB

Laura Sprechmann, CEO of Nobel Prize Outreach AB, welcomed participants to the Nobel Prize Dialogue Sydney Virtual Event. She acknowledged the heroism of 2021 Nobel Peace Prize Laureate Maria Ressa[7] in supporting independent journalism in the Philippines. Ms Sprechmann stressed the need for strong and resilient democracies to resist the risks posed by misinformation and to make evidence-based decisions to confront existential problems such as climate change.

A recent Nobel Prize Summit in Washington DC on *Trust, Truth and Hope*[8] also discussed the threat of disinformation spread through social media and generative AI to democratic societies and human progress. The Sydney event will expand that discussion and in turn inform a Nobel Prize Dialogue in Brussels in 2024 on the role of science in decision making in democracies.

Ms Sprechmann thanked the event's organisers, Nobel international partners and sponsors, and expressed confidence that the forum would collect ideas, identify key challenges and explore solutions to be developed over the following twelve months by GAP, event participants and allied organisations.

Welcome and Acknowledgment of Country


Catherine Fritz-Kalish, Co-Founder and Managing Director of GAP

Catherine Fritz-Kalish, Co-Founder and Managing Director of GAP and Director of the ICDP,[9] welcomed participants from 16 countries and offered an acknowledgement of country.

As the choices we make determine our fate, Ms Fritz-Kalish hoped that wiser and more effective decisions would result from new combinations of data-driven insights, the transformative power of technology and the collective intelligence of diverse human perspectives in the future. Pledging the creation of GAP Taskforces to develop the ideas generated by this event, she invited participants to contribute to these efforts, in partnership with academic institutions and industry groups.

Keynote Address - 'The Need for Rationality of the Human Collective'

Prof Brian Schmidt AC, Vice-Chancellor and President of ANU and a 2011 Nobel Laureate in Physics, explained the scientific principle of exponential growth in terms of solar reactions, the COVID-19 pandemic and economic inflation. It took humankind around 200,000 years to reach the first billion, but only 200 more years to reach seven billion. The rapid rise in global population, from a billion people in 1804, to 2 billion in 1930, 4 billion in 1974 and 8 billion today[10], has depleted the Earth's water and energy resources, creating the ecological and economic crisis we face today.

Prof Brian Schmidt AC, Vice-Chancellor and President of ANU

A further doubling of the population will not be sustainable in the future, and though human fertility tends to decline as education and income increase, disparities in wealth and demographics, over-consumption of resources, pollution, climate change and environmental degradation still threaten to fuel famine, conflict and mass migration. Ageing populations in developed nations may also erode living standards as fewer workers are called upon to support more older people, prompting social resentment and political instability.

Prof Schmidt acknowledged that the last 75 years have been the most peaceful in recorded history, and that science and ingenuity have driven exponential growth in knowledge and technology. Computing power has continued to double every two years, in accordance with Moore's Law,[11] increasing by 10 million times since 1970, while the amount of solar energy obtained per dollar of infrastructure investment has doubled every five years since 1975. DNA can now be sequenced at a billionth of the cost incurred in 2000, and biotechnology could help deliver enough energy and food to support a predicted population of 10 billion by 2050.

"While the universe can continue to expand indefinitely, humanity's resources are constrained, and conscious decisions are now required to continue to live within its limitations."

However, just as nuclear technology can be used to generate energy or cause immense destruction, so new developments in artificial intelligence can be used for both the benefit and detriment of humanity. Drones controlled by AI could dominate future battlefields, while generative AI could be used to flood democratic societies with massive amounts of disinformation or help terrorists produce lethal biological pathogens.

A series of recent events, from the COVID-19 pandemic to Russia's invasion of Ukraine, have highlighted the vulnerabilities of a prosperous, globally connected world to economic and social disruption. Future climate, environmental and technological shocks combined with major population trends and increasing geopolitical competition also threaten to destabilise the international order.

Prof Schmidt called for the need to improve collective decision making and use technology to improve life, rather than destroy it. Decision makers must focus on the long-term common good of humanity, rather than short-term political and national advantage, and accelerating developments in technology to ease the transition to a low-carbon economy which can still produce the food, energy and services to meet the world's growing population needs.

While the world's population may eventually stabilise and even begin to decline as living standards rise, the narrow path to sustainable prosperity depends on the responsible use of new technology and enlightened collective decision making. Humanity must choose between transforming itself or destroying itself, and nations must work together, rather than go to war, in the face of impending disaster. While the universe can continue to expand indefinitely, humanity's resources are constrained, and conscious decisions are now required to continue to live within its limitations.

Image: The welcome page of the Nobel Prize Dialogue Sydney 2023 Virtual Event

Session One – Decision Making in Uncertain Times

Session Chair **Taulapapa Brenda Heather-Latu**, Partner at Latu Lawyers and a former Attorney-General of Samoa, introduced the Session by noting the increasing geopolitical, environmental and social challenges facing Pacific Island Nations.

Taulapapa Brenda Heather-Latu, Partner at Latu Lawyers

She then introduced the Session's first Thought Leader, **Prof Baroness Susan Greenfield CBE**, Founder and Chief Executive Officer of Neuro-Bio Limited.

'The Neuroscience of Decision Making'

Prof Baroness Susan Greenfield CBE, Founder and CEO of Neuro-Bio Ltd

Prof Greenfield told participants the human brain does not generate decisions through binary operations like a conventional computer. Although she conceded that AI algorithms could soon outstrip human capacities and even attain 'artificial general intelligence',[12] today's AI-powered chatbots still fail the 'Turing Test'[13] of convincing correspondents they are human.

Prof Greenfield therefore saw the immediate threat of AI to be its unscrupulous use by human actors intent on criminal gain or political subversion, rather than achieving consciousness and agency itself.

Human decision making is also influenced by the body's endocrine, immune and central nervous systems, as well as our social environment. Termed 'somatic markers' by neuroscientist Antonio Damasio,[14] neurochemicals are unconsciously released in response to stress or emotions and help shape our thoughts and memories in ways computers cannot replicate.

Rather than viewing the human brain as a fallible, sub-standard computer, Prof Greenfield stressed our unique capacity for experience as the root of real understanding. Effective problem solving requires a combination of fluid intelligence – the ability to learn, assess and navigate new situations – and the crystallised intelligence of accumulated knowledge that can be recalled as required. People build an increasingly rich frame of reference throughout their life and continue to learn thanks to the plasticity of the human brain, although degenerative neural conditions like Alzheimer's disease can eventually erode the brain's capacity to make new associations.

Prof Greenfield argued that artificial intelligence will not develop independent and potentially malign agency because it is not shaped by the chemical agents which generate human emotions and motivate choice. While a particularly large pre-frontal cortex is the signature characteristic of the human brain and dominates decision making in adults, somatic markers retain a crucial influence in our subconscious decision making. Immature brains are even more influenced by dopamine[15] and strong external stimulation.

Prof Greenfield therefore encouraged participants to consider the nature of decision making in different contexts – from the instinctive 'freeze, flight or fight' binary reaction when sensing a predator to a more open-ended planning of one's life course – and to differentiate between human and machine decision making in terms of their essential nature as well as their calculative capacity.

"Effective problem solving requires a combination of fluid intelligence – the ability to learn, assess and navigate new situations – and the crystallised intelligence of accumulated knowledge that can be recalled as required."

'Calming Our Existential Fears by Building a Strong Societal Deliberative Capacity'

Following an introduction by Taulapapa Heather-Latu, **Prof Saul Perlmutter**, Professor of Physics at the University of California Berkeley, Senior Scientist at the Lawrence Berkeley National Lab and a 2011 Nobel Laureate in Physics, offered three ways to help societies deliberate and effectively solve problems together.

Prof Saul Perlmutter, Professor of Physics at the University of California Berkeley

He first advocated for developing an approach for teaching the principles of scientific thinking to all school students, regardless of their area of study, to encourage them to recognise "how we fool ourselves, why we need tough critics, and how to preserve rationality in decisions that also require values, fears and goals. If we are going to be more capable of societal deliberation and decision making in the next twenty years than we are today, then we need to educate a generation in the vocabulary of ideas and approaches to thinking through problems that scientists have been deploying for millennia."

Prof Perlmutter's education team together with Nobel Prize Outreach AB are now developing flexible teaching modules in this style of scientific thinking in the US and UK and with the International Baccalaureate school system – and will be working with the OECD[16] education team and the PISA testing team to reach high schoolers worldwide. Prof Perlmutter encouraged the adoption of such a scientific thinking curriculum in the Australian education system.

He then noted the extensive and creative research undertaken to understand how citizens can effectively deliberate together, and introduced one of the more interesting models, called 'deliberative polling'.[17] It starts with a statistically representative sample of citizens—not a self-selected group—who interact with a panel of experts that represent a full gamut of well-grounded, scientifically based views. The citizens form small groups for moderated deliberations that are punctuated by opportunities for the groups to engage the experts with their questions, rather than passively receive information from them.

The interesting aspect of this work is that the deliberations lead to people changing their minds, not based on who was the best speaker, but based on what facts people learned. The process encourages them to confront policy trade-offs to reach a considered judgment, rather than strongly advocating for a preconceived position. Prof Perlmutter suggested that science-focused governmental agencies and national academies of science run such programmes on a regular basis to assess public opinion and overcome the political polarisation of recent times.

Australia has used deliberative polling to examine controversial issues such as Indigenous Reconciliation, constitutional change and immigration in the past. Prof Perlmutter suggested that the Australian Academy of Science lead a pilot study using deliberative polling as a standard practice, attending any report concerning policies that require scientific expertise for facts and an alignment with the public's values. Ideally, this work could be nested within pilots of the InterAcademy Partnership, so other academies can benefit from the test of the idea—and so international policy topics can eventually be addressed.

"If we are going to be more capable of societal deliberation and decision making in the next twenty years than we are today, then we need to educate a generation in the vocabulary of ideas and approaches to thinking through problems that scientists have been deploying for millennia."

Finally, he called attention to the risk that our broken mode of social deliberation poses to the functioning of democracies. The current media landscape, with internet, cable news and social media, appears to be particularly damaging to our societal ability to think together, and take productive advantage of our differences. During the upcoming months, an unusual opportunity has presented itself to work on this problem: the European Commission's Digital Services Act (DSA) requires annual audits of the larger digital platforms that ask them to assess and mitigate "risks concern[ing] the actual or foreseeable negative effects on democratic processes, civic discourse and electoral processes...."

To perform these audits, the Europeans will need some way to *measure* the risks to democracy. "We can develop measures of the health of the public discourse that could make a big difference. For example, we can measure the degree of isolation of polarised groups on the web, the rates of hate speech and negative language, and the extent of understanding of opposing viewpoints.

If we can set our high-level goals in this way, we can take advantage of the amazing creativity and feedback-learning capacities of the online platforms so that *they* are motivated to invent novel routes for achieving healthy public discourse. *We* don't have to come up with these novel techniques; in a rapidly changing information ecosystem, the large platforms are already exceptionally good at this."

Prof Perlmutter underscored that it will be much more likely for such measures to be adopted as part of the DSA audits if several of them can be demonstrated during this coming year –before the first audits are planned. This marks a great opportunity and challenge for social scientists, non-profits and, ideally, the platforms themselves to take on and reshape the media landscape as a place to bring people together, rather than drive them apart.

Prof Perlmutter offered three concrete suggestions on projects that GAP could explore following the Dialogue:

1. Encourage the teaching of the principles of scientific thinking to all school students;
2. Promote a wider adoption of deliberative polling; and
3. Develop and use robust metrics on the impact of social media on civil discourse and democratic processes.

Session Chair **Taulapapa Brenda Heather-Latu** thanked Prof Perlmutter and noted the similarity of village governance and collective consultation and decision making in the Pacific to these approaches, before thanking the speakers and bringing the first Thought Leader Panel to a close.

Discussion

Participants then discussed these topics in a session facilitated by **Stephen Hayes MBE**, Chairman of Gravity Group. Mr Hayes encouraged participants to assess the tension between individual free will and collective 'group think' in society's decision making and offer practical solutions to implement through GAP's Second Track process.

Stephen Hayes MBE, Chairman of Gravity Group

The first speaker, a PhD student, agreed with the need to promote scientific thinking in public discourse and equip people with the necessary cognitive skills to detect sources of misinformation and bias. She also acknowledged the persistent influence of humanity's animal ancestry on the more abstract and complex reasoning demanded today, and the importance of environmental factors on people's internal processes.

In response, it was noted that young people today are 'digital natives' who have lived large parts of their lives online but may lack the broader life experience of earlier generations. Social media trains young brains to have short attention spans, share every thought and abandon traditional notions of privacy, which may give

them different attitudes to decision making when they age into positions of responsibility and power. The incessant stimulation of video games, for example, makes them more attractive than real life to some young people, and such overstimulation of impressionable brains may be shaping an impulsive, insecure, marginally aggressive and solipsistic generation.

"The discussion is on decision making and feelings vs thinking. What does it do to decision making in an environment where the dominating narrative is general hopelessness, fear or pessimism? I think we can fix the problems we face, we have agency and we can be optimistic about the future."

The next two speakers noted that Finnish schools educate children about the hazards of modern media from an early age and offer strategies to mitigate them. Raising awareness of the problem does not solve it, but education can at least help sensitise people to these dangers. Scaling any solution across the world's 8 billion people will be difficult, and communities tend to be slow to react to change, but the options and time left to achieve success may be narrowing.

The next speaker stressed the primacy of human values in shaping decision making over and above a utilitarian, technocratic or scientific perspective. Our most important decisions are moral, rather than technical in nature and are also open to contestation, as every option will balance risk and reward and different interest groups, rather than offering black and white options. A decision to embrace autonomous cars, for example, would not eradicate road traffic accidents or fatalities, and though it might reduce them, their use would still be criticised when mishaps inevitably occurred.

Science and objective facts will never be the only factors which drive decision making, but objective evidence must be weaved into the deliberative process alongside people's goals, fears and values to ensure decisions are not entirely shaped by preconceptions and self-interest. Mechanisms such as deliberative polling have proven their effectiveness and should therefore be adopted in more systematic ways.

A barrister stressed the need for a more informed public if they are to be more involved in high-level decision making, beyond electing political representatives to make these decisions for them. She noted the difficulty of integrating more diverse cultural viewpoints and linguistic communities into collective consultations but agreed with its importance.

Democracies afford the vote of every citizen equal value, but people in low-lying, coastal communities will tend to be more affected by climate change than others, for example, suggesting their views on climate change might be given more weight. Many countries already hold referendums on

constitutional and other issues, albeit with different criteria for success,[18] but voters must have access to reliable information to make a proper decision, rather than be swayed by 'fake' facts and misinformation.

"Regarding the future of democracy since it's the thematic here, it's worth thinking about this in the context of the design of early electronic voting, e.g., maybe a cooling off period, as there is with other major consumer decisions....?"

Another participant discussed 'timeframes of discernment' in terms of the pressure to make quick decisions in today's accelerated culture and the need to encourage longer-term perspectives. Human perception of time is shaped by circumstance and the environment, with time appearing to pass more slowly in large natural environments than hectic cities, and people need opportunities for space and time to process information into knowledge.

Simple solutions to complex questions are easy to formulate but seldom prove effective, and so decision makers must be afforded time to digest information and ponder all options. While rapid change and multi-tasking are in vogue, concentrating on a single task in a linear fashion may be more productive in the end. Rediscovering the pleasure of taking one's time to garden, cook or read a book with a beginning, middle and end could help retrain our brains away from the shallow, frenetic world of social media.

> Education should teach people how to think for themselves in a resilient and confident manner, rather than furnish them with a set of facts, but cultural pressure to become absorbed in the latest trends is multiplied through social media. Many decisions are emotional rather than rational in nature, and fashion and social acceptability tend to have more influence than objective rationality. People still smoke despite decades of health warnings, for example, and so improvements in decision making must account for the fact that human decision making is more influenced by social and psychological factors than empirical statistics.

A writer and artist stressed the need to consider the entire biosphere when planning for the future, rather than focusing entirely on human needs, given the current ecological crisis.

"First Nations people of Australia could teach us much about decision making based on collective good rather than individual wants."

It was also noted that Europe has several citizens' assemblies which empower deliberative democracy, and such bodies help educate the public and encourage engagement as well as inform political decision makers.[19] Citizens' assemblies emphasise the importance of diversity in decision making by randomly selecting participants to represent the whole of society, in contrast to the narrow class of people commonly afforded expert status or political power, which enriches the discussion. These bodies not only generate greater consensus among their participants but also contemplate more radical solutions beyond the reach of traditional approaches.

A broader definition of intelligence was advocated to encompass activity in the natural world and machines and expands people's conception of intelligence beyond the human brain. If everything is intelligent in its own way, then embracing a multiplicity of approaches within humans, communities and the natural world – rather than searching for a single optimum approach – could be the most effective way to tackle the many problems which confront humanity and the entire biosphere.

The following speaker suggested a quest for common rules of consultation and engagement across diverse nations, interests and communities, as many of the most pressing problems are not constrained by geopolitical borders or cultural differences. The ultimate goal of decision making – be it the collective good of humanity or a genuine search for truth – must transcend national agendas and personal self-interest, and so will require a more collective, less individualistic attitude in keeping with Pacific, rather than Western, traditions. Science and morality have been suggested as necessary guardrails in decision making, but other systems of knowledge such as religion are also instrumental in shaping human perceptions, thoughts and priorities.

Other participants also advocated the inclusion of traditional and Indigenous knowledge into decision making on issues such as land management and climate change, while one of the speakers highlighted the role that independent 'knowledge brokers' can play in breaking down entrenched vested interests in highly contested issues such as water management.

The facilitators revealed the results of a participant poll in which 85% of respondents expressed great concern at the current state of democracy, before the Session's Thought Leaders were invited to offer their concluding thoughts on these issues.

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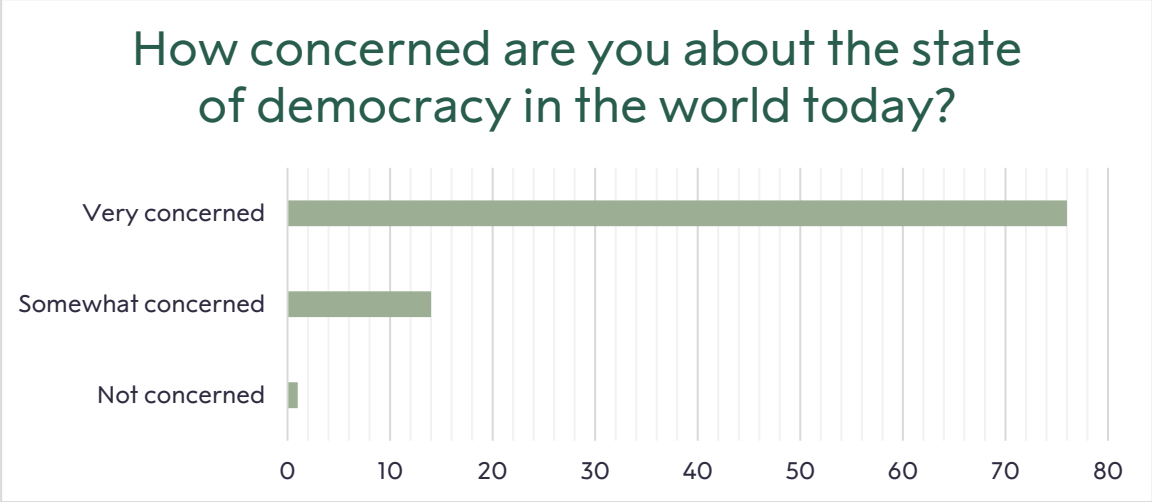

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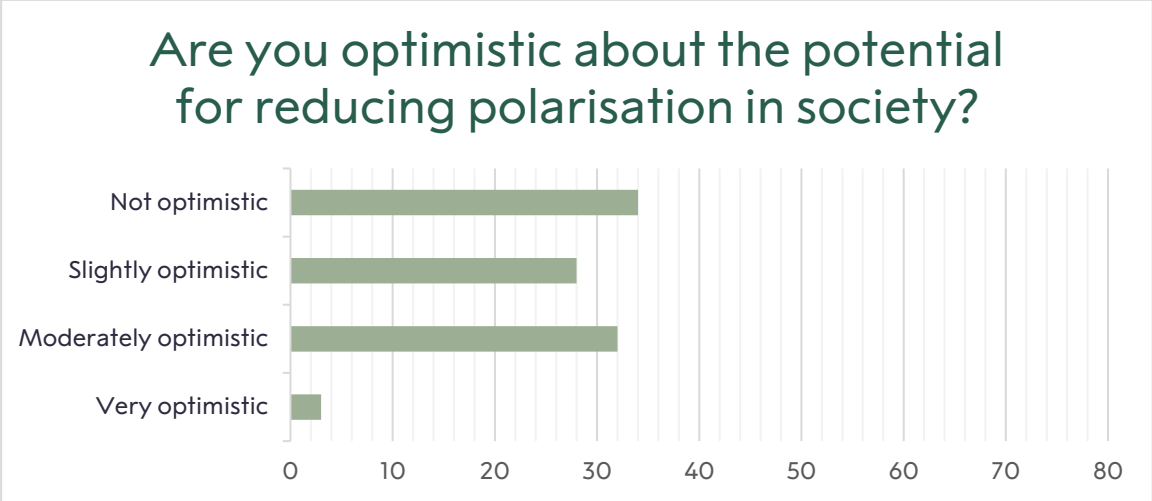


Thought Leaders thanked participants for suggesting additional ways to include a wider range of people in collective decision making, although the difficulty of encouraging authoritarian states to embrace greater democracy was accepted, given their rejection of the concept itself. The need to agree on a common definition of intelligence was also welcomed, given the radically different conceptions of term expressed in the discussion, and the rapid development of AI techniques which could eventually surpass and overwhelm human intelligence itself.

One speaker remained convinced that consciousness will remain a unique feature of biological brains, although degrees of consciousness vary between species and even human individuals over the course of their lives. The vexed question of free will was raised as a topic for further debate, along with the desired shape of the society which better decision making should enable. While people may share similar fears, for example, their vision of an ideal society will vary greatly.

It was agreed that some degree of consensus on beneficial social goals was a necessary precursor of success, but despite the challenges facing humanity, speakers were optimistic as our current generation remains the first with the ability to choose a better future for everyone on Earth. Decision making is not a zero-sum game, and the technology which allows people from around the world to discuss issues across cultural, political and language barriers should be seen as an exciting opportunity, rather than a threat. Science paints the most accurate picture of the world we inhabit, but all world views have a role to play in deciding our best course within it.

In the Zoom chat accompanying the Session, other participants suggested it is rational for most individuals to seek dopamine-maximising experiences for themselves when they are excluded from rational decision making on a collective scale. However, they also warned against delegating the most important decisions in our lives to machines which may not understand or share our interests. While some pointed to the success of citizens' assemblies in France and Ireland, others noted the success of technocratic approaches in the Nordic and European countries, in which expert committees are trusted to make long-term decisions on behalf of the public good.

Session Two – Democracy in the Digital Age

Prof Attila Brungs, Vice-Chancellor and President of UNSW Sydney, introduced Session Two on *'Democracy in the Digital Age'* by calling into question the ability of current democratic models to involve citizens in decision making and tackle the complex challenges facing the world today.

Prof Attila Brings, Vice-Chancellor and President of UNSW Sydney

Technological innovations such as the internet, Wikipedia and social media have given more people more access to information than ever before, but citizens lack frameworks to judge the veracity of the content they consume, leaving them vulnerable to misinformation and disinformation.[20] The public release of generative AI tools such as ChatGPT threatens to exacerbate this problem, although AI could also be used to filter out false material, and so critical thinking skills will become more important than ever to sift signal from noise. Digital connectivity offers new tools and opportunities for people to engage in democracy, but a well-informed populace is crucial for democracy to work.

Prof Brungs then introduced the Session's first Thought Leader **Lee Hickin**, National CTO ANZ of Microsoft Australia.

'Please Regulate Me! Balancing Shareholder Value with Regulation and Trust'

Mr Hickin stressed the exciting potential of AI to create a brighter, more inclusive future and spur economic growth, but accepted the need for corporate responsibility in its deployment and a degree of regulation for the public good.

Lee Hickin, National CTO ANZ of Microsoft Australia

Along with other major technology companies, Microsoft must balance its corporate responsibility to maximise revenue for shareholders with its civic duty to curb the potential harm which misuse of innovative technologies may cause.

Microsoft was a ground-breaking company in its early years, but its dominance of the desktop operating system market in the 1990s led to accusations of anti-competitive behaviour, and other companies replaced it on the forefront of technological innovation. Satya Nadella set a new course as CEO in 2014, encouraging his fellow executives to read a book on *Nonviolent Communication* by Marshall Rosenberg[21] as he sought to reform the company's internal culture.

Microsoft now sees its mission as *"empowering every person and every organisation on the planet to achieve more",* and Mr Hickin stressed the importance of Nadella's strong leadership in achieving this goal. Brad Smith, Microsoft's President and Chief Legal Officer, has also promoted the importance of good governance alongside innovation and technology, while Nadella emphasises the importance of the values held by the innovators driving technological innovation and implementation.

Microsoft developed a 55-page ethical framework for social responsibility in 2016 around principles of transparency, accountability, safety, reliability, security and inclusion,[22] while Smith's book *The Future Computed*: *Artificial Intelligence and its role in society,*[23] published in 2018, foreshadowed many of the technological advances and resulting ethical dilemmas being realised today.

Smith also co-authored *Tools and Weapons: The Promise and the Peril of the Digital Age*[24] in 2019 which offered ways to balance the enormous promise and existential risks of ubiquitous digitisation and relentless technological acceleration. Smith argued that companies which deploy technology that change the world have a corresponding responsibility to that world beyond pursuing profit and disruption as their own justifications, and that governmental regulation will have to catch up with the pace of innovation to preserve the public good.

Microsoft's multibillion-dollar investment in OpenAI might be wasted if the public loses trust in AI and rejects its integration into every aspect of life. Microsoft must therefore convince consumers of its sincerity through action rather than words, and accept the need for transparency, accountability and strong governance to oversee its activities.

In common with other Thought Leaders at the Dialogue, Mr Hickin saw humanity's misuse of generative AI as a greater threat than misaligned or malignant artificial general intelligence in the future. He backed mechanisms to control access to the technology, although AI is set to enter and change every aspect of society, not least through its integration into Microsoft's own products.

Session Chair Prof Attila Brungs then introduced **Distinguished Professor Genevieve Bell AO** to explore the importance of systems thinking in technology, democracy and decision making.

"Customers are no longer buying technology – customers are buying a partnership: a partnership that is grounded in both solving the problem and reducing the risk of harm."

‘Cybernetics and Future Decision Making’

Prof Genevieve Bell AO, Director of the ANU School of Cybernetics, recalled the first wave of publicity and enthusiasm for computing in the late 1940s after the cataclysm of the Second World War had accelerated technological progress. Many articles were written at the time about the future role and social impact of computing, with pioneers such as Norbert Wiener and John von Neumann discussing these issues with other leading figures in the hope of ensuring this new wave of technology would herald peaceful progress rather than fuel an even greater global conflagration.

Distinguished Prof Genevieve Bell AO, Director of the ANU School of Cybernetics

The term ‘cybernetics’ was coined by American mathematician and philosopher Norbert Wiener in the title of his 1948 book on the study of control and communication in machines and animals. [25] The academic study of cybernetics now encompasses a much wider range of circular causal processes in ecological, technological, biological, cognitive and social systems and offers vital insights into the complex dynamic systems underpinning modern technological society, as well as the study of robotic control.

The definition and formal investigation of ‘artificial intelligence’ was begun by a small group of scientists at the Dartmouth Summer Research Project on Artificial Intelligence in 1956,[26] when the creation of machines which could simulate human cognition was thought to be a comparatively simple problem. In contrast to cybernetics, in which people, technology and the environment mutually interact in a state of constant feedback, the concept of AI excludes humans and the environment from the equation and has made enormous strides in recent years, with even greater developments promised for the future.[27]

“One of our roles is to tell stories about the future that are hopeful stories, stories that let us find our agency, stories that are about a future that is more fair, more sustainable and more just.”

The transformative role of technology in humanity's future is therefore being debated once again in terms of AI's potential effects on the economic, democratic and social systems people are used to. Prof Bell outlined her work over the last seven years to establish a new branch of engineering to manage AI systems and bring them safely, responsibly and sustainably to scale, and build the new capacity and vocabulary required to discuss these innovations. She argued that seeing systems, rather than just components, was a powerful way to engage with the world and that, importantly, cybernetics gave us a way to think about systems that focused on people, technology and culture, as well as the relationships and dynamics between them.

Prof Bell encouraged participants to consider the wider aspects of people's relationship with technology, but to also offer hope instead of despair and emphasise continued human agency in shaping a fairer, more sustainable future for all.

Discussion

The subsequent discussion was facilitated by **Prof Natalie Stoianoff**, Director of the Intellectual Property Program at the University of Technology Sydney and President of the Asian Pacific Copyright Association.

Prof Natalie Stoianoff, Director of the Intellectual Property Program at UTS

The opening speaker noted the difficulty of applying scientific modes of thinking to human history and behaviour and suggested a return to philosophical modes of thinking such as stoicism as the best way to moderate destructive human passions. She favoured viewing contemporary issues through an ethical, rather than a system, lens.

Other participants agreed that high school and university students should be encouraged to think critically about these issues with tools drawn from history, culture, philosophy and politics as well as science and systems theory.

While people live in a range of social systems, we do not think systematically within our own brains. AI might therefore assume a valuable role in maintaining the every-day systems we depend upon, freeing humans for more valuable activities. However, the gradual surrendering of ever-more human tasks to machines would eventually erode human agency if this trend were to go unacknowledged and unchecked.

A university professor questioned the value of high-minded corporate statements of principles regarding AI, as technology companies have rushed to deploy them in practice with little regard for public safety or social impact. The regulation of AI will depend on its definition, but its rapid development will tend to leave any fixed definition or legislation regarding its capabilities irrelevant. Furthermore, people might have a different interpretation of 'risk' and 'responsibility' to suit their own interest.

"I see science/social science - as tool to help understand and predict - but morality, values, etc. need to be boundary conditions or priors."

It was noted that making something illegal does not prevent it happening, but merely allows the imposition of legal penalties if infringements of laws are deemed to have occurred. Mistakes with the deployment of powerful technologies such as AI could wreak havoc at an unprecedented scale, and even if Australia imposes workable regulation, AI deployed in other countries could still engulf it.

Validating the claims of technology companies that they are deploying AI in responsible ways will depend on their transparency, but this may be limited, given their obvious economic incentive to maximise deployment while protecting intellectual property to gain a competitive advantage and boost return on their investment. However, despite these doubts, large technology companies are willing to discuss these issues with law makers, academics and other experts and stakeholders, and are committed to maximising democratic participation to ensure they are part of the solution, rather than the problem.

While early foundational research in AI and related technologies was undertaken by universities and national governments in the 1970s and 1980s, large corporations now undertake[28] or fund[29] this research with large investments. National governments and international organisations such as the EU are looking to create frameworks to regulate its use and protect the public interest, but the exponential growth of AI capacity, the transformational potential of its social impact, and the transnational nature of the technology and the firms which control it make such regulation difficult to implement, even in terms of its power use and ecological footprint.

One participant lamented the failure of traditional corporate, political and scientific decision making to respond with enough urgency to the climate emergency and hoped that AI would spur the radical collective action required within a limited time. Others warned against fatalism in dealing with AI and reminded participants that humanity could still retain control of the technology if it chose to exercise it. AI should not be seen as an existential threat, as its potential power to become a master rather than a servant is not yet a *fait accompli*.

The human tendency to prioritise speed of decision making over good judgement, as well as short-term parochial interests over the long-term common good, was criticised by several speakers. If AI could shoulder the burden of everyday decision making, then political leaders would have more time to consider more important, long-term issues. Technology can also enable new forms of participatory democracy and distributed, rather than centralised, decision making to respond to crisis. The pandemic revealed serious short comings in society's ability to respond to an emergency, but also the ability of people to unite and work together in times of need.

"Any regulatory responses need to focus on the behavioural aspects of the uses of technology, not on seeking to regulate any specific technology."

Other speakers stressed the need to train AI on a broad set of data from all communities and ensure it was available to all citizens, areas and levels of society. Large language models (LLMs) are fed by vast datasets which inevitably reflect human and historical biases, and so may replicate these distortions in their results, although their aim is to understand how data is assembled rather than comprehend its meaning. Accepting the possibility of such bias is the best way to manage it, if it cannot be eradicated. As LLMs are trained on digital databases, they will also over-represent modern data from developed countries, rather than pre-digital or non-Western material, which in part explains their remarkable unreliability at times.

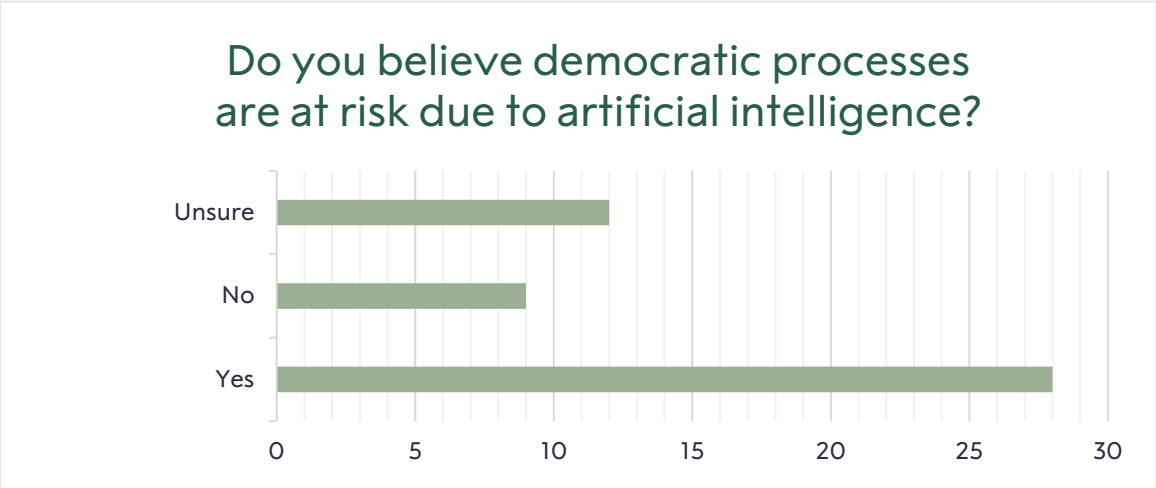
One participant recommended recent presentations by the Israeli historian Yuval Noah Harari[30] explaining how AI might 'hack' human civilisation and begin to shape our future in its own image. Real-time polling of participants (*see next page*) suggested they shared similar fears, with 57% of respondents perceiving AI to be a risk to democratic processes. However, 45% believed the public has already accepted AI playing a role in informing decision making, with 37% saying this would be accepted in 3 years and just 6% maintaining it would always be rejected.

Other commentators highlighted the inability of national constraints placed on AI to affect its use abroad. They also spoke about the dichotomy between their personal belief in democracy and their lack of faith in the public to understand complex issues, reject misinformation and make informed decisions. Several people stressed the need to pursue social and economic equality as well as political participation, and deal with bigger issues such as COVID-19 as well as the theoretical threat posed by AI.

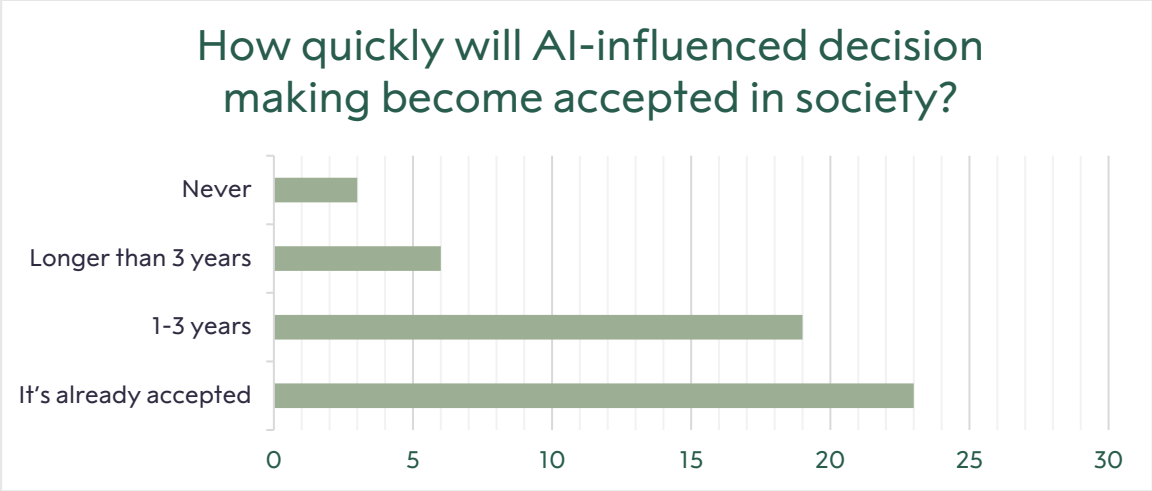
"Collective decision-making won't affect anything politicians do. It starts with them. They control legislation and policy. Where we can make a difference is the choices we make in our voting".

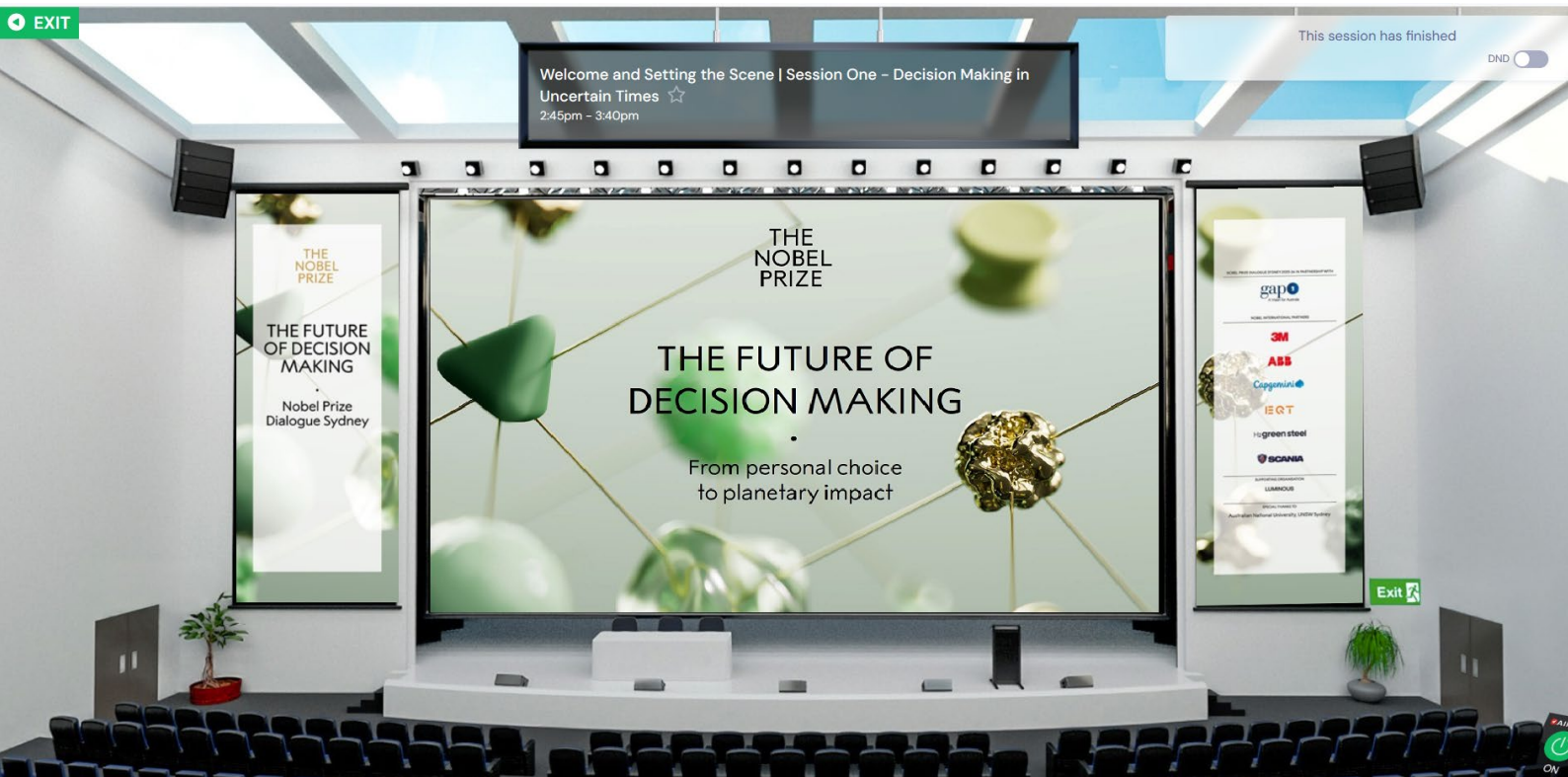
The session closed with a quote from Michelle Bachelet, the former UN High Commissioner of Human Rights, championing the importance of people's rights to participate in democratic discussions, express their views both in person and online, and enjoy an unfettered flow of information.

n = 49


Do you believe democratic processes are at risk due to artificial intelligence?
Unsure
No
Yes
0
5
10
15
20
25
30

n = 51


How quickly will AI-influenced decision making become accepted in society?
Never
Longer than 3 years
1-3 years
It's already accepted
0
5
10
15
20
25
30


EXIT
This session has finished
DND
Welcome and Setting the Scene | Session One – Decision Making in Uncertain Times
2:45pm – 3:40pm
THE NOBEL PRIZE
THE FUTURE OF DECISION MAKING
Nobel Prize Dialogue Sydney
THE NOBEL PRIZE
THE FUTURE OF DECISION MAKING
From personal choice to planetary impact
Exit

Session Three – The Future of Decision Making

The final Session was led by **Lars Grönstedt**, Chairman of VNV Global, VEF and Gamla SEB TryggLiv. Mr Grönstedt contrasted the interconnected nature of modern society with the ability of Viking dissenters to disengage from the direct democracy of their clan by walking away if they disagreed with their communally elected leaders' decisions. There is no option to leave our globalised world, and so humanity must find more inclusive and effective ways to manage its future over timeframes far beyond the mandates of democratically elected governments, if it is to meet crucial mutual challenges such as climate change.

Lars Grönstedt, Chairman of VNV Global, VEF and Gamla SEB TryggLiv

Mr Grönstedt then introduced the Session's first Thought Leader **Dr Per Espen Stoknes**, Co-Director of the Centre for Sustainability and Energy at the BI Norwegian Business School.

'Are Humans Always Short-Term Decision Makers in the Face of Long-Term Crises such as Climate?'

Dr Stoknes drew on his experience as a psychologist and economist to explain why humans tend to focus on short-term results, rather than long-term consequences:

Dr Per Espen Stoknes, Co-Director of the Centre for Sustainability and Energy at the BI Norwegian Business School

"Economists have long argued that greenhouse emissions could be sufficiently cut if the world adopted a high and rising global tax on carbon pollution with fair distribution, preferably at $100 per ton tax and increasing over time.[31] However, there is little support for such measures, since the 'marshmallow brains' of consumers and citizens prefer goods now rather than later. Companies and markets, too, make short-term investments with priority to net present value, while democracies struggle to plan beyond a government's four- or five-year term.

Hence it may seem that humans are inevitably short-term, both as individuals, companies and in democracies. We can, however, reframe the question and ask: What are the conditions, under which humans will act for the long term in everyday life?

To answer that, we must start from research that explores five deep-seated psychological and sociological barriers dissuading people from acting over issues such as climate change.

Most people feel the crisis is psychologically *distant* from them. They also recoil from *doom*-laden warnings and avoid the prospect of global climate catastrophe by discussing their own humdrum personal experience of current weather.

It is easier for people to rationalise the *dissonance* they feel for their carbon-heavy lifestyle rather than change their behaviours. Gradually, we habituate ourselves by tuning out climate news. So called 'climate *denial*' is less a political position than an unspoken social agreement to pretend the problem does not exist, to live as if you don't know what you know.

Finally, people whose *identity* – their values, lifestyle, and profession – relies on fossil fuels have a clear motive to protect it.

Calls for greater regulation to curb consumption also rankle people who prize individual liberty and free market values and drive them to seek content and opinion which confirms rather than challenges their views. Confirmation bias is common across the political spectrum, as people tend to seek and consume information they already agree with, entrenching them in their position with the help of automated attention-maximising social media suggestions.

"Facts alone will not make people think long-term nor guarantee lasting engagement. Evidence shows, however, that people will take action for the long term when conducive conditions are put in place – specifically, social norms, supportive frames, simple actions, signals and stories."

What works in overcoming the barriers of distance, doom, dissonance, denial and identity? Rather than relying on abstract climate facts and individual rationality, the human brain evolved over millennia to prize *social* acceptability, as exclusion from the tribe meant death for most of human history. People therefore unconsciously care more about the actions and opinions of their family, neighbours and circle of friends than academic sources of influence and information.

The daily news offers a constant barrage of doom-laden news with few solutions, rather than a more *supportive* framing where each threat is balanced with three solutions. This is the optimal 'positivity ratio' (3:1) which is more conducive to creating engagement. Groups campaigning for climate action should therefore reframe the climate challenge more through the incredible opportunities and smart possibilities opened by low-carbon options, than with dire and repetitive 'doomism'.

Offering a suite of *simple* climate-friendly actions for individuals to adopt could help reduce the dissonance people feel between the enormity of the issue and their own lives. Subtle 'nudges' can be introduced to modify people's behaviour through positive reinforcement, according to the precepts of behavioural economics.[32] Making climate-friendly choices the cheapest, easiest or most available options will increase their take-up and gradually nudge people to change their minds.

People also need *signals*, which provide positive feedback on the actions they do, to keep up the motivation. Finally, new and shared stories are needed that help us imagine the plausible pathways we can take toward creating cities and societies with more wellbeing and much smaller footprints.

In conclusion, facts alone will not make people think long-term nor guarantee lasting engagement. Evidence shows, however, that people will take action for the long term when conducive conditions are put in place – specifically, social norms, supportive frames, simple actions, signals and stories. While individual actions and attitudes will not solve climate change by themselves, they are necessary to build bottom-up support for structural change in government and business."

Session Chair Mr Grönstedt thanked Dr Per Espen Stoknes and introduced the next Thought Leader, **Dr Watt AC**, Chair of the International Centre for Democratic Partnerships. Dr Watt served as the Secretary of Australia's Department of the Prime Minister and Cabinet from September 2011 to November 2014.

‘Better Government Decision Making: A Personal Reflection’

Dr Watt drew on this experience to reflect on the process of Federal decision making and the lessons in good government he learned from his years in the Australian Public Service.

Dr Ian Watt AC, Chair of the International Centre for Democratic Partnerships

He underlined that governments of all political persuasions want to make good decisions, but every decision is a trade-off between a variety of competing interests and factors which can sway their final choice. Good public policy usually pays political dividends, but even the best decisions can misfire. Dr Watt therefore argued that political decisions should only be judged by the facts known at the time, without the benefit of hindsight, given the distorting effect of changing circumstances.

He identified several building blocks to good decision making, beginning with open and informed public debate. He criticised attempts to limit consultations to vested interests or privileged sectors of the economy behind closed doors because, as previous speakers noted, electorates are more likely to follow directions they have played their part in deciding. Political, sectoral and economic interests should not be allowed to shape the debate in their own image, and so independent evidence-based think tanks such as the Grattan Institute[33] and GAP have a vital role to play in exploring better policy outcomes for the good of society.

Governments must also maintain a robust internal decision-making process, with a strong Department of Prime Minister and Cabinet, given its involvement in most issues and a willingness to heed the advice of experienced public servants. Broader, more considered processes will usually produce better results than partisan policies pushed forward by a small group.

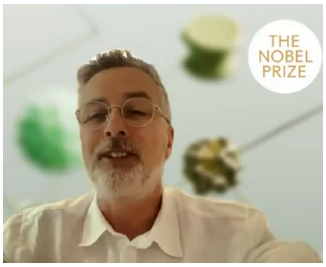
“Decisions are only as good as their implementation, and poor delivery can mean promising ideas produce few, or even adverse, results.”

Decisions are only as good as their implementation, and poor delivery can mean promising ideas produce few, or even adverse, results. Delivery also benefits from a strong review process, conducted by the Public Service, and released to the public, to highlight areas of underperformance which can be iterated on and improved. Transparency builds accountability, which in turn encourages better decision making, as poor choices can be traced back to their instigators. Merely having rules about best practice does not mean they will be respected, but when governments realise their electoral success depends upon making good decisions, they are more likely to be made.

Governments are surprisingly adept at changing policies when their interests are served by doing so, and even ingrained but unhelpful values can change in the light of public pressure. While no set of abstract principles or bureaucratic processes can perfect decision making, efforts to improve it are always worthwhile, but in the end Australian electors will get the decisions they deserve because they are what they voted for.

Discussion

The final Session's discussion was facilitated by **Owen Gaffney**, Chief Impact Officer of Nobel Prize Outreach AB. Mr Gaffney agreed that people are more likely to accept criticism when accompanied by three positive comments. He invited participants to suggest fresh or improved engagement models to help society take on the grand challenges posed by 'wicked problems'[34] such as climate change, reduce political and social polarisation and encourage young people to get and stay involved.



Owen Gaffney, Chief Impact Officer at Nobel Prize Outreach AB

The opening speaker observed that human brains distribute their decision-making tasks across multiple centres to manage the complexity and uncertainty of the natural world, rather than relying on the conscious 'chief executive' of the frontal lobes. Social governance might benefit from a similarly decentralised approach, and attention was drawn to Elinor Ostrom's 2009 Nobel lecture on 'polycentric governance'[35] which highlighted the important but often overlooked roles that self-governing civil organisations play beneath national governments and international bodies. While the world's political dictators rely on strictly controlled hierarchies, democracies should emphasise the two-way flow of information to help their leaders and electorates understand and manage complex, fluid or uncertain situations, and universities should teach these principles in their leadership and political courses.

The following speaker agreed that strident warnings about global problems fail to resonate with the public because their magnitude distances them from the individual, rather than impressing with their scale and grandeur. The more grandiose the claim – or more important the issue – the less it will move people and communities to action.

It was suggested that climate activists and other progressive voices should switch their emphasis to practical local examples of beneficial change, from increasing the number of cyclists to adopting green power in their company. Publicising such progress and highlighting local comparisons might then encourage greater change, as people copy those about them, given the overwhelming human need for social acceptance. Conferences and forums tend to be full of people who accept the need for radical climate action, but a swathe of the wider public remains cautious, disengaged or even dismissive, and so new techniques should be tried.

"It's interesting how people are becoming less denialist as they become personally affected by climate change - e.g., extreme weather events, emergencies such as bushfires and floods. Risk becomes no longer abstract but actually lived. I've found the same response in relation to data privacy issues - people typically aren't at all worried about their personal data privacy and security unless they have been the victim of identity theft, etc."

It was noted that the Secretary General of the United Nations compares the planet to a car being driven towards a climate cliff with a billion people's feet pressed on the accelerator.[36] A recursive system of control agents is required to slow this momentum, with power flowing from the bottom to the top, rather than the usual top-down model of executive control and political dominance.

"To be a little more optimistic, I think people relate to stories of things that have happened to people with whom they have empathy. So Robodebt saga has activated beyond those immediately affected because people empathised with the situation of those who were affected."

Other speakers argued the public is increasingly concerned about the immediate, urgent threat of climate change and backed firmer political action to address it. While individual behaviour can be shaped by 'choice architecture' to favour environmentally friendly solutions, more radical social and economic change is still required. Participants agreed that governments need better feedback mechanisms to gauge public sentiment and the effectiveness of policies, not least because 'governments that don't listen, don't last' in this country.

Some speakers advocated sweeping political reform, given the current system's demonstrable failure to address existential threats like climate change. They argued that public awareness and concern was clear three decades ago but has not been acted upon, while others still felt that positive feedback for taking environmentally friendly action as an individual – such as installing insulation or a solar panel – and making electric vehicles a socially fashionable item was the best way to turn underlying but dormant public concern into measurable action. These speakers also disagreed on the value of more strident explanations of potential global impacts in terms of motivating public concern.

"We can learn from Norway on long-term thinking as a country that invests the proceeds from fossil fuels into a future fund for the benefit of future generations."

Others pointed to Norway's investment of its plentiful North Sea oil revenue into a $1.4 trillion sovereign wealth fund to benefit succeeding generations as a prime example of prioritising long-term investment over short-term consumption. However, Norway continues to support and pursue oil exploration, and using revenue generated by fossil fuels to fund a transition to a low-carbon economy[37] contributes to this 'psychological climate paradox'.

Participants suggested creating a group to consider these issues in more depth over the next twelve months and plan new bodies and processes to improve collaborative, evidence-based, long-term decision making. Dozens of different organs and systems collaborate to make the human body work, for example, and this analogy should be extended to the 'body politic'.[38]

A broader definition of a prosperous society which took environmental sustainability and personal wellbeing into account as well as financial figures could help policy makers adopt more holistic policies to achieve it. This would also shift priorities from immediate gratification and personal gain towards caring for the needs of future generations.

n = 45

The Apollo Moon landings and Ukraine's resistance have proved nations' ability to unite to achieve what seemed impossible in the past and present day, offering hope we can do the same in the future. However, the pursuit of aspirational goals is hampered by misinformation which exploits our ignorance of the scientific method to spread fear, uncertainty and doubt. As well as encouraging young people to apply scientific thinking across every subject, journalists, presenters and commentators might also benefit from a refresher course to improve the way they present information to society.

Participants agreed that information should be democratised to benefit society, rather than weaponised in service of vested interests and hostile entities. Several comments stressed the need to separate our political system from the financial power of corporate interests and consultancy firms with major corporate clients.

The alienation of people from the natural world was likened to the divorce of the brain from the body, and so accepting the value of embodied experience alongside pure cognition to produce a more holistic view of both could increase our connections and understanding.

A later contribution emphasised the importance of improving the 'background conditions' that underpin every decision-making process such as adequate undistorted information or increasing diversity by facilitating discussions for remote or vulnerable groups. However, increasing diversity does not mean that all interests and groups can have their wishes granted, as tough decisions will inevitably advantage some stakeholders over others. A robust set of values is therefore just as important as accurate data and scientific thinking to underpin the decision-making process.

Next Steps

The Hon Cr Philip Ruddock AO, Mayor of Hornsby and a former Federal Cabinet Minister, agreed the public has a right to participate in decision making and is more likely to accept tough but necessary political decisions if it feels it has been consulted.

Hon Cr Philip Ruddock AO, Mayor of Hornsby

As the Minister for Immigration in the Howard administration, Mr Ruddock increased support for higher immigration quotas by holding community meetings across Australia and inviting speakers to stress the economic benefits and ethical arguments involved. He hoped the Dialogue's wide-ranging discussion would initiate practical proposals for progress and cement a long-term partnership with Nobel Prize Outreach AB to tackle the issues it raised.

Peter Fritz AO, Group Managing Director of TCG and Chairman of GAP, agreed the debate had been more enlightening than anything generative AI such as ChatGPT could produce. He outlined a year-long process which would follow the Dialogue, including the analysis of participant feedback and commentary, the production of written proceedings and recommendations, and the establishment of several Second Track groups to work through the issues and develop practical solutions.

Peter Fritz AO, Group Managing Director of TCG and Chairman of GAP

Topics to explore through the GAP Taskforce process could include:

1. Developing complementary democratic decision-making frameworks supported by modern technology such as AI and sentiment analysis;
2. Defining a more rational collective approach to decision making;
3. Teaching scientific thinking to all students regardless of their area of study;
4. Broadening the use of deliberative polling in which socially representative samples of citizens interact with stakeholders and experts; and
5. Researching the effects of social media on political polarisation and ways to combat misinformation.

Catherine Fritz-Kalish thanked the staff of Nobel Prize Outreach for their work with GAP and praised the event's sponsors, producers, partners and personnel, before concluding proceedings with an invitation to participants to continue their involvement through GAP Taskforces over the following year.

Notes and References

1 https://globalaccesspartners.org/nobel-prize-dialogue-sydney-2023-virtual-event2/

2 https://www.nobelprize.org/the-nobel-prize-organisation/outreach-activities/

3 https://globalaccesspartners.org/

4 https://www.nobelprize.org/nobel-prize-dialogue/

5 https://globalaccesspartners.org/wp-content/uploads/2023/06/Second-Track-overview1.pdf

6 https://www.ntnu.edu/itk/what-is

7 https://www.nobelprize.org/prizes/peace/2021/ressa/facts/

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9 https://www.icdp.com.au/

10 https://www.worldometers.info/world-population/world-population-by-year/

11 An observation and prediction rather than a law of nature, the phenomenon is named after the co-founder of Intel, Gordon Moore, who suggested in 1965 that the number of transistors on an integrated circuit would continue to double every two years, https://www.intel.com/content/www/us/en/newsroom/resources/moores-law.html#:~:text=Moore's%20Law%20is%20the%20observation,original%20paper%20published%20in%201965

12 ChatGPT and other generative AI services use large language models (LLMs) to create new content by predicting the next word, piece of code or pixel based on existing data. Though they share the same operating principles, these solutions have specific applications and are designed to undertake particular tasks. Artificial general intelligence has not yet been achieved but may develop from these systems or allied research and possess human-like or super-human intelligence. See more at https://www.zdnet.com/article/what-is-artificial-general-intelligence/

13 https://plato.stanford.edu/entries/turing-test/

14 https://thedecisionlab.com/reference-guide/psychology/somatic-marker-hypothesis

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16 Organisation for Economic Co-operation and Development

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18 https://en.wikipedia.org/wiki/Referendums_by_country

19 European Citizens' Panels were a key feature of the Conference on the Future of Europe in 2022, for example, with four panels convened to help citizens consider the future they want for the EU together. Each panel had 200 European citizens randomly selected from the 27 Member States but reflecting the EU's diversity in terms of geography, nationality, urban/rural residence, gender, age, socioeconomic background and level of education. At least one female and one male citizen of every member state served on each panel, and a third of participants were aged from 16 to 25. Panel 1 considered economic, social justice, culture, jobs, education, sport, and digital transformation, while Panel 2 discussed EU democracy, rights and values, the rule of law and security. Panel 3 looked at climate change, the environment and health and Panel 4 deliberated the EU's place in the world and migration. Twenty Representatives from each panel then attended the conference to present their recommendations to decision makers. More information at https://futureu.europa.eu/en/pages/european-citizens-panels?format=html&locale=en

20 Although often conflated in meaning, misinformation and disinformation are two distinct terms. Misinformation is false information spread through

ignorance or error without an intent to deceive, while disinformation is knowingly false information or propaganda designed to deliberately mislead people, influence public opinion, or obscure the truth for malicious or deceptive purposes. See more at https://www.nla.gov.au/faq/what-is-fake-news-misinformation-and-disinformation

21 https://www.amazon.com.au/Nonviolent-Communication-3rd-Marshall-Rosenberg/dp/189200528X

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38 https://en.wikipedia.org/wiki/Body_politic