

Futures Ecosystems and Nudges for Futures Literacy - the case of the UK and Singapore

Yee-Kuang HENG

Professor, Graduate School of Public Policy, The University of Tokyo



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By Yee-Kuang HENG, Graduate School of Public Policy, The University of Tokyo, Japan

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Introduction

The Japanese saying that “one inch ahead is darkness” (一寸先は闇 (issunsakihayami)) suggests the future is often unpredictable, especially in politics. When asked about the greatest challenge for a statesman, British Prime Minister Harold Macmillan replied: 'Events, dear boy, events'. But how far can humanity prepare in advance for such events, especially in a high-stakes world of existential risk? “This is the first century when human beings, one species, have the future of the planet in their hands. The stakes are very high. There is a new category of risks which are certainly going to be global and would involve some sort of catastrophic setback to civilization,” says Lord Martin Rees, co-founder of the Centre for the Study of Existential Risk at the University of Cambridge (CSER). The

UN Secretary General’s ‘Our Common Agenda Report’ in 2021 warned to be “ready for the potentially more extreme, or even existential, threats that may lie ahead of us” and called for better identification and anticipation of future risks. The report identifies existential risks from “high-consequence biological attack, a cyberattack on critical infrastructure, a nuclear event, a rapidly moving environmental disaster, or something completely different such as technological or scientific developments gone awry and unconstrained by effective ethical and regulatory frameworks.”¹ The terminology of “existential risk” from technological development such as AI and bio-technology and “global catastrophic risks” has now appeared in UN commissioned reports.² The 2023 Intergovernmental Panel on Climate Change (IPCC) report was described as a “survival guide for humanity” by UNSG Guterres.

In the midst of Russia’s brutal aggression against Ukraine, UN Secretary General Antonio Guterres warned that “Even as we reconsider traditional threats to peace and security, we need to update these concepts for our more complex world, in which local threats may quickly become global, existential, and intergenerational.”³ Japan’s revised

¹United Nations Office of the Secretary General, *Our Common Agenda*, 2021, P.66

² Stauffer et al., (2023), *Existential Risk and Rapid Technological Change: Advancing Risk-informed Development*, United Nations Office for Disaster Risk Reduction.

³ A similar argument about how international society is subject to non-linear and sometimes sudden changes that trigger critical transitions is made by Oran Young, *Grand Challenges of*

National Security Strategy in December 2022, while criticizing Russian aggression against Ukraine for trampling on the UN charter, also pointed out “global challenges that transcend national borders and put the very *existence* of humankind at risk such as climate change and infectious disease crises” (emphasis added). There are severe governance implications that arise. As the UN’s Mid-Term Review report of the Sendai Framework pointed out, “The complexity of global catastrophic risk is overwhelming conventional governance systems, which were designed to address incremental environmental and social changes, rather than non-linear processes and complex interactions between drivers of risk and the irreversible impacts of breaching planetary boundaries”.⁴

On one occasion this author spoke with civil servants about AI and existential risk, one response was “oh, something like those Terminator movies?” There is a need to avoid the “allergic reaction” of policymakers to existential risk (X-R)⁵. Indeed, rather than spectacular “relatively singular origin events”, slow-burning or “boring apocalypses”⁶ such as underlying structural vulnerabilities in technological systems and

Planetary Governance, Edward Elgar, 2021

⁴ UN General Assembly, *Main findings and recommendations of the midterm review of the implementation of the Sendai Framework for Disaster Risk Reduction 2015–2030*, January 2023, p.12

⁵ Interview with futures consultancy, London, England, October 2022

⁶ Liu et al, “Governing Boring Apocalypses: A new typology of existential vulnerabilities and exposures for existential risk research”, *Futures*, Vol. 102, Sep 2018, p.6-19

governance systems may increase our susceptibility to existential hazards. Horizon scanning exercises have attempted to identify science and technology dimensions of emerging public policy issues using a Delphi technique⁷.

How can policymakers be better informed of such risks in order to make better judgements and choices regarding their potential effects? To answer this question, this article brings together insights from diverse literatures, including "nudges" from behavioural economics; and futures studies on the importance of "futures literacy". It examines to what extent policymakers can be "nudged" to perceive X-R in certain ways and degrees, which leads to distinct policy outcomes. How policymakers "nudge" public behaviour, from improving individual tax payments to COVID attitudes, has been widely evaluated, and often criticized, for their successes and failures.⁸ While cognizant that nudges are controversial and accusations of failure have dogged it, this paper turns the

⁷ Miles Parker et al, Identifying the Science and Technology Dimensions of Emerging Public Policy Issues through Horizon Scanning, *PLOS ONE*, 9(5), 2014, <https://doi.org/10.1371/journal.pone.0096480>

⁸ See for instance Chris Bonnell et al, "Nudge smudge: UK Government misrepresents "nudge", *The Lancet*, *VOLUME 377, ISSUE 9784, P2158-2159, JUNE 25, 2011*, [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(11\)60063-9/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(11)60063-9/fulltext) . Also Maximillian Maier et al, "No evidence for nudging after adjusting for publication bias", *Psychological and Cognitive Sciences*, 19 July 2022, <https://doi.org/10.1073/pnas.2200300119>

focus around to critically assess whether policymakers themselves are being “nudged” to perceive X-R in certain ways through “futures literacy”, leading to what this paper terms “futures ecosystems” distinctly emerging. Drawing on interviews with civil servants in “futures” units, two comparative cases are presented: the United Kingdom and Singapore, both states concerned with strategic anticipation and have invested resources into "futures literacy" capacity-building.

According to UNESCO, “the point of futures literacy is to become more adept at inventing imaginary futures: to use these futures to discern system boundaries, relationships and emergence; to invent and detect changes in the conditions of change; to rethink the assumptions we use to understand the present.”⁹ The UN now plans to deliver a Strategic Foresight and Global Risk Report to Member States every five years, where futures thinking and analysis will be supported by a “Futures Lab” within the UN system. These, together with a planned UN Summit of the Future in 2024 and a UN Envoy for Future Generations demonstrate a keen concern for building “futures” capacity. This paper looks at how in-house government initiatives on futures literacy can "nudge" X-R perceptions as well as collaboration with a wider futures ecosystem comprising consultancies and executive education programmes. Adopting this comparative approach

⁹ <https://en.unesco.org/themes/futures-literacy>

may provide some traction in studying the “actual functioning” (versus notional functioning) of these efforts to raise awareness and assessment of X-R.

Why Nudge?

Crafting effective responses to X-R characterized by complexity and uncertainty requires “better understanding of alternatives to the conventional regulatory model of governance and a willingness to experiment with different sorts of arrangements to deal with a variety of specific needs for governance”¹⁰. However a myriad of challenges stand in the way. As the UK MOD’s DSTL futures team observed, humans tend to be reactive and respond to imminent threats but “thinking about the future is rarely incentivized”¹¹. This is where “nudge” theory might come into play.

Initially popularized by behavioural economist Richard Thaler and legal scholar Cass Sunstein, a nudge is “any aspect of the choice architecture that alters people’s behaviour in a predictable way without forbidding any options of significantly changing their economic incentives”: the intervention must be cheap and easy to avoid.¹² The focus dwells on how to change people’s behaviors to achieve desired behavioural outcomes

¹⁰ Oran Young, *Grand Challenges of Planetary Governance*, p.vii

¹¹ DSTL Biscuit book, *Unfogging the Future*, 2021, p.008

¹² Richard Thaler and Cass Sunstein, *Nudge: the final edition*, Penguin Books, 2021, p8

(such as paying taxes on time) without the use of formal government mandates or heavy financial sanctions or incentives. One famous example is Amsterdam Schiphol airport toilet urinals containing a tiny image of a fly for users to target, avoiding spillage. Another is placing fruit at eye level or near the check-out in a café to prompt customers to make healthier choices. Or placing increasing counts of calories burnt (and equivalents in terms of foods such as doughnuts) as commuters walk up flights of stairs instead of taking the escalator. Derived from behavioural psychology that people choose the easiest options rather than the most suitable one, nudge theory has been widely incorporated into policy making around the world, notably the British government's "nudge unit" (or Behavioural Insights Team).

Nudge addresses how policy makers design "choice architecture" (any situation where one has to make a choice has a certain architecture around it, for instance the order in which options are presented) to shape behaviour in a particular direction. The person who structures the context within which people make a choice is known as a "choice architect". Thaler and Sunstein adopt a philosophy of "libertarian paternalism": to maintain or even increase freedom of choice and for individuals to feel they retain control of their choices. At the same time, paternalistic in that it seeks influence and encourage people to behave in a certain way. This has come in for criticism from both right and left

of the political spectrum.¹³

Nonetheless, the scope and focus of nudge theory has increasingly gone global, and geared towards addressing pressing global challenges to humanity. The 2008 version of “nudge” focused on ‘Money,’ ‘Health’ and ‘Freedom’ , while the 2021 edition examines its relevance to solving global problems: “climate change as a global choice architecture problem”, where making green is the easiest default option for instance.¹⁴

Likewise, what Halpern terms “Nudge 3.0” is meant to tackle the gravest global challenges today, in contrast to Nudge 1.0 (personal behaviour) and Nudge 2.0 (organisations and business structures)¹⁵ Nudges are most needed when faced with difficult choices without prompt feedback, or unfamiliar/rare situations that people have trouble translating into something they can more easily understand.¹⁶ Long-term processes such as those that may be involved in X-R rarely provide prompt feedback, and unless people take the effort to experiment, they may never learn about alternatives to their familiar choices. Additionally, feedback is obtainable only on the options selected,

¹³ See “ Richard H Thaler and Cass Sunstein, *Nudge: the final Edition*, 2021, New York: Penguin Books, esp. Part V The Complaints Department”

¹⁴ Thaler and Sunstein, 2021, p.286

¹⁵ Halpern, *inside the nudge unit*, p.346

¹⁶ Thaler and Sunstein, 2021, p.91

not those rejected.¹⁷ A nudge is thus suitable for choices that may have delayed effects (such as those involved in X-R), are difficult and infrequent offering poor feedback and for those where relationship between choice and experience is ambiguous.¹⁸ Many of these criteria may be found in civil servants confronted with uncertainty over XR.

“Make it easy” and “make it fun” is Thaler and Sunstein’s clarion call. Likewise, the key approaches guiding the British experience of nudging was summed up as EAST: Easy (make it easier to fill out a form for instance), Attractive (drawing attention to stand out and build salience, eg changing the colour of official envelopes, personalizing official communications addressed to an individual; images that connect on an emotional level). A so-called messenger effect also means it matters who the message is coming from to have more impact: a Chief Scientific advisor as opposed to a politician conveying the same message. Social (the choices and behaviour of others shapes and amplifies individual choices, especially when faced with uncertainty; the importance of networks and norms) and Timely (certain key moments when interventions are more likely to affect behavioural changes and when behaviour is disrupted eg the best time to donate is before Christmas, and help the person escape the trap of the present and plan in advance).¹⁹

¹⁷ Thaler and Sunstein, 2021, p.98

¹⁸ Thaler and Sunstein, 2021, p.100

¹⁹ David Halpern, *Inside the Nudge Unit*, 2019, London: W. H. Allen, 2019, p.10

Humans suffering from unrealistic optimism may also benefit from a nudge reminding them of a bad event. Due to human fallibility, people are busy with limited attention to reflect deeply on choices they make: they tend to accept questions as posed rather than trying to determine whether their answers would vary under alternative formulations: they can be “nudgeable”.²⁰ People instinctively adopt rules of thumb that may not work well, in challenging or unfamiliar situations. How to “make it easy and fun” and “social” will be examined in the following sections.

At the same time, a growing interdisciplinary body of literature characterized as “Existential Risk Studies (ERS)” seeks to understand and manage a range of extreme technological risks²¹, although any potentially symbiotic overlaps with nudges in the policy process remains unexplored. Critical voices of ERS argue that the field has overlooked local and indigenous knowledge and ways of coping with risk.²² Furthermore, the question of “how to nudge the nudgers” remains overlooked. The desired outcome in this case is not so much shaping citizen’s choices (as in the nudge literature) but rather

²⁰ Thaler and Sunstein, p.46

²¹ Lalitha S. Sundaram, Matthijs M. Maas and S. J. Beard, “Seven Questions for Existential Risk Studies”, Centre for Study of Existential Risk, 24 June 2022, <https://www.cser.ac.uk/news/paper-seven-questions-existential-risk-studies/>

²² **Joshua Schuster and Derek Woods**, *Calamity Theory*: Three critiques of Existential Risk, University of Minnesota Press, 2021

that of policymakers themselves confronting XR and uncertainty. The question of 'real life' decision-making in governments and business within a framework of “radical uncertainty” meaning that at the **time decision-makers decide what to do**, they may reasonably be able to *imagine* some of the different outcomes of their actions but can neither know nor specify the full range of possibilities nor calculate the likelihood that the one they desire will eventuate.²³ The Challenging Radical Uncertainty in Science, Society and the Environment (CRUISSE) network was set up by three UK research councils to report on the current research landscape of real-world decision-making under uncertainty.²⁴ While existing heuristics and theoretical frameworks such as the matrix system of government and whole-of-government approaches²⁵ as well as the importance of “policy champions”²⁶ can explain ways in which futures units have grown, there remains scant evaluation of attempts how nudge theory may explain different governments attempts to foster systematic thinking about uncertainty and X-R.

²³ Royal Society, Confronting Radical Uncertainty, 3 October 2022, <https://royalsociety.org/science-events-and-lectures/2022/10/radical-uncertainty/>

²⁴ [CRUISSE](http://cruise.ac.uk/), Challenging Radical Uncertainty in Science, Society and the Environment <http://cruise.ac.uk/>

²⁵ Tom Christensen and Per Lægreid. “The Whole-of-Government Approach to Public Sector Reform.” *Public Administration Review*, vol. 67, no. 6, 2007, pp. 1059–66

²⁶ David Marsh and R. A. W. Rhodes (eds), *Policy Networks in British Government*, 1992, Clarendon Press, Oxford

“Nudges” and capacity-building for “futures literacy” in a high-stakes world

The nature of global risks today with “a combination of speed and nonlinearity makes it essential to look ahead with an understanding that sharp shifts are normal”. This means “not only spotting initial signs of new developments but also thinking in a wide-ranging fashion about options for coming to terms with needs for governance associated with these developments”.²⁷ Capacity-building in futures literacy for policymakers grappling with complex global challenges has gained growing prominence.²⁸ While futures literacy is defined “the skills needed to decide why and how to use their imagination to introduce the non-existent future into the present”²⁹, as the UK’s DSTL Futures team explains, “The terms ‘futures’ or ‘futures thinking’ are now used widely as umbrella terms to mean a whole host of activity and approaches that are focused on understanding and using the future”.³⁰ It is not prediction though. Structurally and institutionally, “Strategic foresight capacity needs to be seen as an ecosystem that cuts across all aspects of government.”³¹

²⁷ Young, p.4

²⁸ See Riel Miller, *Transforming the Future*, Routledge, 2018. OECD, *Strategic Foresight for Better Policies*, October 2019; Roberto Poli, The challenges of futures literacy, *Futures*, Volume 132, 2021, Article 102800;

²⁹ Miller, p.15

³⁰ DSTL “Biscuit Book” *Unfogging the Future*, 2021 p.006

³¹ Anne Pordes Bowers and Peter Glenday, *Effective foresight by governments: an international view*, OECD OPSI, <https://oecd-opsi.org/blog/effective-foresight-by-governments-an-international-view/>, 23 June 2021

The OECD has compiled lessons drawn from cases around the world in terms of “effective foresight institutionalization” through establishing dedicated foresight institutions and frameworks, as well as building a foresight culture within existing institutions.³²

Meanwhile, studying perceptions of global risks held by the relevant global policymaking community has emerged as another aspect of the interface between policymakers and XR.³³ Using narratives to build futures literacy in government points further to the broad inter-disciplinary scope that exists on this topic³⁴ Increasingly, these research trends are converging on high-stakes outcomes dealing with issues such as “existential risk” or “civilizational crisis”.³⁵

The Futures Ecosystems in Britain and Singapore

While the “x-risk Ecosystem” refers to “network of think tanks, non-profits, individual

³² OECD Strategic Foresight Unit, *Foresight and Anticipatory Governance in Practice: Lessons in effective foresight institutionalization*, 2022

³³ Nathan, C., Hyams, K. Global policymakers and catastrophic risk. *Policy Sciences*, 55, 3–21 (2022). <https://doi.org/10.1007/s11077-021-09444-0>

³⁴ Genevieve Liveley, Will Slocombe, Emily Spiers, Futures literacy through narrative, *Futures*, Volume 125, 2021, Article102663

³⁵ OECD Strategic Foresight Unit, *Longtermism and global existential risk*, 2022. Also Meredith Bowden, Deepening futures methods to face the civilisational crisis, *Futures*, Volume 132, 2021, Article 102783,

researchers, philanthropists, and others, all working to reduce existential risk” (Berkeley Existential Risk Initiative 2022), what this paper calls the “futures ecosystem” exists to nudge policymakers to think systematically about X-R.

Many UK government agencies now have specialized “futures” teams, thanks largely to the Government Office for Science (GOS) which runs a Futures, Foresight and Horizon Scanning programme. For instance Defra (Department for Environmental, Food and Rural Affairs) has a Futures team working on global catastrophic risks such as ecological collapse and rogue geo-engineering. Spy agency GCHQ also has a “Futures and Emerging Technologies Team” whose publicly available job description is to “scan for trends and signals, translate research into insights, develop scenarios, and facilitate immersion and ideation workshops”³⁶. The Parliamentary Office for Science and Technology (POST) too conducts horizon scanning functions on topics such as technological advances, socio cultural trends and geopolitical challenges that Parliament Select Committees might otherwise miss. POST researchers working on futures have liaised with GOS Futures teams on training programmes and resources. A potential “futures hub” may emerge integrating staff working on horizon scanning/futures in POST

³⁶ GCHQ Careers, “Emerging Technologies and Futures Lead”, <https://www.gchq-careers.co.uk/jobs/emerging-technologies-and-futures-lead.html>, accessed 18 December 2022.

with those in the House of Commons Library.³⁷ Meanwhile, the House of Lords has separately published a 2021 report on “Preparing for Extreme Risks”, described as an “extraordinary process” where all committee members understood there was something at stake beyond anything one might expect in normal political life.³⁸

Scenario planning has a long genesis in Singapore government circles, going as far back as the 1980s with a unit in the Ministry of Defence. However, scenario planning tends to extrapolate from linear existing trends and is less suited to identifying sharp, disruptive events such as the 9/11 terrorist attacks, the 2003 Severe Acute Respiratory Syndrome (SARS) crisis, or the Arab Spring in 2011 (Ho 2008). The stakes are even higher with climate change labelled an “existential risk” by Singapore PM Lee Hsien Loong.

The Centre for Strategic Futures (CSF) was established in 2009 within the Prime Minister’s Office (PMO) with a focus on blind-spot areas, pursue open-ended long-term futures research, and experiment with new foresight methodologies. Using the UK experience as a case study, in-house "futures" units have been established in various Singapore ministries such as Ministry of Defence, Ministry of Trade and Industry (MTI),

³⁷ Interview with POST Knowledge Exchange Unit, England, October 2022

³⁸ Discussions with UK parliamentarian, England, October 2022

Ministry of the Environment and Water Resources (MEWR), Ministry of Education (MOE) and government agencies such as the Singapore Food Agency. Futures topics range from climate change to impact of AI and emerging technologies. Some 150 public officers were engaged in futures work by 2013. The policy implications may be significant: “how can we move from an essentially reactive bureaucratic organization to an anticipatory one?” (Poli 2021). Nudges may help play a role.

MAKE IT EASY and SOCIAL: the role of “choice architects”

These civil servants working in futures units may be perform the equivalent functions of “choice architects” in Thaler and Sunstein’s original formulation. They essentially design the menu of options and choices available to other civil servants as they think about the future and X-Rs. Some of the guiding principles for nudging (making it easy, simple and social) may be seen in the UK Government Office of Science (GOS) pamphlet titled “A brief guide to futures thinking and foresight” giving tips on how to “embed long-term thinking into policymaking.” It has also released a "Futures Toolkit" containing a set of tools including Horizon Scanning, 7 Questions (and the Issues Paper) and Delphi. Using standard scenarios may “sometimes get in the way as they are too complicated”, therefore “simpler toolkits”³⁹ may be more useful and easier to deploy. The Singapore experience

³⁹ Interview with Futures consultancy, England, October 2022

also suggests that through relaxed more informal settings such as retreats for senior management, it helps to “de-mystify” futures thinking, while a “drip-feed” approach pushing out half-baked products for potential users to provide input also means less pressure on end-users to response.⁴⁰

Besides a strong focus on "capability development" through workshops and learning sessions, GOS also serves a "network" function building cross-government networks and events to coordinate Futures work, share learning and develop a ‘Futures culture’ in Government. There is also a Futures Capability and Resource team within GOS that provides assistance to help teams across government agencies start their own Futures work quickly and rigorously. A Heads of Department – Horizon Scanning meeting brings together Permanent Secretaries to discuss the long-term impact of key Futures topics. These cross-government networks serve a social function where the choices and behaviour of others shapes and amplifies individual choices and developing norms, especially on XR topics marked by uncertainty such as emerging technologies: they are a “really good forum” for prioritising trends and testing ideas through presentation from different agencies; the networks built are even described as the “futures family” across

⁴⁰ Interview with CSF official, Singapore, January 2023

government⁴¹. GOS has also received increasing number of enquiries from teams across government seeking advice on standing up new horizon scanning functions in their own organisations. In response, GOS held a workshop for the Heads of Horizon Scanning network to share experiences.

The fact that there are now “communities of futures practitioners” across UK government attests to the social dimension of nudging. All it takes is “a few people to start caring, to get things going...allies are super helpful”.⁴² Reflecting the importance of “social norms as nudges”, choice architects seeking to shift behaviour (in this case, every time some civil servant shared their futures thinking on XRs with others in the network, a small nudge was implemented) may do so by simply telling people what others are thinking and doing⁴³. Despite these laudable attempts, criticisms have still arisen about how "Insufficient fostering of long-term thinking, systems thinking, futures thinking and technical expertise across the civil service" remain a weakness (Hilton and Baylon 2020).

By comparison with Singapore, there are lots of similarities in terms of “making it easy, simple and social”. Like the UK GOS "futures toolkit", CSF runs a series of

⁴¹ Interview with Go-Science official, England, October 2022

⁴² Interview with futures consultancy, London, England, October 2022

⁴³ Thaler and Sunstein, p.83, 2021

workshops dubbed “FutureCraft”, which aims to introduce key skills and has developed its Scenario Planning Plus (SP+) toolkit relevant to government foresight work, at the Civil Service College. These tools include backcasting and sensemaking based on Driving Forces Analysis and Prioritisation in climate change risks. Other tools such as Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis are also found in the UK GOS futures toolkit. Similar to social functions served by the UK Horizon Scanning network of Permanent Secretaries, Singapore also has a "Strategic Futures Network" meeting quarterly at Deputy Secretary-level. At the staff officer level, there is a bimonthly "Sandbox" meeting for futures officers across government to share ideas and projects. The CSF describes one of its key missions as "Grow": building capability and capacity for strategic foresight at all levels in the wider public service.⁴⁴ CSF helpfully provides also a glossary of key terms associated with "Futures" work such as black swan and wicked problems. The CSF has been described as a "mothership" in terms of its ability to provide contacts and connections with other Futures planning teams in the ministries.⁴⁵ When CSF was first launched, it embarked on a “crazyesque roadshow” knocking on

⁴⁴Jeanette Kwek and Gail Prakesh, Strategic foresight: How policymakers can make sense of a turbulent world, 17 August 2020, <https://apolitical.co/solution-articles/en/strategic-foresight-making-sense-of-a-turbulent-world>

⁴⁵ Interview with Singapore futures official, January 2020

doors throughout government to do presentations of its futures work and sitting with agencies to help them “train the trainers” to build capacity.⁴⁶ Likewise, in a reflective account of how the UK’s Department for Education established a “Futures Insight Programme” during the COVID pandemic, looking “beyond your own department for support” was a critical enabler, and the programme would not have succeeded without GOS support.⁴⁷

Policy champions are also critical: in the case of Singapore, Peter Ho, former Head of the Civil Service and futures advocate was instrumental in founding of CSF. In the UK, the new Labour government of Tony Blair was “critical in setting up the DCDC, with focus on futures”⁴⁸. Ex-Chief Scientific Advisor Sir Patrick Vallance keenly demonstrated personal interest in futures literacy and capacity building, a key “policy champion that everyone pays attention to”, such an “alignment at top teams” helps to build a “trusted brand in GOS”.⁴⁹ Oliver Letwin, then-Minister for Government Policy was also another “particularly important” figure in Downing Street who would often

⁴⁶ Interview with CSF official, Singapore, January 2023

⁴⁷ William Moody, *Taking Futures from a programme to an integrated function in central government departments*, Go-Science Futures, Foresight and Horizon Scanning Blog, 30 September 2022, <https://foresightprojects.blog.gov.uk/2022/09/30/taking-futures-from-a-programme-to-an-integrated-function-in-central-government-departments/>

⁴⁸ Interview with DCDC official, England, November 2022

⁴⁹ Interviews with Go-Science official, England, October 2022

encourage departments across Whitehall to consider behavioural approaches like nudge, or direct them to the “nudge unit”.⁵⁰ This harks to the so-called “messenger effect” of “attraction”. where a message is taken more seriously if delivered by someone who is respected and credible. The “social” dimension of nudging futures work means knowing the right contacts and people to get things implemented, as is investing in social capital building to identify contacts one seeks to influence. The OECD Strategic Foresight Unit performs similar network and social functions to counterparts in Britain and Singapore: it leads the strengthening ability of Directorates and Committees to provide governments with future-ready policy advice.

However, there may also be a less social dimension to nudging. This may mean paying attention to minute details, down to private secretaries in the private office who place briefing papers daily into “ministerial red boxes” for ministers to read. There is “nothing in the ministerial code or guide on understanding what an XR might be”.⁵¹ While urgent matters of the day naturally demand attention with massive amounts of material to read in the red boxes, a system/template may be developed whereby the private office could flag items seen as innocuous and improve how officials recognise something

⁵⁰ David Halpern, p.217

⁵¹ Discussions with UK parliamentarian, England, October 2022

that could lead to cascade events.⁵² A private secretary who was “futures literate” could insert and highlight one or two “futures-related” or “X-R” related papers for ministerial attention as part of their daily reading material.

“Make it Fun”

Besides making it easy and social, introducing a “fun” element to futures thinking further helps with the nudge. GOS Futures Toolkits contain “pathways” which are meant to be “easy to follow” and tailored to different agencies and purposes. “Make it fun and intuitive” using simple game-like formats such as “Treasure Maps” and “Horse Races” or “Futures Wheels” in futures training.⁵³ GOS also published a “Trend Deck” (like a deck of cards) containing 118 data-based trends in long-term change such as “Technology” and “Demography”. The goal is “to start conversations about how issues have changed and evolved over time and where they might be headed in the future.”⁵⁴ The idea of using such a game-like “deck of cards” format is also seen in the Singapore case. The CSF “Driving Forces” card deck is similarly intended “to spark conversations about the key

⁵² Discussions with UK parliamentarian, England, October 2022

⁵³ Interview with GOS official, England, October 2022 and futures consultancy, England, October 2022

⁵⁴ UK Government Office of Science, *Trend Deck*, Spring 2021, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/998939/GO-Science_Trend_Deck_-_Full_Version_-_Spring_2021_1_.pdf

forces of change that will shape our operating environment in the next 20 years, and the possible ways in which they might play out”. Cards in the deck include “global climate change and the global carbon regime” and “human substitution” as a result of technology and AI. These initiatives are meant to be “easy” and also “attractive” which will be most effective when you are prompting or reminding someone to do something that they know they should probably do anyway”.⁵⁵

Indulging in some creative writing and fiction also makes the futures process fun. The Royal Air Force “ASTRA” (Ad Astra or To The Stars) team tasked with making the service “ready to face the threats and challenges of the future in our rapidly changing world” produced a short booklet collecting stories from RAF personnel representing “a different way of describing the future” and what the RAF of 2040 might look like: the goal of the booklet is to prompt readers to “imagine your future self in these situations” and more importantly to “think and chat with your colleagues about the future of the RAF”.⁵⁶ The tone of the booklet is quite informal and personal, asking readers whether the stories resonate with them personally, and to be on the lookout for drivers of change

⁵⁵ David Halpern, *inside the nudge Unit*, 2019. p.104

⁵⁶ Royal Air Force ASTRA, *Stories from the Future: The RAF in 2040*, <https://www.raf.mod.uk/documents/pdf/stories-from-the-future-the-raf-in-2040/>, 2020, accessed 20 Feb 2023.

and reflect on them. Fostering “creative thinking” fits in nicely with “futures work”.⁵⁷ A similar tone is taken by the UK Ministry of Defence’s Defence Science and Technology Laboratory (Dstl) “Biscuit book” series dealing with topics such as AI which are meant to be “easily digestible”, like biscuits with a cup of tea at teatime. The 2021 biscuit book titled “Unfogging the Future” explains the uses of futures thinking, with Chapter 1 titled “So, what *is* this Futures thing?” in a rather informal style. Foresight is explained as the insight derived from futures work.

The wider futures ecosystem

Other capacity-building platforms operate in the wider futures ecosystem, usually in tandem and supporting government training programmes. Public Policy Schools that conduct Executive Education have played a role. For instance the “Singapore Futures Programme” at the Lee Kuan Yew School of Public Policy, National University of Singapore provides training in futures thinking for civil servants. Consultancy firm Kantar in Singapore also supports these training courses. In the UK, the School of International Futures (SOIF) is a non-profit organisation seeking “To build foresight capability within organisations”, working on training delivery with GOS Futures

⁵⁷ Interview with GOS Official, England, October 2022

Team and has also provided training for DCDC futures officers. SOIF has also been commissioned by GOS to deliver a report containing case studies of how eight different governments around the world have used foresight and futures techniques.⁵⁸ GOS also designed and delivered a bespoke futures module for the Civil Service Senior Leadership Scheme hosted by Ashridge Management College⁵⁹. The GOS Futures Toolkit itself was authored by partners outside government, namely Waverley Management Consultants, which won a bid for contract call by GOS. Waverley's Alister Wilson (Director Strategic Futures) who authored the toolkit is a member of Defra's Futures Advisory Group. Futures practitioners at Kantar in London have moved on to Head Futures advice at GOS. The direction of travel also goes the opposite way. Futures-literate civil servants have left government and moved into SOIF and Centre for Long-Term Resilience.

International strategy and the futures ecosystem of like-minded partners

⁵⁸ School of International Futures, *Features of effective systemic foresight in governments around the world*, May 2021, <https://www.gov.uk/government/publications/features-of-effective-systemic-foresight-in-governments-globally>

⁵⁹ UK Cabinet Office, "Government response to Preparing for Extreme Risks: Building a Resilient Society", 17 March 2022, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1061478/government-response-risk-large-print.pdf , pp.24

There are also several international components to capacity-building and nudges on XRs emerging in the futures ecosystem. The UK hosted a “Future Tech Forum” as part of its G7 presidency in 2021. The UK government is preparing an International Technology Strategy to contribute a “science pillar” of its Indo-Pacific tilt, with a International Tech Department newly established in the Foreign Office in April 2022. Its 2021 Integrated Review was also the first to ever flag strategic importance of science and technology to the UK’s ambition as a “science and technology superpower” for economic growth and solving common problems and values-based governance.⁶⁰

Japan’s MEXT (Ministry of Education, Culture, Sports, Science and Technology) has seconded a bureaucrat working on technology issues on attachment to the UK GOS “futures” team, where in-house training on “futures” was provided by GOS. UK DCDC has sent a delegation to Japan’s NIDS and Sasakawa Peace Foundation to get regional and global perspectives for the flagship Global Strategic Trends report, rather than simply British views. Japan’s NIDS invited British analysts from DSTL working on policy gaming methods as part of its International Conference on Policy Simulation "Connections Japan 2022". NIDS researchers have also spent up to two weeks on

⁶⁰ Interviews at Foreign and Commonwealth Office, England, October 2022

attachment with DCDC, as have Singapore CSF officers. Given that DCDC has several nations military officers on exchange to its Futures team, “impact” can also be defined in terms of how these partner governments are also invested in DCDC work on futures.⁶¹

Conclusion: How long do nudges last?

A question posed by Thaler and Sunstein, this too has implications for nudging futures literacy on XRs. Interest in capacity building and futures literacy goes in cycles, having waxed and waned over the decades in the UK government, due to some extent to changes in leadership positions such as the Chief Scientific Advisor or political parties in power. Organisational memory can “thin out” over several years.⁶² Although the system is now accustomed to “nagging” on futures work after decades of work, patrons are still necessary to keep up “nagging” on futures and build sustainability⁶³ to make futures literacy stick. Senior level buy-in helps with initial stages but it is critical that for every futures-related event held, there must be a focus also on the legacy of embedding futures thinking and what comes after the event⁶⁴.

Related to the notion of “choice architecture” may be the importance of cross-

⁶¹ Interview with DCDC official, England, November 2022

⁶² Interviews with futures consultant in London, October 2022.

⁶³ Interview with CSF official, Singapore, January 2023

⁶⁴ William Moody, Taking Futures from a programme to an integrated function in central government departments

government futures networks that not only serve a social function, they also help to broaden the range of futures options facing civil servants dealing with uncertainty and XRs. GOS or CSF may be conceived as “choice architects” in this sense. Properly “framing” a complex multi-faceted issue like AI may demonstrate the alternative options available to alternate futures. While it may be necessary to present ideas in a boring, routine way to remind policymakers that things could happen on their watch⁶⁵, games appear to be a leading candidate to employ the “make it fun” slogan. Experimental Role Play exercises about AI that acclimatise policymakers to AI issues may be a useful way forward.⁶⁶ For the CRUISSE network, Kris De Meyer from UCL Climate Action Unit co-developed Shutdown!, an interactive scenario to help the UK Cabinet Office understand how the public would respond to a national blackout.

How can one assess success or impact of these “nudges” in perceptions of XRs? “Futurists tend not to be very good to link futures work with outcomes”.⁶⁷ Some scholars argue that raising awareness of XRs itself may be a “success”, given the pressing

⁶⁵ Interview with futures consultancy, London, England, October 2022

⁶⁶ See Shahar Avin et al, Exploring AI Futures Through Role Play, AIES '20: Proceedings of the AAAI/ACM Conference on AI, Ethics, and Society, 7 February 2020, <https://doi.org/10.1145/3375627.3375817>

⁶⁷ Interview with futures consultancy, England, October 2022

everyday demands on civil servants’ time and bandwidth for action. Others contend that awareness needs to progress into impact and message testing methods should help gauge resonance of the “futures” message on civil servant audiences.⁶⁸ If futures literacy and lead to a more “structured conversation”, that would be a desired outcome if scanning and sense-making helped to lead to better sets of questions.⁶⁹ Impact may be also about “creating a discourse or common baseline on questions within government about choices to prepare for the future” such as input into thinking on the UK’s Indo-Pacific tilt.⁷⁰ Through shared language and concepts of futures, eventually there may be a “shared house view” coalescing on topics such as climate change or AI⁷¹. The importance of having a shared language and approach would be useful to discuss complex risks which necessitates engaging a wide range of stakeholders, yet many either do not have the same mindset or approaches to futures employed may be less than systematic and lack self-awareness.⁷²

Reflecting on the work of the UK government’s Behavioural Insights Team (colloquially known as the “Nudge Unit”), its founder David Halpern noted that “perhaps

⁶⁸ Discussions at CSER, Cambridge University, September 2022

⁶⁹ Interview with futures consultancy, England, October 2022

⁷⁰ Interview with DCDC official, England, November 2022

⁷¹ Interview with CSF official, Singapore, January 2023

⁷² Interview with government official, Japan, February 2023

the most important but subtle change on policy brought about by the work of BIT was around method and mindset”. In particular, Halpern pointed to how briefing notes and papers for the Prime Minister and Cabinet secretaries “increasingly contained the language of behavioural insight”.⁷³ Similarly, mindset changes that “trickle down” and lead to organisation change is also emphasised by futures units working in the Singapore government as an indicator of impact and success.⁷⁴ Shifting organisational “culture” as such is important in nudging on futures literacy. Besides making it “easy and simple” and “fun”, making it “accessible” is another important factor: for instance GOS publishes as far as possible, its reports are all online to make it easier for civil servants to download.

This suggests that through futures capacity building and nudges, concepts of security and XR may be renegotiated, recodified and *translated* in new contexts, by new communities of knowledge and practice, in relation to new problems or objects of concern⁷⁵. The primary focus in the analysis of translations is on conceptual mobilisation and change, or “on the means (linguistic or physical) activated in the translations; on the claims that makes the translation authoritative and legitimate; and on the consequences

⁷³ David Halpern, *Inside the Nudge Unit*, W.H Allen, London, 2019, p.217

⁷⁴ Interviews with Defence futures official, Singapore, January 2023

⁷⁵ I am grateful to Tom Hobson for this point. See Trine Villumsen Berling et al, *Translations of security: A framework for the study of unwanted futures*, Routledge, 2022.

and changes produced”.⁷⁶ Indeed, from interviews with various agencies in the UK and Singapore this author conducted, there is a common lingo and vocabulary that analysts employ such as "sense-making". While nudge scholars have zeroed in on the “choice architecture”, when thinking of capacity-building for futures literacy, a common “linguistic architecture” is emerging whereby civil servants employ the same lingo and futures concepts that shape policy choices and policy debates on XR. How the translation of concepts about XRs and futures has occurred may be seen in three types of “translation zone”, namely: “professions and disciplines, cultures, and scales”.⁷⁷ Organisational culture shifts that increasingly employ futures thinking to understand XR would be one such “translation zone”, especially in agencies that previously had not played significant roles in security matters.

Academic reports and papers on X-Risks that get cited in Government documents may also be another indicator of impact. For instance, the Ministry of Defence's Development, Concepts and Doctrine Centre's (DCDC) highlights the "Global Strategic Trends (GST6) 2018" report, "elements of which have been used to develop the National Risk Assessment" (UK MOD 2018, p.7). Further examples of DCDC's impact, according

⁷⁶ Trine Villumsen Berling et al, *Translations of security: A framework for the study of unwanted futures*. P.17

⁷⁷ Berling, p.17

to its Head of Futures and Strategic Analysis, include how “The GST 6 then triggered policy responses by informing the Integrated Review, which was a significant event for the U.K. This was the first uplift in defense and security spending in a generation”.⁷⁸ Interestingly, the upcoming 2024 GST report will not just present trends, but also to provide instruments that allow policymakers to interpret the trends and prepare. This includes Futures techniques such as “global pathway scenarios”.

Integrating different moving parts of the governmental horizon scanning and risk assessment architecture remains a challenge. For instance, the GOS Futures toolkit was not deployed in developing the UK Government’s National Risk Report because the NRR’s time horizon was too focused on relatively short-term risks between two to five years.⁷⁹ Bureaucratic resistance may also be encountered occasionally from line managers who are skeptical of “futures” terminology, in this case flexibility may be needed to rebrand certain “futures projects” instead as “strategic planning”. It is important to identify whether such resistance stems from “personal” as opposed to “corporate” concerns: in such cases, it may be the failure of implementation rather

⁷⁸Interview with Commodore Peter Olive, Head of Futures and Strategic Analysis at the Defence, Concepts and Doctrine Centre (DCDC), Sasakawa Peace Foundation, 13 February 2023, <https://www.spf.org/en/publications/spfnw/0077.html>

⁷⁹ Interview with GOS official, England, October 2022

than failure of the foresight process itself.⁸⁰ There has also been some resistance from Members of Parliament (MPs) to the horizon scanning work undertaken by POST, partly because some of the topics may not be immediately relevant to their constituencies. The target audience of POST work is Select Committee MPs and their supporting policy analysts, while that of GOS is civil servants and bureaucrats.⁸¹ Attention spans of politicians also tend to be limited, and decisions usually wait till the last minute when something definite has happened. It is difficult to input long-term thinking into government, when academic timelines don't match policymaker timelines, hence a matchmaking service between academic experts and policymakers may be necessary.⁸²

Given that “creativity is a crucial skill for foresight professionals”,⁸³ the enabling environment within government agencies to sustain and nourish these creative qualities is crucial.⁸⁴ Focusing on creative writing and fiction for instance may help, particularly in tandem with an element of fun. The work of Futures Literacy

⁸⁰ Interview with GOS official, England, October 2022

⁸¹ Interview with POST Knowledge Exchange Unit official, England, October 2022

⁸² Interview with futures consultancy, England, October 2022

⁸³ Mark Frauenfelder, Five Actions to Jump-Start Creativity, 19 February 2023, Institute for the Future, <https://www.iftf.org/insights/five-actions-to-jump-start-creativity/>

⁸⁴ Interview with Futures officer, Singapore, January 2023

through Narrative (FLiNT) ⁸⁵ network is illustrative of how important interdisciplinary perspectives can be to understanding existential risks and futures literacy. Although the “thought leadership” role of government is important in developing a “culture of learning and education” about futures within government, ultimately it comes down to funding and budget issues: can funding for futures literacy draw from central government funds.⁸⁶

Finally, the contemporary popularity of “futures studies” and XRs should not however obscure the post-1945 origins of thinking about the future after the devastation of World War Two and the rise of the Cold War.⁸⁷ Nuclear war then (and now) was an existential risk, ahead of current concerns over climate change or AI. The US-based Institute for the Future founded in 1968 for instance, was itself a spinoff of the RAND Corporation. While mainstream futures studies in the 1970s favored a positivist technocratic techno-economic approach, recent trends that adopt a more normative strand emphasizing experiential futures and futures literacy appear more focused on human and social foresights and cultural pluralism to navigate

⁸⁵ See Futures Literacy through Narrative, <https://flint.org.uk/>, accessed 05 March 2023

⁸⁶ Interview with UK parliamentarian and Singapore futures officials, October 2022

⁸⁷ Jenny Andersson, *The Future of the World: Futurology, Futurists, and the Struggle for the Post Cold War Imagination* (Oxford University Press, 2018)

uncertainties and alternative futures of an increasingly high-stakes world.