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RESEARCH ARTICLE

Building futures literacy: Nudging civil servants to cope with uncertainties and threats

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Abstract

Threat perception in international relations has received much academic attention and continues to do so. Other contributions to this special section on how leaders *feel* security dangers or perceive threats with radical uncertainty are closely intertwined with this article's focus on threats that are vague and not immediately perceptible. Humans possess a capacity for thinking about and imagining the future known as prospection. Faced with threatening futures, can governments prepare their civil servants to systematically manage uncertainties and anticipate dangers? Drawing on empirical data from interviews with foresight practitioners in the United Kingdom and Singapore, this article examines how governments are nudging civil servants to deploy futures techniques as part of threat perception.

Keywords: capacity building; futures literacy; threat perception; uncertainty; foresight practitioners

Introduction

When asked about the greatest challenge for a statesman, former British prime minister Harold Macmillan replied: 'Events, dear boy, events.'[1] But how far can governments prepare in advance for such events? After all, the United Nations (UN) Secretary General's 'Our Common Agenda' report in 2021 has already warned the world 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.[2]

As threats of all kinds intersect and converge in a so-called polycrisis,[3] other contributions to this special section address how leaders experience and *feel* security dangers[4] or perceive threats with radical uncertainty. There are even global catastrophic risks (GCRs) and existential risks (x-risks) to worry about.[5] Humans do possess a capacity for thinking about and imagining the

[1]Ilana Bet-Al, 'Events, dear boy, events', *Politico* (18 January 2006), available at: {https://www.politico.eu/article/events-dear-boy-events/}.

[2]United Nations Office of the Secretary General, *Our Common Agenda* (2021), p. 66, available at: {https://www.un.org/en/content/common-agenda-report/}.

[3]See Michael Lawrence et al., 'Global polycrisis: The causal mechanisms of crisis entanglement', *Global Sustainability*, 7 (2024), pp. 1–16.

[4]See articles in this special section on 'Radical uncertainty and pragmatism: Threat perception and response' and 'How leaders experience security dangers'.

[5]See Christopher Nathan and Keith Hyams, 'Global policymakers and catastrophic risk', *Policy Sciences*, 55 (2022), pp. 3–21. Also see Lalitha S. Sundaram, Matthijs M. Maas, and S. J. Beard, 'Seven questions for existential risk studies', Centre for Study of Existential Risk (June 2022), available at: {https://www.cser.ac.uk/news/paper-seven-questions-existential-risk-studies/}.

future known as prospection.[6] Yet several policy obstacles stand in the way of more efficient management and assessment of threats. These include anticipation, centralisation/aggregation, coordination, politicisation, transparency, adaptation, and accountability.[7] In particular, when anticipating future threats, governments (at least in democracies) tend to be driven by short-term thinking and election cycles, adopt analytical techniques that are not fit for purpose, or suffer from lack of imagination. The siloed nature of individual government departments also means that they are often preoccupied with firefighting day-to-day operational demands within their sole jurisdiction, devoting less emphasis to slow-moving 'creeping problems' and thus failing to prioritise complex cross-cutting threats.[8] As a non-technical guide to futures thinking issued by the United Kingdom's (UK) Defence Science and Technology Laboratory (Dstl) observed, humans tend to be reactive and respond to imminent threats, but 'thinking about the future is rarely incentivised'.[9]

Addressing such policy obstacles to better management and assessment of threats, this article enquires into how governments are preparing civil servants across all agencies to manage uncertainty and anticipate dangers, especially if such threats are understood in the 'passive sense of an anticipation of impending danger'.[10] Threat perception is said to be defined by four separate indicators:

> The articulations of decision makers (their expressions of judgement and of personal reaction to the threatening cue); descriptions by contemporary spectators (foreign diplomats, colleagues etc.) of the state of mind of decision makers; evidence of exploration by decision makers of alternative responses to the threat (such as intensive internal consultation, increased information flow, the search for external support); and finally, 'coping processes' put into effect by decision makers in response to the threat (such as the strengthening or mobilization of resources, diplomatic countermoves, etc.).[11]

The latter two components – exploring alternative responses to the threat through better information flows and consultations, and coping processes through marshalling and enhancing capacities – constitute the focus of this article. Furthermore, given that threat perception is often influenced by 'predispositions' such as distrust, past experience, contingency planning, and personal anxiety,[12] the prior ability and pre-existing skill set of civil servants to cope with threats matter. Therefore, the key research question derived here is: how are governments equipping civil servants in advance to think systematically about managing uncertainty and threatening futures? The question of real-life decision-making in governments and business within a framework of 'radical uncertainty'[13] has been drawing attention. Notably, this was the subject of a Royal Society conference in 2022 and focus of the Challenging Radical Uncertainty in Science, Society and the Environment (CRUISSE) network then funded by the Research Councils UK (RCUK). Concentrating on the moment when decision makers contemplate their choice of action, they may reasonably imagine

[6] Adam Bulley, Julie D. Henry, and Thomas Suddendorf, 'Thinking about threats: Memory and prospection in human threat management', *Consciousness and Cognition*, 49 (2017), pp. 53–69.

[7] Matt Boyd and Nick Wilson, 'Anticipatory governance for preventing and mitigating catastrophic and existential risks', *Policy Quarterly*, 17:4 (2021), pp. 20–31.

[8] Jonathan Boston, *Safeguarding the Future: Governing in an Uncertain World* (Wellington: Bridget Williams Books, 2017).

[9] Dstl Biscuit Book, *Unfogging the Future* (29 September 2021), p. 008, available at: {https://www.gov.uk/government/publications/unfogging-the-future-a-dstl-biscuit-book}.

[10] Raymond Cohen, 'Threat perception in international crisis', *Political Science Quarterly*, 93:1 (1978), pp. 93–107.

[11] Cohen, 'Threat perception in international crisis', p. 95.

[12] Dean G. Pruitt, 'Definition of the situation as a determinant of international action', in Herbert C. Kelman (ed.), *International Behavior* (New York: Holt, Rinehart and Winston, 1965), pp. 393–432.

[13] Royal Society, *Confronting Radical Uncertainty* (3 October 2022), available at: {https://royalsociety.org/science-events-and-lectures/2022/10/radical-uncertainty/}.

some different outcomes. However, they can neither know nor specify in advance the full range of possible trajectories. Nor can they calculate precise likelihood that the desired results will materialise.

As part of efforts at upskilling policymakers to better cope with such uncertainty, governments and UN agencies have sought to build what is known as futures literacy. A first-ever 'UN Strategic Foresight Guide' will be delivered to UN Member States. Futures thinking and analysis will be supported by the Futures Lab within the UN system, together with the UN Summit of the Future and UN Envoy for Future Generations. Although uncertainty may be inevitable, 'foresight methods can help us simplify that uncertainty and identify threats and opportunities.'[14] 'The terms futures or futures thinking are now used widely as umbrella terms to mean a whole host of activities and approaches that are focused on understanding and using the future.'[15] One must bear in mind that this is not about prediction, though. According to the United Nations Educational, Scientific and Cultural Organization (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'.[16]

How are governments encouraging civil servants to deploy these future-oriented skill sets? Existing theoretical frameworks such as whole-of-government approaches[17] and the importance of policy champions[18] can plausibly explain pathways for building futures literacy. This article contributes a novel perspective that has hitherto been unexplored. It seeks to draw lessons from earlier governmental attempts at promoting new mindsets and techniques throughout the civil service: the proliferation of so-called nudge units.

Why nudge?

Derived from the behavioural psychology concept that people tend to (but not always) choose the easiest options rather than the most suitable one, nudge theory has been widely incorporated into civil services around the world, notably the British government's 'Nudge Unit' (or Behavioural Insights Team). Initially popularised 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.[19] Choice architecture simply means any situation where individuals who make a decision are faced with a certain layout – for instance, the order in which options are presented. Nudge theory aims to change people's behaviours to achieve the desired outcomes (such as paying taxes on time) without formal government mandates such as heavy financial sanctions or incentives. One famous example is Amsterdam Schiphol's airport toilet urinals embossed with a tiny image of a fly for users to target, avoiding spillage. Another is placing fruit at eye level or near the checkout 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) to encourage commuters to walk up flights of stairs instead of taking the escalator.

[14]Government Office for Science, 'A brief guide to futures thinking and foresight', p. 7 (2021), available at: {https://assets.publishing.service.gov.uk/media/635931b18fa8f557d066c1b1/A_Brief_Guide_to_Futures_Thinking_and_Foresight_-_2022.pdf}.

[15]Dstl, *Unfogging the Future*, p. 006.

[16]Available at: {https://en.unesco.org/themes/futures-literacy}.

[17]Tom Christensen and Per Lægreid, 'The whole-of-government approach to public sector reform', *Public Administration Review*, 67:6 (2007), pp. 1059–66.

[18]David Marsh and R. A. W. Rhodes (eds), *Policy Networks in British Government* (Oxford: Clarendon, 1992).

[19]Richard Thaler and Cass Sunstein, *Nudge: The Final Edition* (New York: Penguin Books, 2021), p. 8.

(Image shows a subway station in the northern Japanese city of Sendai where calories and the equivalent food (a bun) is burnt to nudge commuters to take the stairs instead of escalators (Sendai City Transport Bureau, https://www.kotsu.city.sendai.jp/subway/kaidan_calories.html.))

How civil servants have nudged public behaviour of citizens, from improving individual tax returns to shaping COVID attitudes, has been widely evaluated and often criticised from both the right and the left of the political spectrum.[20] 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, they accept that nudges are paternalistic, seeking to influence people to behave in a certain way that is desired by certain authorities.[21] For instance, nudges have been called 'psychological tricks' and 'manipulation' to 'increase compliance'.[22]

Yet there remains scant published research into how to modify the behaviour and threat perceptions of civil servants *themselves*. While academics may serve as policy entrepreneurs to nudge policymakers through communicating narratives,[23] this article turns the focus around to assess how policymakers (the so-called *nudgers*) themselves[24] are being nudged to deploy futures techniques. In other words, the question of 'how to nudge the nudgers' remains overlooked. Given this article's focus on 'nudging the nudgers', a nudge here is, however, defined in a different way from Thaler and Sunstein's narrow understanding based on choice architecture. Instead, a nudge here is more conventionally understood simply as 'to encourage or persuade someone to do something

[20]See, for instance, Chris Bonnell et al., "Nudge smudge: UK government misrepresents 'nudge', *The Lancet*, 377:9784 (2011), pp. 2158–9. Also Maximillian Maier et al., 'No evidence for nudging after adjusting for publication bias', *Psychological and Cognitive Sciences*, 119:31 (2022), p. e2200300119.

[21]See Thaler and Sunstein, *Nudge*, esp. Part V: 'The Complaints Department'.

[22]Meg Elkins et al., 'Are nudges sinister psychological tricks? Or are they useless? Actually they are neither', *The Conversation* (25 December 2022), available at: {https://theconversation.com/are-nudges-sinister-psychological-tricks-or-are-they-useless-actually-they-are-neither-192496}.

[23]One example is Karen Turner, Oluwafisayo Alabi, and Julia Race, 'Nudging policymakers: A case study of the role and influence of academic policy analysis', *Journal of European Public Policy*, 27:8 (2020), pp. 1270–86.

[24]See Bloomberg Cities, 'Meet the nudgers: Pushing behavioral science to new levels' (2 March 2022), available at: {https://bloombergcities.jhu.edu/news/meet-nudgers-pushing-behavioral-science-new-levels}.

in a way that is gentle rather than forceful or direct'.[25] Although Thaler and Sunstein's restricted definition of nudge is not deployed, the broader significance of their work in terms of how governments sought to nudge and build capacity in the civil service remain relevant for this article. This more straightforward definition of nudge means that the focus is on uncovering and analysing various initiatives developed by governments to embed the use of futures techniques across the civil service. Staying true to the spirit of nudging, these futures programmes should be conducted not by dictat or coercion, but by coaxing, cajoling, urging, nurturing, and even 'nagging' according to one interviewee.[26]

The desired outcome in this case is not so much shaping citizens' choices (as in the nudge literature), but rather to equip civil servants themselves to confront uncertainty and threats in a systematic way with a common futures framework and methods that are shared and relatable across different government agencies. This is especially important given how contemporary threats tend to be complex cross-cutting issues, blurring institutional and governance boundaries of regulation and control. Furthermore, two hitherto different sets of literature and research (futures literacy on one hand and nudge theory on the other) have converged on how to address global threats. As academics suggest that foresight and futures literacy at individual and institutional levels help societies and governments address global threats,[27] the scope of nudge theory has also evolved from the individual domestic level towards addressing global crises such as climate change. The 2008 version of *Nudge*, for instance, focused mainly on three themes: money, health, and freedom. Fast-forward to the 2021 edition and Thaler and Sunstein now advocate viewing 'climate change as a global choice architecture problem': this means tweaking the menu of choices presented to industry and citizens such that green choices appear as the easiest default option.[28] Similarly, what David Halpern calls Nudge 3.0 is designed to tackle the gravest global threats today, in contrast to Nudge 1.0 (which focused on personal behaviour) and Nudge 2.0 (which was pitched at organisations and business structures).[29] Furthermore, the pace at which threats may materialise today can differ widely. Fast-moving events such as nuclear war intrinsically have a rapid tempo measured in minutes, if not seconds.[30] On the other hand, there may also be slow-burning or 'boring apocalypses'[31] that are magnified by underlying structural vulnerabilities in technological and governance systems. In such a threat environment, equipping civil servants with futures tools as part of their day-to-day duties to cope with uncertainty and slow-burn latent threats has assumed added importance.

Methods and cases

Case studies presented here evaluate in-house initiatives from the UK and Singapore governments seeking to build futures literacy of civil servants, and further demonstrate how training is delivered in partnership with private-sector consultancies and executive education programmes. Drawing on 18 interviews with civil servants in governmental futures units and expert consultancies in the UK and Singapore, both states are chosen for several important reasons. Besides demonstrating a shared concern with anticipating threats and uncertainty, they have invested resources into futures literacy capacity building. Both, for instance, established institutions tasked with developing and delivering training programmes on futures methods, while futures units are now commonplace

[25]Cambridge English Dictionary, available at: {https://dictionary.cambridge.org/dictionary/english/nudge}.
[26]Interview with futures official, Singapore, January 2023.
[27]Meredith Bowden, 'Deepening futures methods to face the civilisational crisis', *Futures*, 132 (2021), 102783.
[28]Thaler and Sunstein, *Nudge*, p. 286.
[29]David Halpern, *Inside the Nudge Unit* (London: W. H. Allen, 2019), p. 346.
[30]I thank an anonymous reviewer for this point.
[31]Hin-Yan Liu et al., 'Governing boring apocalypses: A new typology of existential vulnerabilities and exposures for existential risk research', *Futures*, 102 (2018), pp. 6–19.

throughout their civil service.[32] Crucially, there is active ongoing exchanges of personnel and best practices between the UK and Singapore civil service, far more than exists between alternative paired cases, say Japan and New Zealand.[33] In addition, public-sector cooperation, including a Singapore–UK public-service roundtable sharing insights and capacity building for mutual benefit, has been a key plank of the bilateral relationship, institutionalised most recently as part of the UK–Singapore Strategic Partnership signed in 2023.

Adopting this comparative approach across the UK and Singapore cases may thus glean some important insights into best practices and limitations when nudging the civil service to adopt futures techniques. Interview data was thus cross-referenced to identify overlapping trends, concepts, and social networks, and further triangulated with discourse and text analysis of other primary sources, including policy statements, speeches, press releases, and training documents. Interviews were relational in that they were structured like a two-way dialogue rather than a one-way interrogation. This allowed for more free-flowing exchange and encouraged interviewees to raise points they feel are important. Interviews were anonymised for two main reasons. Firstly, although the material discussed may not be sensitive or secret, the interviewee requested off-the-record interview. Secondly, anonymisation enabled the interviewee to be more at ease and the discussions free flowing. The interviewee was also more willing to share information and expand on their thoughts. Interviews were semi-structured, focused on interviewee experience and perceptions of futures capacity building. Respondents were initially approached through academic and government networks, with snowball sampling leading to follow-on interviews either in person or through email. Respondents overall proactively provided information and demonstrated desire to disseminate better awareness of futures work in governments.

Although the UK and Singapore have vastly different geographical, historical, and strategic contexts, they share the bitter experience of unwanted strategic surprises/shocks in the early 2000s that prompted a desire to better understand the future for planning and resilience purposes. The UK experienced wildcat fuel strikes in late 2000, coupled with a foot-and-mouth disease outbreak among animal livestock, followed by shocks and loss of British lives stemming from the 9/11 terror attacks in the United States. The British government realised that it had to better understand what the risks were and how best to organise to improve resilience. This led to a national risk-assessment exercise and publication of the National Risk Register (NRR) in 2008 that outlines the key malicious and non-malicious risks that could affect the UK in the next two years. In the words of the Cabinet Office official responsible for the NRR, 'Britain's risk profile will be diverse, as now, with no single risk dominating, and complex and unpredictable, with links suddenly and apparently randomly emerging between events.'[34] Preparing in advance for looming threats became more integrated into the broader policymaking process. Many UK government bodies now have futures teams, in part thanks to efforts of the Government Office for Science's (GOS) Futures, Foresight and Horizon Scanning programme, which works to 'support civil servants to think about the future through our resources, training, advisory service, networks, reports on specific issues and technology horizon scanning service'.[35] The Ministry of Defence's (MOD) Development, Concepts and Doctrine Centre (DCDC) hosts a dedicated in-house futures team that provides input into the flagship 'Global Strategic Trends' report. The Health and Safety Executive (HSE) Foresight Centre

[32]UK Government Office for Science, 'Long term strategic thinking and planning: Futures thinking resources for government officials' (26 May 2023), available at: {https://www.gov.uk/government/collections/long-term-strategic-thinking-and-planning-futures-thinking-resources-for-government-officials}, Also Eddie Choo and Alessandro Fergnani, 'The adoption and institutionalization of governmental foresight practices in Singapore', *Foresight*, 24:1 (2022), pp. 19–36.

[33]I am grateful to an anonymous reviewer for this point.

[34]John Tesh, 'The making of a national risk register', available at: {https://www.cam.ac.uk/research/discussion/the-making-of-a-national-risk-register}, Centre for Science and Policy, University of Cambridge (26 October 2012).

[35]Government Office for Science, 'Futures, foresight and emerging technologies', available at: {https://www.gov.uk/government/groups/futures-and-foresight}.

applies futures tools such as Three Horizons to examine the future of energy.[36] Even the spy agency Government Communications Headquarters (GCHQ) has advertised publicly for the Futures and Emerging Technologies Team whose publicly available job description was to 'scan for trends and signals, translate research into insights, develop scenarios, and facilitate immersion and ideation workshops'.[37] The Parliamentary Office for Science and Technology (POST) too conducts horizon scanning on topics such as technological advances, sociocultural trends and geopolitical challenges that Parliament Select Committees might otherwise miss. Researchers from POST have liaised with GOS Futures teams on training programmes and resources. A potential futures hub may even bring together staff working in POST with those in the House of Commons Library.[38]

Meanwhile, thinking about future threats has had a long history in Singapore government circles. Scenario planning was adopted as far back as the 1980s with a unit established in the Ministry of Defence. In the early 2000s, Singapore discovered a previously undetected Islamist terror cell after the 9/11 attacks, followed by the severe acute respiratory syndrome (SARS) disease outbreak in 2003, all of which reinforced a need to better anticipate potential threats.[39] This prompted the development of the Risk Assessment and Horizon Scanning (RAHS) programme within the National Security Coordination Secretariat at the Prime Minister's Office (PMO) to foster a whole-of-government approach to strategic anticipation. The RAHS programme developed software tools to anticipate emerging strategic trends in partnership with defence research agency Defence Science Organisation (DSO) National Laboratories. Although the RAHS programme sought to provide warning of emerging surprises within the two-to-five year horizon, capacity building was another key goal to sensitise policymakers to risk-based decision-making.[40] Such future-focused initiatives were continued with the Centre for Strategic Futures (CSF) established in 2009 within the PMO. The CSF was to focus on issues that may be blind-spot areas, pursue open-ended long-term research, and experiment with new methodologies. Drawing upon the UK experience, in-house futures units have similarly been established throughout the Singapore public service such as the Ministry of Defence, Ministry of Trade and Industry (MTI), Ministry of the Environment and Water Resources (MEWR), Ministry of Education (MOE), and the Singapore Food Agency. Futures topics range from climate change to the impact of artificial intelligence (AI), geopolitical competition, and emerging technologies. Some 150 public officers were engaged in futures work by 2013.[41]

From both the UK and Singapore cases, there is a clear consistent emphasis on building what is known as futures literacy – the skills civil servants need to decide why and how to use their imagination to introduce the non-existent future into the present.[42] As the UK GOS explains, futures work can help civil servants to 'Spot patterns of change, emerging trends, surprises, and disruptors earlier, giving us more time to respond'.[43] In terms of government bureaucracies, the challenges for equipping civil servants with the mindset and techniques to cope with uncertainty about the

[36]Government Office for Science Case Study, 'Future of energy: Three horizons and futures wheels, health and safety executive' (29 August 2024), available at: {https://www.gov.uk/government/publications/future-of-energy-three-horizons-and-futures-wheels-health-and-safety-executive}.

[37]GCHQ Careers, 'Emerging technologies and futures lead', available at: {https://www.gchq-careers.co.uk/jobs/emerging-technologies-and-futures-lead.html}.

[38]Interview with POST official, England, October 2022.

[39]Peter Ho, 'The RAHS story', in Hong Ngoh Edna Tan and Hoo Tiong Boon (eds), *Thinking about the Future: Strategic Anticipation and RAHS* (Singapore: National Security Coordination Secretariat and S. Rajaratnam School of International Studies, 2008), pp. xii–xix.

[40]National Security Coordination Centre, 'Explaining the RAHS Programme', in Tan and Boon, *Thinking about the Future*, pp. 3–8.

[41]Siti Maziah Masramli, 'Unfolding the future', Public Service Division Singapore, available at: {https://www.psd.gov.sg/challenge/ideas/deep-dive/futurists-reveal-our-possible-future}.

[42]Riel Miller, 'Sensing and making-sense of futures literacy: Towards a Futures Literacy Framework (FLF)', in Riel Miller (ed.), *Transforming the Future* (Abingdon: Routledge, 2018), pp.15–50.

[43]Government Office for Science, 'A brief guide to futures thinking and foresight', p. 4.

future are sizable: 'how can we move from an essentially reactive bureaucratic organization to an anticipatory one?'[44]

How to nudge the civil service to embed futures literacy

The British and Singapore cases clearly indicate that futures units have been seeded across different ministries and agencies. This is significant because structurally and institutionally, 'Strategic foresight capacity needs to be seen as an ecosystem that cuts across all aspects of government.'[45] Foresight is explained as the insight derived from futures work. The Organisation for Economic Co-operation and Development (OECD) has compiled lessons drawn from cases around the world demonstrating that 'effective foresight institutionalization' is achieved through establishing dedicated foresight institutions and frameworks, as well as building a foresight culture within existing institutions.[46] What the OECD report lacks is detailed analysis of specific initiatives and mechanisms through which the UK and Singapore have nudged their civil service to enhance and deploy futures literacy.

Analysis conducted for this article suggests that several guiding principles proposed by pioneering scholars of nudge theory may help to explain how British and Singaporean institutions have nurtured the use of futures techniques and tools. 'Make it easy' and 'make it fun' is Thale and Sunstein's clarion call for governments seeking to deploy nudges in policy work. Likewise, reflecting on his time heading the 'Nudge Unit', Halpern concluded that the British experience of nudging could be summed up as EAST: 'Easy' (make it easier to fill out a form, for instance); 'Attractive' (drawing attention to stand out and build salience, e.g., changing the colour of official envelopes);[47] 'Social' (the choices and behaviour of others shape and amplify 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, e.g., the best time to donate is before Christmas).[48] In sum, there is a need to make nudges not only easy and social but also fun. Additionally, based on the interviews and documents this author collected, these three key tenets also appear most consistently from interviewee responses. Adapting the recommendations made by Halpern and Thaler/Sunstein, 'Make it Easy and Social' together with 'Make it Fun' therefore forms the crux of the subsequent analysis.

Make it easy and social

This section demonstrates how Thaler and Sunstein's suggestions for nudging (make it easy and social) may help to explain various pathways through which the GOS has fostered futures literacy in the civil service. It must be clarified here though that GOS has neither explicitly endorsed nor referred to Thaler and Sunstein's work. To make futures more accessible and approachable to civil servants, a GOS pamphlet titled 'A Brief Guide to Futures Thinking and Foresight' provides tips on how to 'embed long-term thinking into policymaking.' In a nod to its effort to make futures work easier, the pamphlet acknowledges that 'the future can be a difficult topic to navigate and incorporate in your work, so we have created this guide to provide a brief introduction with links to a range of resources where you can learn more.'[49] The GOS also released the Futures Toolkit explaining how

[44]Roberto Poli, 'The challenges of futures literacy', *Futures*, 132 (2021), 102800.

[45]Anne Pordes Bowers and Peter Glenday, 'Effective foresight by governments: An international view', OECD OPSI (23 June 2021), available at: {https://oecd-opsi.org/blog/effective-foresight-by-governments-an-international-view/}.

[46]OECD Strategic Foresight Unit, 'Foresight and anticipatory governance in practice: Lessons in effective foresight institutionalization' (2021), available at: {https://www.oecd.org/strategic-foresight/ourwork/Foresight_and_Anticipatory_Governance.pdf}.

[47]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.

[48]Halpern, *Inside the Nudge Unit*, p. 10.

[49]Government Office for Science, 'A brief guide to futures thinking and foresight'.

to deploy techniques such as horizon scanning, Seven Questions, and Delphi. The toolkit is seen as particularly useful because using standard scenarios may 'sometimes get in the way as they are too complicated', therefore 'simpler toolkits'[50] may be more useful and easier to deploy. A GOS official recounted that the Futures Toolkit contains 'pathways' for combining different futures tools, which are meant to be 'easy to follow' and tailored to different agencies and purposes.[51] A Singapore interviewee likewise suggested that relaxed informal settings such as retreats for senior management helps to simplify and 'demystify' futures thinking, while a 'drip-feed' approach pushing out half-baked work-in-progress papers for potential users to provide input also means less pressure on end users to respond.[52] The whole idea is to make the futures process less complicated, less daunting, and less intimidating. Such initiatives designed to be easy and attractive will be most effective when 'prompting or reminding someone to do something that they know they should probably do anyway'.[53]

Besides capability development through toolkits, workshops, and learning sessions, the GOS builds cross-government networks and hosts events to coordinate futures work, share learning, and develop a futures culture in government. These cross-government networks serve a critical social function, as per Thaler and Sunstein's recommendations. A dedicated GOS futures capability and resource team assists teams across government agencies to 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. The GOS also maintains a blog as part of its Foresight and Horizon Scanning programme, a place for policymakers, stakeholders, and academics to connect. Indeed, the GOS reminds civil servants to 'bring in alternative points of view, as futures is a collaborative process', and to deploy 'participatory futures techniques' to engage a wider and diverse audience.[54] The social dimension of futures work is important because the choices and behaviour of others helps to shape and amplify individual choices and developing norms, especially on threats marked by uncertainty such as emerging technologies and AI. One interviewee called these cross-government networks a 'really good forum' for prioritising trends and testing ideas through presentation from different agencies.[55] Another interviewee fondly described these networks as the 'futures family' across government.[56] The GOS has received growing number of enquiries from teams across government seeking advice on how to set up new horizon-scanning functions within their own organisations. In response, the GOS organised a workshop bringing together the heads of horizon scanning networks to share experiences, which was well attended by over 100 futures practitioners across government.[57] In a reflective account of how the UK Department for Education established its Futures Insight Programme during the COVID pandemic, looking 'beyond your own department for support' was highlighted as a critical enabler, and the programme would not have succeeded without GOS support.[58]

The fact that there are now 'communities of futures practitioners' across the UK government attests to the importance of the social dimension of nudging. One interviewee remarked that all it takes is 'a few people to start caring, to get things going … allies are super helpful'.[59] Thaler and

[50]Interview with futures consultancy, England, October 2022.
[51]Interview with GOS official, England, October 2022.
[52]Interview with CSF official, Singapore, January 2023.
[53]Halpern, *Inside the Nudge Unit*, p. 104.
[54]Government Office for Science, 'A brief guide to futures thinking and foresight', pp. 4, 6.
[55]Interview with futures consultancy, England, October 2022.
[56]Interview with GOS official, England, October 2022.
[57]Beth Morgan, 'Establishing horizon scanning functions in government', *Futures, Foresight and Horizon Scanning Blog* (17 November 2021), available at: {https://foresightprojects.blog.gov.uk/2021/11/17/establishing-horizon-scanning-functions-in-government/}.
[58]William Moody, 'Taking futures from a programme to an integrated function in central government departments', *Futures, Foresight and Horizon Scanning Blog* (30 September 2022), available at: {https://foresightprojects.blog.gov.uk/2022/09/30/taking-futures-from-a-programme-to-an-integrated-function-in-central-government-departments/}.
[59]Interview with futures consultancy, England, October 2022.

Sunstein described 'social norms as nudges', suggesting that those seeking to promote futures literacy across government may do so by simply telling people what others are thinking and doing.[60] This may in truth seem a very low threshold to consider almost everything futures teams do as a nudge in the narrow Thaler and Sunstein sense.[61] But since nudge is more broadly defined in this article as gentle persuasion or to draw attention to something, such positive word-of-mouth recommendations may prod others into action as they contemplate the relevance of futures tools for their portfolios. Criticisms have, however, arisen about how 'insufficient fostering of long-term thinking, systems thinking, futures thinking and technical expertise across the civil service' remains a weakness.[62] The continuing challenges of sustainability and embedding futures capacities will be discussed in the conclusion section.

Turning to the Singapore case, there are lots of similarities with the UK's experience in 'making it easy and social'. In fact, Singapore's CSF consciously looked at the UK experience as a template before designing their own tailor-made products adapted for the Singapore context. Just as the UK GOS has rolled out its Futures Toolkit and various learning events, the CSF equivalent is its Scenario Planning Plus (SP +) toolkit. The CSF also runs a series of workshops at the Civil Service College dubbed FutureCraft which aim to introduce key skills and relevant to government foresight work. These tools include backcasting and sense-making based on driving forces analysis and prioritisation in climate change risks. Other tools adopted by the CSF such as strengths, weaknesses, opportunities, and threats (SWOT) analysis are also to be found in the UK GOS Futures Toolkit. To make futures more accessible, the CSF helpfully provides a glossary explaining key terms associated with futures work such as *black swan* and *wicked problems*. There is even a cheat sheet on how to start a futures unit, all designed to make the futures process simpler.[63]

Akin to the social functions served by the UK's horizon-scanning network of permanent secretaries, the CSF also has a strategic futures network meeting quarterly at the deputy secretary level. At the staff officer level, there is a bimonthly Sandbox meeting across government to share ideas and projects. One of the CSF's key missions is 'grow': building capability and capacity for strategic foresight at all levels in the wider public service.[64] A CSF publication mused with some satisfaction that as foresight capabilities become embedded throughout government, 'the forest grows'.[65] An interviewee even described the CSF as a 'mothership' in terms of its ability to provide contacts and connections with other futures planning teams across different ministries.[66] This mothership moniker was hard-earned. When the CSF was launched, it embarked on what another interviewee recalled as a 'crazyesque roadshow', knocking on doors throughout government to do presentations of futures work and sitting with agencies to help them 'train the trainers' to build capacity.[67] Rather than nudging, this interviewee remarked, constant 'nagging' may be a more accurate description of the CSF's past and present efforts on the importance of futures.[68]

Policy champions, senior sponsors, and top-level support are also critical to ensuring these social networks emerge and achieve sufficient levels of buy-in to survive. In the case of Singapore, Peter Ho, a former head of the civil service and a futures advocate, was instrumental in founding

[60]Thaler and Sunstein, *Nudge*, p. 83.

[61]I thank an anonymous reviewer for this point.

[62]Sam Hilton and Caroline Baylon, 'Risk management in the UK: What can we learn from COVID-19 and are we prepared for the next disaster?' *CSER Report* (12 November 2020), available at: {https://www.cser.ac.uk/resources/risk-management-uk/}.

[63]Sharmini Johnson, 'Starting a futures unit: A cheat sheet', in *Conversations for the Future*, vol. 3 (Singapore: Centre for Strategic Futures, 2023), pp. 14–21.

[64]Jeanette Kwek and Seema Gail Parkash, 'Strategic foresight: How policymakers can make sense of a turbulent world' (17 August 2020), available at: {https://apolitical.co/solution-articles/en/strategic-foresight-making-sense-of-a-turbulent-world}.

[65]Centre for Strategic Futures, 'The forest grows: An overview of developments in the foresight ecosystem', in *Conversations for the Future*, pp. 8–13.

[66]Interview with Singapore futures official, January 2020.

[67]Interview with CSF official, Singapore, January 2023.

[68]Interview with CSF official, Singapore, January 2023.

the CSF. Ho's influence is such that many civil servants today engage easily in conversations about 'future proofing, future-ready, future-thinking' such that 'this language is prevalent currency and there is a shared vocabulary in all ministries of reading trends and future planning'.[69] Such significant changes in mindsets and language were attributed positively to Ho's support for growing futures literacy throughout the civil service. Underscoring the centrality of top-level endorsement, Singapore Prime Minister Lawrence Wong even penned the foreword to the CSF's biennial *Foresight* publication on its 15th anniversary in 2024. Over in the UK, the New Labour government of Tony Blair, when it came to power in 1997 was seen as 'critical in setting up the DCDC, with focus on futures'.[70] Former chief scientific advisor Sir Patrick Vallance also keenly demonstrated personal interest in futures literacy and capacity building. Sir Patrick himself wrote the foreword endorsing the GOS pamphlet mentioned earlier, 'A Brief Guide to Futures Thinking and Foresight'. An interviewee stressed that since the chief scientific advisor was a key 'policy champion that everyone pays attention to', such an 'alignment at top teams' helps to build a 'trusted brand in GOS'.[71] This harks to the so-called messenger effect of attraction where a message is taken more seriously if delivered by someone who is not only respected and credible but also confers a sense of legitimacy. The social dimension of nudging futures work means knowing the right contacts and people to get things implemented, just as investing in social capital helps to identify contacts one seeks to influence.

However, a less social dimension to nudging exists. This may mean paying attention to minute details, down to private secretaries in the private office who place briefing papers daily into the famous British-style ministerial red boxes for ministers to read. No ministerial code exists that provides guidelines on what a passive threat might be or how to anticipate dangers amidst uncertainty. While urgent matters of the day naturally demand attention in the red boxes, a system/template may be developed whereby the private office could flag items seen as innocuous but that could lead to potentially serious cascade events. A private secretary who was futures literate could insert one or two futures-related papers for ministerial attention as part of their daily reading material.

'Make it fun'

Besides making it easy and social, injecting a certain amount of entertainment further helps nudge civil servants to build futures literacy. An interviewee who worked on developing the UK GOS Futures Toolkit recalled that the impetus was to 'Make it fun and intuitive' using simple game-like formats such as treasure maps, horse races, or futures wheels in futures training.[72] The GOS also published the Trend Deck (presented in the form of 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'.[73] The idea of using cards is also seen in the Singapore case. The CSF Driving Forces card deck similarly intended 'to spark conversations about the key 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 due to technology and AI. In addition, the CSF utilises 'War-Gaming, in which strategies and conflict simulations are explored within a fictional scenario game'.[74]

[69]Chan Heng Chee, 'The politics of anticipation and future thinking', in Shashi Jayakumar, Jeanette Kwek, and Adrian W. J. Kuah (eds), *Peter Ho's Menagerie* (Singapore: World Scientific, 2024), pp. 104–12.

[70]Interview with DCDC official, England, November 2022.

[71]Interview with GOS official, England, October 2022.

[72]Interview with GOS official, England, October 2022; Interview with futures consultancy, England, October 2022.

[73]UK Government Office for Science, *Trend Deck* (Spring 2021), available at: {https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/998939/GO-Science_Trend_Deck_-_Full_Version_-_Spring_2021__1_.pdf}.

[74]Centre for Strategic Futures, 'Our approach' (2023), available at: {https://www.csf.gov.sg/our-work/our-approach/}.

Indulging in some creative writing and fiction also makes the futures process more enjoyable, engaging, and interactive. Given that 'creativity is a crucial skill for foresight professionals',[75] one Singapore interviewee noted, an enabling environment within government agencies to sustain and nourish these creative qualities is crucial.[76] Focusing on creative writing and fiction, for instance, may help, particularly in tandem with an element of fun. The work of the UK Futures Literacy through Narrative (FLiNT)[77] network demonstrates how interdisciplinary perspectives can build cross-government futures literacy.

Indeed, narratives have been deployed as a tool to build futures literacy for the UK's National Centre for Cyber Security (NCSC).[78] The Royal Air Force (RAF) 'ASTRA' (whose motto is *Ad Astra* or 'To the Stars') team is tasked with making the service 'ready to face the threats and challenges of the future in our rapidly changing world'. A booklet produced by ASTRA collected stories from RAF personnel representing 'a different way of describing the future' and what the RAF of 2040 might look like. The booklet prompts its 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'.[79] The tone is laid-back, informal, and personal, asking readers whether the stories resonate with them personally, reminding readers to constantly be on the lookout for drivers of change and reflect on them. Fostering and encouraging such creative thinking aligns nicely with futures work, according to a GOS interviewee.[80] A similar friendly, relaxed, and light-touch approach is adopted in the Dstl Biscuit Book series that deals with serious, dense, and complex topics such as AI threats. The books are explicitly meant to be 'simple guides' that are 'easily digestible' and 'designed for you to pick up and dip into when you're enjoying a cup of tea and a biscuit'.[81] Such evocative imagery of biscuits that one relaxes with over a cup of tea at teatime not only appeals to a favourite British teatime practice but, more importantly, makes thinking about the future less daunting and perhaps even enjoyable. The 2021 Biscuit Book titled *Unfogging the Future* explains the uses of futures thinking, opening with Chapter 1 titled 'So, what *is* this futures thing?' in a rather relatable and informal style.[82]

Storytelling and the use of narratives also feature quite prominently in Singapore's CSF projects on 'developing possible futures' using tools such as scenario planning where '*stories* of plausible future scenarios are used to challenge assumptions and trigger thinking about long-term strategies'.[83] The CSF itself employs several officials who are self-described science fiction fans or have previously been freelance writers/poets. The CSF's *Foresight 2021* publication in fact contained numerous creative writing renderings of how a future world might look such as 'Artefact from the future: Faithflix', a play on the Netflix phenomenon exploring spiritual connection through the Internet.[84] *Foresight 2021* also dedicated several paragraphs to summarising discussions at the CSF's flagship foresight conference revolving around narratives. These included suggestions that technology had changed how stories were created and received, as well as how collaborative storytelling was becoming commonplace again, utilising platforms such as massively multiplayer online

[75]Mark Frauenfelder, 'Five actions to jump-start creativity', Institute for the Future (19 February 2023), available at: {https://www.iftf.org/insights/five-actions-to-jump-start-creativity/}.

[76]Interview with futures officer, Singapore, January 2023.

[77]See Genevieve Liveley, Will Slocombe, and Emily Spiers, 'Futures literacy through narrative', *Futures*, 125 (2021), 102663, available at: {https://flint.org.uk/}.

[78]Liveley et al., 'Futures literacy through narrative'.

[79]Royal Air Force ASTRA, 'Stories from the future: The RAF in 2040', (2020), available at: {https://www.raf.mod.uk/documents/pdf/stories-from-the-future-the-raf-in-2040/}.

[80]Interview with GOS official, England, October 2022.

[81]Dstl Biscuit Books, available at: {https://www.gov.uk/government/collections/dstl-biscuit-books}.

[82]Dstl Biscuit Books, *Unfogging the Future*.

[83]Centre for Strategic Futures, 'Our approach', 2023.

[84]Centre for Strategic Futures, 'Artefact from the future: Faithflix', *Foresight 2021*, p. 8–9 (Singapore: Prime Minister's Office, 2021).

role-playing games. The in-house CSF blog site (https://pmo-csf.medium.com/) is itself hosted on the Medium open platform which supports writers and storytelling.

Partnerships with academia and the private sector

Governments do not work alone when cajoling civil servants to adopt futures techniques. Important capacity-building platforms also exist in the academic or private sector, often working in tandem with and supporting government in-house training programmes. Research for this article also unearthed interesting data indicating that many private- or academic-sector trainers tend to be former futures officials. The National University of Singapore, for instance, has its Futures Office based within the Office of the President as an internal foresight think tank led by a former CSF official. Public policy schools in universities that conduct executive education have also offered futures training for civil servants, sometimes in cooperation with private-sector consulting firms. One notable example was the Singapore Futures Programme (SFP) at the Lee Kuan Yew School of Public Policy, National University of Singapore. The previous director of the SFP was formerly a Singapore government futures practitioner, while the September 2023 programme Futures for Public Policy was taught by two instructors, both former Singapore government futurists. Later that year, consultancy firm Demos Helsinki worked with the SFP to deliver the November 2023 Futures Masterclass course, which featured instructors from Kantar Consulting (a former Singapore government futures official) and Demos Helsinki. Reminiscent of social network functions performed by its government counterpart in the CSF, a webinar series called Futures Forward was also hosted by the SFP as a platform for a community of futures practitioners and policymakers to network.[85]

In the UK, the School of International Futures (SOIF) is a non-profit organisation seeking 'to deliver futures insights, capability and change'.[86] It has conducted training with the GOS Futures Team and for MOD DCDC futures officers. The SOIF was in fact commissioned by the GOS to deliver a report containing case studies of how eight different governments around the world have used foresight and futures techniques.[87] As for British public policy schools, Oxford University's Blavatnik School of Government runs the Practical Futures Thinking for Policy course as part of its Master of Public Policy Programme. This futures course is taught by instructors from the SOIF (who are in turn former UK government futures officials). Meanwhile, UK GOS also designed and delivered a bespoke futures module for the Civil Service Senior Leadership Scheme hosted by private business school Ashridge Management College (now known as Ashridge Executive Education).[88] It is noteworthy that the GOS Futures Toolkit itself was authored by partners outside government, namely Waverley Management Consultants, which won a bid-for-contract call by the GOS. Waverley's Alister Wilson (director of strategic futures), who authored the toolkit, is a member of Defra's Futures Advisory Group. Meanwhile, futures practitioners at Kantar Consulting in London have moved on to head futures advice at the GOS. The direction of travel also goes the opposite way. Futures-trained civil servants have left the UK government and moved into the SOIF and the Centre for Long-Term Resilience.

[85]See Episode 1, 'Futures and Public Policy in Asia' (23 February 2021), available at: {https://lkyspp.nus.edu.sg/executive-education/episode/futures-and-public-policy-in-asia/}.

[86]School of International Futures, 'Services', available at: {https://soif.org.uk/foresight-services/}.

[87]School of International Futures, 'Features of effective systemic foresight in governments around the world' (May 2021), available at: {https://www.gov.uk/government/publications/features-of-effective-systemic-foresight-in-governments-globally}.

[88]UK Cabinet Office, 'Government response to preparing for extreme risks: Building a resilient society' (17 March 2022), p. 24, available at: {https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1061478/government-response-risk-large-print.pdf}.

International strategy and like-minded partners

In a world of complex cross-cutting threats that one nation alone cannot address, it behooves states to share and collaborate on futures expertise with international partners. Japan's Ministry of Education, Culture, Sports, Science and Technology (MEXT) 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 the GOS.[89] Several Japanese civil servants have also attended futures courses (taught by SOIF instructors, as mentioned earlier in this article) during their master's studies at Oxford Blavatnik School.[90] Meanwhile, UK MOD DCDC sent a delegation in 2022 to Japan's National Institute for Defence Studies (NIDS) and the Sasakawa Peace Foundation to get regional perspectives for their flagship 'Global Strategic Trends' report. Japan's NIDS in turn also invited British analysts from the Dstl working on policy gaming methods to its international conference on policy simulation called Connections Japan 2022. The NIDS researchers have also spent up to two weeks on attachment with the DCDC, as have Singapore CSF officers.[91] Given that the DCDC has hosted several nations' military officers on exchange to its futures team, this suggests that partner governments are also investing in building futures capacity.[92]

Singapore and the UK are certainly not alone in building futures literacy. Reflecting on how other like-minded countries build futures literacy could be an interesting arena to explore in future research. For instance, New Zealand (NZ) (a like-minded strategic partner of Singapore and a close ally of the UK) has also established the Strategic Futures Group in the PMO. Mirroring the Singapore and British experience, 'futures tools' and 'communities of practice' have been rolled out in the NZ context.[93] Across the Tasman Sea, Australian National University (ANU) has set up the Futures Hub (in collaboration with the federal government in Canberra) with projects looking at geo-economic and geopolitical futures in the Indo-Pacific. An all-too-familiar pattern of publishing futures toolkits in Australia is also transpiring, reminiscent of the UK and Singapore cases. In 2024, ANU's Futures Hub worked with the Australian government to produce *Futures Primer*, a guide for using futures to 'identify emerging strategic risks and opportunities.'[94]

Conclusion: How long do nudges last?

A question posed by Thaler and Sunstein, this has important implications for building futures literacy. After all, a UK interviewee reflected that interest in capacity building and futures goes in cycles, having waxed and waned over the decades in the UK government, due either to changes in leadership positions such as the chief scientific advisor or political parties in power. Organisational memory can therefore 'thin out'.[95] A Singapore official noted that the civil service may have become more accustomed to futures work after decades of efforts. Patrons and high-level support, however, remain necessary to keep up 'nagging' on futures and build sustainability[96] to make futures literacy stick. A UK official likewise observed that senior-level buy-in helps with initial stages and although 'starting with a "big-bang" event is a useful hook', there must be a focus on the 'now what' question and what comes after the event.[97]

Cross-government futures networks not only serve a social function, but also help to broaden the range of policy options for civil servants dealing with uncertainty and complexity. Properly

[89] Interview with Japan government official, February 2023.

[90] Personal email communication with Japanese official, July 2023.

[91] Personal email communication with NIDS and CSF officials, April 2023.

[92] Interview with DCDC official, England, November 2022.

[93] New Zealand Department of the Prime Minister and Cabinet, *Futures Thinking*, (2024), available at: {https://www.dpmc.govt.nz/our-programmes/policy-project/policy-methods-toolbox/futures-thinking}.

[94] Australian Government, 'Policy fit for the future: The Australian government futures primer' (2024), available at: {https://www.apsacademy.gov.au/sites/default/files/2024-08/Australian%20Government%20Futures%20Primer.pdf}.

[95] Interview with futures consultant, England, October 2022.

[96] Interview with CSF official, Singapore, January 2023.

[97] Moody, 'Taking futures from a programme to an integrated function'.

framing a complex, multifaceted issue like AI may demonstrate the alternative options and pathways available that lead to alternate futures. While it may be necessary to present ideas in a boring, routine way to remind policymakers that catastrophic things could happen on their watch,[98] games appear as a leading candidate to instrumentalise the 'make it fun' slogan. Experimental role play exercises based on AI that acclimatise policymakers to AI issues have been deployed in training sessions.[99] As part of the Challenging Radical Uncertainty in Science, Society and the Environment (CRUISSE) network, Kris de Meyer from University College London's (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 the impact of nudging civil servants to deploy futures thinking? Circling back to the coping process of threat perception highlighted in the introduction to this article, the British and Singapore governments have focused efforts on strengthening or mobilisation of futures resources to equip civil servants to better handle uncertainty and anticipate dangers. The GOS Futures Toolkit helpfully lists several case studies of UK government agencies that have incorporated futures methods into their work, such as the Environment Agency and the Dstl. However, the problem remains that 'futurists tend not to be very good at linking futures work with outcomes'.[100] If futures literacy leads to a more structured conversation, a UK interviewee suggested, that would be a desired outcome if scanning and sense-making led to better sets of questions.[101] Another UK interviewee agreed that this means 'creating a discourse or common baseline on questions within government about choices to prepare for the future'.[102] Through shared language and concepts of futures, one Singapore interviewee likewise opined, there may eventually be a 'shared house view' coalescing across agencies on cross-cutting threats such as climate change or AI that defy bureaucratic silos.[103]

Recounting the work of the 'Nudge Unit', Halpern noted that 'perhaps the most important but subtle change on policy brought about by the work of BIT was around method and mindset'. Halpern pointed to how briefing notes and papers for the prime minister and cabinet secretaries 'increasingly contained the language of behavioural insight'.[104] Similarly, mindset changes that 'trickle down' and lead to organisation change is emphasised by Singapore's futures units as indicators of impact and success.[105] As Peter Ho pronounced with some pride, 'the vocabulary of foresight is now spoken and understood by two generations of civil servants throughout the Public Service. Today, it is part of the folklore of the Singapore government'.[106]

Besides making futures work easy and simple, building social networks and injecting fun elements, accessibility is another important finding. Both the CSF and the GOS publish widely as far as possible, and their reports and toolkits are available online for civil servants to access. As a reflective account of how the UK's Department of Education grew its futures capacities helpfully notes, 'You don't have to be futures experts – there are lots of tools available to you.'[107]

Having a shared futures language and approach across different agencies and ministries was deemed useful for discussing complex uncertain threats which necessitate engaging a wide range of stakeholders. Yet it may still remain the case that many civil servants either do not share the

[98] Interview with futures consultancy, England, October 2022.

[99] 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), pp. 8–14 available at: {https://doi.org/10.1145/3375627.3375817}.

[100] Interview with futures consultancy, England, October 2022.

[101] Interview with futures consultancy, England, October 2022.

[102] Interview with DCDC official, England, November 2022.

[103] Interview with CSF official, Singapore, January 2023.

[104] Halpern, *Inside the Nudge Unit*, p. 217.

[105] Interview with futures official, Singapore, January 2023.

[106] Peter Ho, 'Foreword: Complexity is the enemy of foresight', in *Conversations for the Future*, pp. 1–5.

[107] Moody, 'Taking futures from a programme to an integrated function'.

same futures mindset or their approaches to futures may be less than systematic and lack self-awareness.[108] Through nudges by the CSF and the GOS to build a common baseline futures capacity, threat perceptions on cross-cutting challenges held by civil servants across different ministries may be renegotiated, recodified, and *translated* in different contexts by new communities of knowledge and practice.[109]

Yet, labelling and framing of threats remains an important consideration. Adapting the language of nudges to address large-scale global challenges may induce some wariness in civil servants, since nudge has tended previously to focus on relatively small-scale environmental or behavioural changes designed to have causal impact and measured by randomized controlled trials (RCTs).[110] Big-picture threats like climate change seem less nudge-friendly and require a much more wide-ranging and systemic approach. However, *nudging civil servants to use futures* in their policy work can yield benefits, in particular where futures skills and foresight gained may enable better risk management. As one UK respondent noted, 'this shifts attention from "how can we change public behaviour" to "how can we make people in power make different/better long-term policy decisions that don't increase risks for vulnerable groups"'.[111]

The apparent emphasis on big-picture threats such as AI may also risk drawing too much attention to low-probability risks when plenty of 'pretty bad' risks (such as the next pandemic) are still overlooked.[112] While futures units may identify serious threats from climate change and AI and emerging tech, these are not usually labelled as x-risk or GCR in government documents. Using the x-risk or GCR label may make the required policy solutions feel unattainable, creating the opposite desired effect of overwhelming the policymaker.[113]

Instead, nudging futures work may more realistically trigger changes in the linguistic means activated by civil servants that make discussions on threats more authoritative and legitimate.[114] From interviews this author conducted with various agencies in the UK and Singapore, there is a common lingo and vocabulary readily apparent, in that futures practitioners in both governments employed the same terminology such as 'sense-making' and techniques such as Delphi and Seven Questions. Although nudge theorists often highlight the importance of choice architecture, research for this article suggests instead that a common *linguistic architecture* is emerging whereby civil servants employ the same futures vocabulary and concepts that shape policy debates on uncertainty and threats. Ideas proposed by those 'speaking the same language' may also find stronger resonance with those holding decision-making power.[115] Those in positions of authority holding the purse strings in turn also determine the sustainability of futures units. Although the thought leadership role of senior officials is important in inculcating a culture of learning and education about futures, ultimately it comes down to budget: to what extent can funding for futures literacy draw from central government funds?[116]

Reports and papers derived from futures work that feed into government documents are also seen as another indicator of impact. For instance, the DCDC highlights its 'Global Strategic Trends (GST6) 2018' report, 'elements of which have been used to develop the National Risk Assessment'.[117] Further examples of the DCDC's input into high-level decision-making, according to its head of

[108]Interview with Japan government official, Tokyo, February 2023.

[109]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* (Abingdon: Routledge, 2022).

[110]Personal email communication with UK futures official, August 2023.

[111]Personal email communication with UK futures official, August 2023.

[112]Personal email communication with UK futures official, August 2023.

[113]Interview with futures officer, Singapore, January 2024.

[114]Berling et al., *Translations of Security*, p. 17.

[115]Turner et al., *Nudging Policymakers*, p. 1281.

[116]Interview with UK futures official, England, October 2022; Interview with Singapore futures official, January 2023.

[117]Ministry of Defence, *Global Strategic Trends: The Future Starts Today*, 6th edition, (2018), p. 7, available at: {https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1065623/20181008-dcdc_futures_GST_future_starts_today.pdf}.

futures and strategic analysis, include how 'the GST6 then triggered policy responses by informing the Integrated Review, which was a significant event for the UK. This was the first uplift in defense and security spending in a generation'.[118] The 2024 'Global Strategic Trends (GST7)' report will not just present trends but provide futures techniques such as global pathway scenarios that allow policymakers to interpret the trends and prepare accordingly.[119]

Integrating different moving future-oriented parts of the governmental architecture, however, remains a challenge. For instance, the GOS Futures Toolkit was not deployed as part of the national risk assessment exercise when developing the UK government's National Risk Report (NRR) because the NRR's time horizon was too focused on relatively short-term risks between two and five years.[120] Bureaucratic resistance may furthermore be encountered occasionally from line managers skeptical of futures terminology: flexibility may be needed to rebrand futures projects instead as strategic planning. It is important to identify whether such resistance stems from personal as opposed to corporate concerns: it may be the failure of implementation rather than failure of the foresight process itself.[121] Some futures work undertaken by POST may also not appear immediately relevant to Members of Parliament (MPs) and their constituencies. This is because the target audience of POST is select committee MPs and their supporting policy analysts, while that of the GOS is civil servants and bureaucrats.[122] Hence, as GOS staff have often stressed, it is crucial to 'identify your customers and audience'.[123] 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 do not match policymakers' timelines, hence a matchmaking service between academic experts and policymakers may be necessary.[124]

Last but not least, an earlier body of future-oriented literature exists in international relations after 9/11 focused on managing risk and uncertain worst-case scenarios that remains hitherto disconnected from those in futures studies. These include strategic studies scholars working on the nexus between sociologist Ulrich Beck's Risk Society thesis and warfare,[125] and political geographers examining how the diverse worlds of risk management consulting, computer science, commercial logistics, and data visualisation all deal with 'uncertain futures' and the politics of possibility.[126] The fact that low-probability, high-consequence events have become an intrinsic part of politics since 9/11 means that there is potential overlap to be uncovered with futures studies.

The contemporary popularity of futures studies should not obscure the post-1945 geopolitical origins of thinking about threats after the devastation of World War Two and the onset of the Cold War.[127] Nuclear war then (and now) posed a grave threat to humanity, way before current concerns over climate change or AI. The US-based Institute for the Future founded in 1968, for instance, was itself a spin-off of the RAND Corporation, which pioneered nuclear deterrence theories. It is also important to recall critiques drawn from the intellectual history of ideas that show

[118]Interview with Commodore Peter Olive, Head of Futures and Strategic Analysis at the Defence, Concepts and Doctrine Centre (DCDC), *Sasakawa Peace Foundation* (13 February 2023), available at: {https://www.spf.org/en/publications/spfnow/0077.html}.

[119]Interview with DCDC official, England, November 2022. Also Strategic Command, 'We are strategic command with Lt Col (GS) Markus P' (6 December 2023), available at: {https://stratcommand.blog.gov.uk/2023/12/06/we-are-strategic-command-with-lt-col-gs-markus-p/}.

[120]Interview with GOS official, England, October 2022.

[121]Interview with GOS official, England, October 2022.

[122]Interview with POST official, England, October 2022.

[123]Morgan, 'Establishing horizon scanning functions in government'.

[124]Interview with futures consultancy, England, October 2022.

[125]See Yee-Kuang Heng, *War as Risk Management* (Abingdon: Routledge, 2006); Mikkel Rasmussen, *The Risk Society at War* (Cambridge: Cambridge University Press, 2006); Christopher Coker, *War in an Age of Risk* (Cambridge: Polity Press, 2009).

[126]Louise Amoore, *The Politics of Possibility: Risk and Security beyond Probability* (Durham, NC: Duke University Press, 2013).

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

how visions and thinking about the future of humanity in late 19th-century Britain and America was a form of racial utopianism underpinned by notions of racial superiority, the so-called dream-worlds of race.[128] While mainstream futures studies in the 1970s favoured a positivist technocratic techno-economic approach, recent trends suggest a more normative strand emphasising creativity and experimentation, experiential futures, and futures literacy. There is greater appreciation that diverse human and social foresights coupled with cultural pluralism is necessary to navigate uncertainties of an increasingly high-stakes world. This shift towards a more normative futures strand has been accompanied by a focus on shaping behavioural responses and perceptual changes in civil servants, as global threats emerge of an altogether different scale and complexity. How to 'nudge the nudgers' certainly deserves further academic study and policy attention.

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[128]Duncan Bell, *Dreamworlds of Race: Empire and the Utopian Destiny of Anglo-America* (Princeton, NJ: Princeton University Press, 2021).

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