The Landscape of Foresight Theory and Practice: Between Strategic and Transformational Orientation

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Abstract

Foresight researchers, like other professional communities, are evolving to more sophisticated theories and practices that address complex problems at new levels, requiring a holistic view of complex social, economic, technological and environmental systems. There is an emerging need to understand the nature of complex systems in order to develop appropriate thinking beyond established notions of the nature of capabilities. The heterogeneous ability to absorb new knowledge has led to the emergence in Foresight research circles of a philosophical division between a relatively narrow (in the logic of corporate strategies) and a more holistic, transformative view of the future. The article assesses the extent of this division and the dynamics of its change through a sample analysis of the practices of the world's leading Foresight centers. An overview of their philosophies, concepts and practices is presented, and the degree of readiness for a systemic approach through the prism of the five dimensions of Foresight is assessed.

The study reveals a not so obvious trend - many centers understand the value and effectiveness of systems theory for solving contemporary problems in an increasingly complex context and are introducing "systemic" into their philosophy. However, there are difficulties in synthesizing the rational and irrational aspects in strategic thinking that are embedded in historical and cognitive dimensions. Overcoming this cognitive dichotomy allows Foresight practitioners to "see the future far, deep and inclusive in its wholeness", and gain a more accurate picture of what is coming and how to prepare for it proactively.

Keywords: history of strategic planning science; transformation; Foresight; futures studies; methods; ways of knowing; strategic management; scenario planning; future visioning

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Introduction

In the rapidly evolving landscape of the twenty-first century, the related disciplines of Foresight and Futures Studies have emerged as vital arenas for strategic thinking. This paper offers an overview of contemporary practices and philosophies in these fields, emphasizing how their methodologies potentially shape our understanding of organisations, society and the future. Through an analysis of 10 influential Foresight organizations across Europe, Asia and the USA, this study aims to identify the common approaches and practices that characterize the current state of Foresight practice. This paper will also identify novel approaches, as well as suggest any notable absences and potential shortcomings in the employment of Foresight tools. Finally, in a broader civilizational sweep, this paper will summarize the typical ways of knowing and being that are either explicit or implicit within the cultures of these ten Foresight organizations. To this end, five domains of Foresight practice will be elucidated within each organisation: the empirical, interpretive, critical, creative, and mindful.

To contextualize this exploration, the study begins with a brief historical mapping of the recent history of both Foresight and systems theory. This historical context serves as a backdrop for an examination of the evolution of Foresight practices, especially in the current era.

Deep Futures vs Money and Machines Futures

Mintzberg (2022) has pointed to an unbridged chasm in "strategic management:" the divide between analytical and synthesizing management schools. He argues that the former is aligned with the thinking of Herbert Simon (focusing on the programming of work, and emphasizing "analysis" as a prime cognitive process); while the latter features consistencies with the thinking of Ludwig von Bertalanffy (arguing from General Systems Theory, and emphasizing "synthesis" as prime cognitive process). Mintzberg argues that there has been no successful bridge between these two kinds of strategic management.

This study recognizes a related significant philosophical divide within the Foresight community: that between "strategic foresight" and the more philosophical perspectives of «transformative foresight» (Anthony, 2022; Inayatullah, 2018; Markley, 2015; Marx Hubbard, 2015; Slaughter, 2020; Sweeney, 2024). In a related critique, I have previously highlighted limitations within some Foresight work, using a juxtaposition of "Deep Futures" and "Money and Machines" Futures (Anthony, 2010). Money and Machines Futures feature an imbalanced focus on technology and capitalism, shifting values away from deeper, more embodied, and mindful experiences. These futures involve estrangement from nature, with excessive time spent in artificial environments. These techno-centric futures also typically involve a disconnection from the body and its emotional intelligence, as well as from the psyche, leading to diminished self-awareness and an over-reliance on abstract rationality ("left-brained" logic, analysis, and empiricism). Alternatively, Deep Futures feature a greater balance between reason and other ways of knowing, including the introspective, intuitive, mindful, and spiritual approaches, with more emphasis on embodiment and mindful presence. There is also a greater valuing of sustainability, deep connection with nature, and recognition of the importance of human relationships, communities, and well-being (Anthony, 2022, 2023).

Strategic foresight organizations typically seek to assist the survival of organizations; focussing upon measurable outcomes, and analytical methods. In contrast, transformative foresight often has a broader focus, such as the longer-term, sustainable futures of human civilization and the planet. The argument put forward in this paper is that transformative foresight holds the greater potential of the two fields for genuine systemic changes.[1]

By offering an overview of important distinctions between strategic and transformative Foresight, and examining the philosophy and practices of ten leading foresight organisations today, this paper seeks to enhance understanding of the broader discourse on Foresight. The aim is to potentially contribute to the creation of a more balanced discourse, as we engage increasingly complex futures.

This research project begins with the hypothesis that transformative foresight organizations will tend to more commonly practice and embody systems thinking – including honouring relationships and connectivity with people and the planet. Conversely, it is hypothesised that those found to be practicing strategic foresight will tend to be more analytical and feature more of the techno-centric foci of Money and Machines Futures.[2]

Finally, this study invites exploration into how greater balance and depth might be brought to strategic foresight and strategic management in general. However, first we shall briefly explore the relatively brief histories of contemporary systems theories and Foresight itself.

A Brief History of Systems Thinking

Systems theory began in the early 20th century, emerging from biology, engineering, and social sciences. Bi-

[1] Yet this is not to dismiss the important contributions of strategic foresight. Alex Fergnani (2022), for example, has defended the more narrowly-focused corporate approach of many Foresight and Futures organizations. Corporate foresight drives strategic innovation, maintains competitive edge, anticipates future trends, navigates uncertainty, and improves decision-making, Fergnani argues. Fergnani thus emphasizes the practical advantages of corporate-based foresight over the idealized goals of more visionary futures work.

[2] Of course, the dichotomy between transformative and strategic foresight is not always precise; and foresight organisations may practice either at any given time, or in regard to any particular project. Nor is it suggested that the two fields operate in complete isolation from each other, nor that they cannot co-exist. Indeed, one framing of the dynamic is that one might naturally emerge from the other. Using the terminology of integral philosophy (Slaughter, 2020), transformative foresight might be seen include and transcend strategic foresight, given that the former typically includes strategic foresight's preferred empirical and analytical ways of knowing and being, but supplements them with the creative and mindful.

ologist Ludwig von Bertalanffy was a key figure, introducing «organismic biology» in the 1930s. He argued that biological systems should be understood as wholes rather than as isolated components (Bertalanffy, 1932). A decade later, Norbert Wiener's (1948) development of cybernetics, including his ideas on feedback loops and self-regulation, had a significant cross-disciplinary impact. In the social sciences, Talcott Parsons' structural functionalism was significant. He argued that society is a complex system where all parts contribute to the stability and function of the whole. These early systems approaches influenced sociological thought, encouraging further interdisciplinary thinking about how different social structures interconnect. During World War Two, operations research also contributed to systems thinking, when scientific methods were used to optimize resource allocation and planning in complex military operations (Churchman, 1968).

After 1950, systems theory expanded significantly. In 1954, the Society for General Systems Research was founded to promote interdisciplinary study of systems (Rudy, 1980). This facilitated the exchange of ideas across diverse fields.

In the 1960s and 1970s, Peter Senge popularized systems thinking within management and organizational theory. In the 1990s, *The Fifth Discipline* introduced the concept of learning organizations, stressing the value of seeing organizations as interconnected systems to improve adaptability and responsiveness (Senge, 1990).

The 1980s featured Peter Checkland's (1981) soft systems methodology, emphasizing the complexity of real-world problems and promoting flexible, participatory problem-solving approaches. This method highlighted the importance of understanding the social and stakeholder dynamics via systems analysis. Around the same time, complexity theory emerged, with scholars like Ilya Prigogine demonstrating that systems can exhibit behaviors not predictable from their individual components. The theory of self-organization and emergent properties was influential in fields like ecology, economics, and sociology (Prigogine, Stengers, 1997).

In recent decades, systems thinking has been widely applied to global challenges, including climate change and public health crises. The work of Donella Meadows (1999) in systems dynamics reinforced the need for systems-based approaches in policy-making, to address complex societal issues. After the year 2000, in Foresight work, systems thinking and the idea of complexity became notable amongst many futurists, including Richard Slaughter (2020) and Sohail Inayatullah (2018).

It can be seen that systems theory thinking has evolved from its early theoretical foundations to be applied more widely as practical tool for addressing multifaceted problems. Key figures like Senge and Prigogine expanded its scope, making systems thinking an essential framework for understanding complex global challenges.

One component of this study is to ascertain whether systems thinking is truly influential in Foresight theory and practice today – and whether it is helping to transcend Mintzberg's idea of delimited strategic management culture. The latter outcome would be suggestive of a contemporary expansion from strategic foresight into transformative foresight.

A Brief History of Foresight and Futures Studies

Foresight and futures studies developed rapidly after World War II, as technological advances and geopolitical changes spurred interest in long-term strategic planning. Therefore it trailed the development of systems thinking by just a few decades. Herman Kahn, a co-founder of the Hudson Institute, pioneered Scenario Planning in the 1960s, helping organizations explore multiple future scenarios to make better decisions (Kahn, 1960). The RAND Corporation also contributed significantly to futures studies during this period, conducting research on technological forecasting and policy analysis. RAND developed the Delphi method, a systematic process for gathering expert opinions to generate forecasts (Dalkey & Helmer, 1963). During the 1970s and 1980s, there was a period of Foresight institutionalization, and this featured further methodological developments. The Institute for the Future (IFTF), established in 1968, focused on long-range forecasting and Scenario Planning. The first International Conference on Futures Studies in 1970 helped legitimize the field globally. Further, Edward Cornish introduced the concept of «futures literacy,» advocating critical thinking about the future (Cornish, 1977). Notably, this is when systems thinking began influencing futures studies, especially through Peter Senge's work in the 1980s, which promoted a holistic view of organizational and societal futures (Senge, 1990).

The 1990s ushered in technological advances that transformed Foresight practices. The emergence of the internet and digital tools made it easier to gather data and conduct sophisticated scenario analyses using computer modelling. The World Future Society played a key role in disseminating futures research, publishing journals, and organizing conferences. During the 2000s, Foresight increasingly became part of government strategic planning. The European Union initiated Foresight projects to inform policies and foster innovation (Georghiou et al., 2008). These projects emphasized the growing role of Foresight in addressing social, technological, and economic change.

In recent years, Foresight has begun to play a more important role in tackling global issues like climate change, public health crises, and technological disruptions. The COVID-19 pandemic highlighted the importance of strategic foresight in navigating uncertainties. Participatory approaches have gained traction, with tools like Backcasting and design thinking allowing communities to engage in Futures planning. Organizations such as the Millennium Project, established in 1996, continue to drive global Foresight efforts, integrating artificial intelligence and big data into their methodologies (Glenn et al., 2014).

In general, in recent years there has been an increasing prevalence of systems thinking and criticality in Foresight, as evidenced in the progressive ideas of numerous practitioners like Richard Slaughter (2020), Andy Hines and Peter Bishop (2013) and Sohail Inayatullah (2018). As the world faces increasing complexity, the role of Foresight in shaping resilient, sustainable futures has become more crucial.

Foresight and futures studies have thus evolved significantly since 1950, transitioning from early Scenario Planning techniques to contemporary methods that involve technological integration, global collaboration and deep questioning about the future and humanity's place in nature.

In the following section, we shall begin our examination of the cultures and practices of ten prominent contemporary Foresight organisations, by first identifying five common domains of Foresight practice.

The Five Domains of Foresight

The core of this paper centres on the cultures and practices of the ten selected organizations and thinkers, examining their methodologies and the depth of their analyses. Sohail Inayatullah's (2018) taxonomy of Foresight approaches has been modified and adopted for this purpose, given its straightforward framework and potential in elucidating distinctions amongst the ten focus organizations. Inayatullah's first three domains of Foresight – "the empirical", "interpretive", and "critical" – have been retained here, with a modified fourth domain. A fifth domain has then been added.

Inayatullah's fourth domain is «anticipatory action learning,» which has been changed to simply the «creative» domain, as this term covers more ground. Finally, a fifth category – "mindful" – has been included because historically there has often been a transcendent or even spiritual dimension to much futures thinking. This domain is largely absent in mainstream institutions in the current digital age, including amongst strategic foresight practitioners, arguably because of the long historical exclusion of the religious and spiritual from western science and education since the scientific enlightenment of the 1700s (Anthony, 2008). This exclusion could also be interpreted as evidence that this domain has outlived its historical usefulness amidst today's "greater" scientific understandings. However, taking a more historically distanced perspective, and given the vast scope of "the future," the contemporary absence of "the mindful" may merely be a temporary hiatus. It is notable that there is currently a resurgence of the topic of mindfulness in many scientific and academic fields, especially in medicine, cognitive sciences, and business and innovation management (Carole et al., 2024; Gómez-Olmedo et al., 2024; Morin, Grondin, 2024; Ping, Long, 2024; Remscar et al., 2023;). This trend is also strong in educational settings, where mindfulness is typically discussed in the context of increasing concerns about the negative impacts of modern technology and devices on student focus, engagement and mental well-being (Anthony, 2022; Dunning et al., 2019). A growing number of authors are thus addressing this topic in and beyond the Foresight and management communities, giving it special importance.

These historical and contermporary contexts compel the inclusion of a fifth domain of Foresight.:

- ***The Empirical*** – data collection and processing. Predominantly forecasting and Horizon Scanning.
- ***The Interpretive*** – analysing situations, and examining the meanings we apply to people and events, and to change across time, space, and civilization.
- ***The Critical*** – elucidating and questioning the worldviews and assumptions behind futures thinking.
- ***The Creative*** – the practice of living, learning, teaching, imagining, planning and creating the future.
- ***The Mindful*** – questioning and practicing different ways of knowing and being; including the meditative, self-reflective, metacognitive, imaginative, and transcendent (spiritual).

This categorization format permits the drawing of important distinctions amongst the ten focus organizations. It also potentially helps highlight the strengths and weaknesses inherent in Foresight work in general, including revealing possible gaps in thinking and practice. The core of this paper thus centres on the practices of the selected organizations and thinkers, analyzing their methodologies and the depth of their cognitive approaches.

Situating the Foresight Organizations and Their Methods

Identifying the overt philosophies, tools and thinking processes of foresight organizations may help us to consider which domains of foresight they tend to operate from. For each of the ten organisations examined in this study, five domains of their Foresight practice cultures will be briefly outlined via an identification of their preferred foresight methods and preferred ways of knowing and being. Further, a brief qualitative evaluation of their systems thinking will be posited as a supplementary consideration. It is hypothesised that strategic and transformative foresight, respectively, will tend to express divergent expressions of these three characteristics. Those organisations with a tendency towards the practice of strategic foresight will tend to favour the empirical and interpretive domains of foresight. Conversely, transformative foresight organisations will tend to include more of the creative and mindful domains (and therefore their respective ways of knowing and being); while possibly using the critical domain to justify that expansion. Finally, it is postulated that transformative foresight organisations will tend to feature more systems thinking than strategic foresight organisations.

It is important to note that Foresight tools are rarely used in isolation; there are numerous possible combina-

tions of tools that could be employed in any given Foresight project or application. Table 1, below, lists the most common Foresight tools and processes found to be employed across the ten organisations within this study. The grouping process offered in Table 1 is somewhat subjective, and other practitioners within Foresight fields and beyond may categorize the tools differently. However, for the purposes of this study, the following general categorizations have been applied (Table 1).

The scope of this paper does not permit an in-depth discussion of my rationale for each of these categorizations, but a brief overview is posited, below.

The empirical tools are the simplest to situate. Horizon Scanning and Trends Analysis are clearly empirical tools. Delphi analyses are also empirical in that they seek to plot probable futures via data points—collating the perspectives of experts within a given focus area. Of course, each contributor may have employed any imaginable rational, analytical, or intuitive means to reach their conclusions, so interpretation plays a significant role.

The Futures Wheel is a visual brainstorming tool that explores the potential consequences of events or trends, and potentially spans the interpretive, critical and creative domains. It helps users visualize and analyze future impacts in a structured way. Starting with a central idea, first-order consequences are drawn around it, followed by second-order consequences, creating a branching structure that illustrates relationships between outcomes. This method encourages deeper thinking about impacts and aligns with systems thinking by emphasizing interconnections within a system.

Inayatullah's (2018) Causal Layered Analysis is arguably the most flexible and inclusive of all the methods and theoretically permits data and input from all five domains. However, at its core, it is predominantly interpretive and critical. It is also clearly compatible with systems thinking, with one of its four layers specifically devoted to considering society and its systems.

The aim of Inayatullah*'s Futures Triangle is to po*sit the most probable future of a focus issue. Practitioners do this by listing the inherent pushes (trends), pulls (common narratives and images), and weights (historical baggage and general roadblocks). The *Futures Triangle* thus values the empirical, the interpretive, and the creative.

Similarly, Backcasting begins with an imaginative Visioning of the future and then works backwards to the present to identify the possible steps to build that desirable future. Visioning aligns well with this tool. Visioning, in turn, encourages imaginative exploration of the future, with mindfulness and intuition possibly playing central roles. For example, Oliver Markley's (2015) innovative future Visioning methods emphasize creating future scenarios to support planning and decision-making. These methods incorporate creative and intuitive processes such as guided imagery and scenario building. Markley's innovative depth intuition includes techniques like Mental Time Travel and Experiencing the Needs of Future Generations (Markley, 2015). The primary goal is to enhance participants' perceptions and understanding of potential future developments, thereby improving their ability to anticipate and prepare for change. Markley argues that his methods are particularly beneficial for organizations and individuals in complex and uncertain environments (Markley, 2015).

Overview of the 10 Foresight Organisations

The ten organisations have largely been chosen at random. However, the selection predominantly European and Asian, with the exception of two American organisations. No attempt has been made to examine organisations and Foresight practice beyond these spaces. Most notably, there is no examination of individual practitioners.

Table 2, below offers an overview of the ten Foresight organisations which are the focus of this study.

What follows next is a brief overview of the ten selected Foresight organisations. Specifically, there is a discussion of their methods, ways of knowing and being, and engagement with systems thinking.

The Oxford Scenarios Planning School (OSPS), affiliated with the University of Oxford, features innova-

Table 1. **Foresight Tools Arranged According to the Five Domains of Foresight Practice**

Method	Practical dimension				
	Empirical	Interpretive	Critical	Creative	Mindful
Horizon Scanning	✓				
Trends Analysis	✓				
Delphi Method	✓	✓			
CLA		✓	✓		
Futures Wheel		✓	✓	✓	
Futures Triangle	✓	✓		✓	
Backcasting		✓		✓	
Visioning				✓	✓
Macrohistory		✓	✓		

Source: author.

Table 2. **Ten Selected Organizations Involved in Foresight Practice**

Name	Country of origin / headquarter location	Size	Year of foundation	Status (ownership)	Main target audience coverage	Partner networks
Oxford Scenario Planning School	Great Britain	Small	2005	University Division	Global	Global
Kishita Lab	Japan	Small	2016	University Division	National	National
WFSF	USA	Middle	1973	Independent	Global	Global
Insight-Foresight Institute	Spain	Small	2015	Independent research center	Regional (mainly Europe)	Regional (mainly Europe)
Tamkang Graduate Institute of Futures Studies	Taiwan	Small	2004	State	Global	Global
Shaping Tomorrow	Great Britain	Middle	2003	Private	Global	Global
Science & Technology Policy Institute (STEPI)	Korea	Middle	1987	State	National	Global
UN Futures Lab	France	Middle	2023	International network structure	Global	Global
Singapore Center Strategic Futures	Singapore	Unknown (network structure)	1969	State	National	Global
Houston Foresight	USA	Small	2005	University Division	National	Global

Source: author.

tive foresight methodologies, with a focus on Scenario Planning. The school assists organizations, including multinational corporations and governments, in navigating complex uncertainties like climate change and geopolitical disruptions. Their work helps entities develop long-term strategies through Scenario Planning, with notable clients such as Shell and the UK government (Ramirez, Wilkinson, 2016). The OSPS employs a systems theory approach, recognizing the complexity and interconnectedness of modern challenges. Their foresight philosophy moves beyond linear thinking to embrace systems science principles. By emphasizing stakeholder engagement and the inclusion of diverse knowledge systems, they aim to provide a more holistic understanding of future scenarios. This systems theory approach advocates for cross-sector collaboration and interdisciplinary thinking in Foresight processes (Wilkinson, Ramirez, 2015). The core method at OSPS is Scenario Planning, specifically identifying key drivers of change, developing multiple future scenarios, and engaging in strategic conversations with stakeholders. These scenarios function as narratives to explore different futures rather than predict them, fostering collaborative discussions aimed at generating insights for actionable strategies. Techniques such as quantitative Trends Analysis complement qualitative approaches, enhancing creativity, critical thinking, and collaboration in strategic planning (Ramirez, Wilkinson, 2016).

OSPS's focus on Scenario Planning suggests a preference for the interpretive and creative domains of Foresight practice. Their approach involves comprehensive analysis of stakeholder views and environmental factors, often utilizing tools like PESTLE (Political, Economic, Social, Technological, Legal, Environmental) and SWOT (Strengths, Weaknesses, Opportunities, Threats) analyses. This possibly positions the empirical domain as a secondary feature in their sensemaking structures, although Trends Analysis remains central to their scenario work. While their methods are predominantly analytical, they also engage in participatory workshops that include storytelling and role-playing. These techniques encourage emotional engagement, potentially fostering a deeper understanding of possible futures and enabling more mindful engagement with foresight[3]. Nonetheless, there is an absence of direct evidence that the mindful domain features significantly in their work.

Summary: The Oxford Scenario Planning School blends interpretive, empirical, and creative approaches in its foresight work, with a strong emphasis on Scenario Planning. Their methods highlight systemic interconnections and encourage collaborative, multi-stakeholder engagement to navigate uncertainty and explore future possibilities.

The Kishita Lab, based at the University of Tokyo, focuses on sustainable design and urban planning. The lab employs foresight methodologies rooted in systems science and theory. Collaborating with stakeholders like local governments, NGOs, and academic institutions, the lab contributes to sustainable urban development and climate change mitigation. Their research informs policy-making and urban planning through co-creation with communities, aligning with sustainability goals[4].

[3] https://www.sbs.ox.ac.uk/programmes/executive-education/person-programmes/oxford-scenarios-programme, accessed 09.08.2024.

[4] https://www.susdesign.t.u-tokyo.ac.jp/kishitalab/index_en.html, accessed 12.08.2024.

The Kishita Lab's philosophy is openly grounded in systems theory, acknowledging the interdependence of social, economic, and environmental systems. They emphasize integrating temporal dynamics into the design process, recognizing that sustainable solutions must consider long-term impacts. The lab explores how technology and society can interact to promote sustainability. Their participatory approach encourages collaboration across disciplines, ensuring holistic, adaptable strategies for urban and environmental challenges.

The Kishita Lab's work spans the empirical, interpretive and creative domains of Foresight. Empirically, they use tools like Geographic Information Systems (GIS) and life cycle assessments to understand urban systems and environmental impacts. Their analytical framework involves scenario simulations and modelling to evaluate future urban developments. As with most of the other organisations in this study, creative processes are emphasized through participatory design workshops, engaging stakeholders in co-creating solutions and incorporating creative methods like storytelling. However, it remains unclear from their online self-descriptions whether they encourage deeper, mindful ways of knowing and being. Nonetheless, their multidimensional approach encourages informed decision-making that integrates diverse perspectives and reflective insights.

Summary: The Kishita Lab employs a comprehensive approach to foresight that integrates empirical, analytical, and creative methods. Their systems theory-based philosophy supports sustainable urban development through collaboration with diverse stakeholders. By leveraging a variety of foresight techniques, the lab potentially contributes significantly to the practice of Foresight, promoting innovative, inclusive solutions for urban and environmental sustainability.

The World Futures Studies Federation (WFSF) is a leading organization advancing futures studies globally. It focuses on education, research, and the development of Foresight methodologies. Collaborating with educational institutions, governments, NGOs, and businesses, the WFSF aims to enhance futures thinking and capacity-building. Their work encompasses a wide range of global issues, including sustainability, technology, and social change, promoting a broad and inclusive approach to understanding and shaping future possibilities[5].

The WFSF embraces a progressive systems theory perspective, emphasizing the interconnectedness and complexity of global systems. It advocates for holistic and inclusive Futures thinking, recognizing the need to integrate diverse perspectives and address global issues such as sustainable development and social justice. The WFSF promotes understanding of systemic interactions and feedback loops, highlighting the importance of addressing macro trends and emerging uncertainties. Their approach includes collaborative efforts with governments, NGOs, and academic institutions to strategize for desirable futures.

The WFSF promotes various Foresight tools, including Scenario Planning, Backcasting, Trends Analysis, and Delphi surveys. These methods help identify emerging trends, risks, and opportunities, enabling individuals and organizations to prepare for diverse future outcomes. Scenario Planning and Backcasting are used to envision multiple future possibilities and shape strategies. The Delphi method facilitates expert consensus on future trends, while Trends Analysis helps track and interpret evolving patterns. The arts and story-telling are part of their Foresight toolkit. All these methods support a comprehensive understanding of potential futures and strategic decision-making.

The WFSF thus employs a systematic, multidisciplinary approach, drawing from economics, sociology, political science, and technology. It also uses empirical methods, such as data collection and Trends Analysis, to inform its Foresight work. The organization values critical thinking and philosophical frameworks to analyze complex issues. Nonetheless, the WFSF also incorporates elements of the creative and mindful domains of Foresight practice. Beyond their advocation of the arts and storytelling, they promote creativity and holistic thinking. Further, their integral/transdisciplinary approach aims for multi-perspectival and planetary inclusion. The WFSF's online self-description thus suggests that it embraces all five domains of Foresight practice.

Summary: The WFSF integrates analytical, empirical, and intuitive approaches in Futures work, emphasizing the interconnectedness of global systems. Its commitment to holistic and inclusive thinking supports diverse and innovative strategies for addressing global challenges, and is strongly indicative of transformative foresight practice.

The Insight-Foresight Institute (IFI), based in Spain, engages in Foresight consulting to help organizations craft long-term strategies[6]. The IFI's philosophy implicitly aligns with systems theory, emphasizing the interconnectedness and complexity of global systems. Driving "structural change" is a primary aim. By focusing on the interplay of various drivers of change and advocating for adaptability and resilience, the IFI adheres to systems thinking principles, integrating diverse perspectives to address complex future challenges (Börjeson et al., 2006).

The IFI utilizes a range of Foresight methods, including more quantitative processes like the Delphi Method and trends identification. Their self-description suggests a primary focus on the empirical and interpretive domains of Foresight. In the empirical domain, IFI uses statistical tools to measure social, economic, and technological indicators. Scenario Planning and SWOT are

[5] https://wfsf.org/about, accessed 27.07.2024.

[6] https://if-institute.org, accessed 18.08.2024.

also utilised in the interpretive domain. The creative domain is less represented[7].

While some of their language is suggestive of deeper introspection, the focus of the Insight-Foresight Institute is not in the mindful domain of Foresight. Their references to "insight" are in regard to analysing the present and past, not personal reflection. Further, their common reference to "transformative governance" focusses upon social and technical change, promoting greater balance in terms of diversity, connectivity, polycentricity and so on. Overall, these methods support the identification of emerging trends, risks, and opportunities, enabling stakeholders to develop informed and adaptable strategies for future challenges; yet with no obvious focus on the mindful domain of Foresight.

Summary: The Insight-Foresight Institute integrates empirical, interpretive, and creative methods in its foresight practices, reflecting a commitment to holistic and systems-oriented thinking. Their focus on strategic consulting, policy development, and education is aimed at enhancing organizational and societal preparedness for future uncertainties. Their employment of these methods, while emphasizing holistic interconnectedness, suggests the IFI is transformative futures organisation.

The Tamkang University Graduate Institute of Futures Studies (GIFS) has a comprehensive approach to futures research and education. GIFS offers graduate-level education in futures studies, focusing on diverse methodologies and analytical tools. Their work includes Foresight consulting, policy development, and research on societal challenges, technology, and environmental issues. GIFS collaborate with governments, businesses, and NGOs, providing expertise in strategic planning, policy-making, and impact assessment[8]. GIFS adopts a progressive systems theory philosophy, emphasizing systemic thinking and holistic approaches. The use of Inayatullah's (2018) Causal Layered Analysis features heavily in their programming, a method which is inherently inclusive of systems thinking. Methods like CLA enable deep exploration of futures by combining empirical, analytical, and intuitive approaches. GIFS also utilizes empirical methods, including data collection, Trends Analysis and the Delphi Method to guide their Foresight work. Their approach potentially merges the quantitative, philosophical, critical, creative and visionary. More mindful cognitive processes are also encouraged, with creative workshops and arts-based methods fostering holistic and emotional engagement.

Summary: The Tamkang University Graduate Institute of Futures Studies integrates empirical, analytical, and intuitive methods in its foresight practices. Their focus on systemic thinking and progressive philosophy, alongside a diverse range of methods, positions GIFS as a significant contributor to the field of Futures Studies.

Shaping Tomorrow is a private Foresight, software-based organization that aids businesses, governments, and other entities in navigating future challenges. Shaping Tomorrow offers customized services, including access to an AI-driven platform "Athena" thus helping clients anticipate change and develop adaptive strategies. Shaping Tomorrow's collaborative approach aims to empower organizations with the insights and tools needed to manage complexity and uncertainty[9]. Their methods are designed to help deepen understandings of relationships and dynamics across various domains, reflecting a system thinking approach. By engaging diverse stakeholders and fostering collaborative discussions, Shaping Tomorrow acknowledges the complexity and interrelation of social, economic, and environmental systems. Their commitment to a holistic perspective supports addressing multifaceted global challenges and crafting comprehensive strategies.

The organization utilizes all of empirical, interpretive, critical and creative methods in its foresight practices. Empirical methods, such as Trends Analysis and quantitative, AI-driven research, offer a structured approach to understanding emerging patterns. Their software supports rigorous analytical techniques, allowing data synthesis from diverse sources. Creative approaches are integrated through workshops that potentially promote emotional and holistic engagement. These processes also feature creative activities and collaborative exercises that explore varied perspectives. This blend potentially enhances the Foresight process by combining rational analysis with emotional and embodied insights. However, a probable limitation of the Shaping Tomorrow process is its predominantly online nature, potentially creating a less personal and mindful experience.

Summary: Shaping Tomorrow's work spans the empirical, interpretive, critical, and creative domains of Foresight. Their AI-driven software and participatory workshops highlight their commitment to understanding complex systems and engaging diverse perspectives. This approach potentially enables organizations to develop resilient strategies and navigate future challenges effectively, aligning with progressive systems theory principles.

The Korea Science and Technology Policy Institute (STEPI) is a leading organization in South Korea dedicated to Foresight and strategic planning in science and technology. Established to assist the government and other stakeholders, STEPI supports policy development through robust Foresight analysis. The institute conducts research on emerging technologies, provides advisory services to government bodies, and offers training programs to enhance foresight capabilities. STEPI also collaborates with universities, research institutions, and industries to integrate diverse perspectives into their foresight studies and policy recommenda-

[7] https://if-institute.org/transformative-governance-of-innovation-ecosystems, accessed 18.08.2024.

[8] http://future.tku.edu.tw/intro/super_pages.php?ID=intro1, accessed 24.06.2024.

[9] https://www.shapingtomorrow.com/about/our-system, accessed 17.06.2024.

tions[10]. STEPI's approach incorporates elements of systems theory (Kim, 2010). The organization recognizes the interconnectedness of technological, economic, and social factors, reflecting systems thinking principles. By using methods that include diverse stakeholder input and acknowledging the complexity of the systems they analyse, STEPI demonstrates a commitment to understanding the broader context of science and technology. Their participatory workshops further reveal an openness to diverse insights, aligning with systems theory's emphasis on inclusivity and holistic analysis. STEPI utilizes Foresight methods specifically designed for science and technology policy development. In the empirical domain, their technology-oriented Foresight research incorporates expert interviews, surveys, and literature reviews to identify emerging technologies and their societal impacts. Participatory workshops engage stakeholders in collaborative Foresight exercises, fostering collective intelligence and dialogue. STEPI primarily focuses on empirical and analytical methods. Their approach emphasizes rational measurement through technology foresight, Trends Analysis, and data-driven techniques. However, there is little evidence of exploration of the mindful domain, and the terms "mindful," "intuition," "meditation," and "spiritual" return no results when entered into STEPI's web site. Yet while the organization's core methods are predominantly empirical and analytical, participatory workshops introduce creative and potentially intuitive elements by encouraging personal contributions from diverse stakeholders.

Summary: The work of the Korea Science and Technology Policy Institute (STEPI) predominantly spans the empirical and interpretive domains of Foresight practice. Yet the common references to systems thinking and creativity suggest that they are not a purely strategic foresight organisation.

The United Nations Futures Lab is a strategic initiative under the United Nations designed to bolster Foresight and Futures thinking capabilities within organizations. The Lab aims to enhance the UN's ability to address complex global challenges through advanced Foresight practices. The Lab promotes a global multistakeholder network, engaging diverse sectors to address 21st-century challenges. The UN Futures Lab emphasizes participatory foresight, engaging stakeholders from various sectors such as governments, academia, civil society, the private sector, and philanthropic organizations. By fostering collaboration and inclusivity, the Lab aims to build Foresight capacity and advance future-oriented policies[11]. The UN Futures Lab demonstrates elements of systems theory through its emphasis on interconnectedness and complexity. The Lab's methodologies reflect an understanding of the relationships between different domains and the dynamics of change. Their commitment to participatory approaches aligns with systems theory principles by engaging diverse stakeholders and acknowledging the interconnectedness of global systems. However, the Lab's focus is more on pragmatic and strategic foresight, rather than deep critical reflections.

The UN Futures Lab employs Foresight methods to enhance understanding and planning for future challenges. These methods include Scenario Planning, Horizon Scanning and Trends Analysis. Participatory workshops engage diverse stakeholders to co-create insights and shared visions, while Futures tools such as the Futures Wheel, Backcasting, and Causal Layered Analysis help explore alternative futures and identify necessary transformations. The Lab's web site openly describes its process as "strategic foresight," as well as "participatory foresight," yet its stated methods suggest that it does not fit exclusively within the realm of strategic foresight, as earlier defined in this study.

It can be seen that the Lab's preferred ways of knowing and being span a diverse range of cognitive processes. The Lab utilizes structured approaches like Scenario Planning and Horizon Scanning to analyze complex data and trends, supporting evidence-based policy decisions. More personal and potentially mindful elements are fostered through participatory workshops, and allowing for innovative ideas and exploration of alternative futures. Although the Lab has an overt valorisation of observable trends and research, it synthesizes diverse insights rather than focusing solely on measurement. Guiding principles emphasize considering alternative futures, making decisions adaptable to various scenarios, preparing for opportunities and transformations, and using diverse data sources to anticipate significant changes early. Finally, its support for Causal Layered Analysis and alternative futures suggests an openness to criticality and deep thinking

Summary: The UN Futures Lab's wide range of foresight methods are used to address global challenges and guide future policy-making. The Lab's approach valorises the interpretive and empirical domains of Foresight, but with a strong emphasis on inclusivity and stakeholder engagement, while critically challenging dominant futures thinking. Its alignment with systems thinking highlights a commitment to understanding the complexity and interconnectedness of global issues. Yet as with most of the ten focus organisations in this study, the Lab's commitment is to practical Foresight and strategic planning, and so does not openly engage with the mindful domains of Foresight.

The Singapore Centre for Strategic Futures (CSF), operating under the Prime Minister's Office, plays a significant role in advancing Foresight and strategic planning within the Singapore government. By enhancing the government's ability to address future challenges and identify emerging opportunities, the CSF focuses on developing Foresight skills, understanding trends, and informing policy decisions. Collaborating with various stakeholders, including private sector organi-

[10] https://www.stepi.re.kr/site/stepien/main.do, accessed 19.06.2024.

[11] https://un-futureslab.org, accessed 12.07.2024.

zations and educational institutions, the CSF aims to build resilience and adaptability across multiple domains, including public policy development and capacity building[12].

CSF's work demonstrates systems thinking with its holistic approach, recognizing the interconnectedness of various elements within the systems they analyse. They have an emphasis on acknowledging complexity, interdependence, and inclusivity in Foresight practices. These are often implicit rather than explicit in their work.[13]

The Centre for Strategic Futures tends to be centred in the empirical and interpretive domains of Foresight practice. It engages Trends Analysis, Environmental Scanning through Emerging Issues Analysis, SWOT analysis, Backcasting, war-gaming techniques, and monitoring of emerging threats and opportunities with early warning systems. In the creative domain, participatory workshops entitled "FutureCraft" are integral to their process. These are designed to introduce key skills and tools relevant to government foresight work, and to engage stakeholders in generating innovative solutions and fostering collective sense-making. Their commitment to participatory futures ensures that diverse perspectives inform their processes, potentially enriching the understanding of complex changes. Moreover, through transition management, they seek to navigate change, while speculative design allows for the creation of tangible representations of possible.

Conclusion: The Singapore Centre for Strategic Futures utilizes a combination of empirical and analytical methods, with some creative elements present in their collaborative engagements. Their work spans public policy development, strategic planning, research, and capacity building, with a strong focus on engaging complexity. However, there is little evidence that the CSF spans the mindful domain of Foresight practice.

Houston Foresight is based at the University of Houston, USA, and it has developed a comprehensive approach to the teaching of Foresight as both theory and practice. The organization's students are drawn from across a wide spectrum of society, and they work with governmental agencies, non-profits and the private sector in navigating complex and uncertain futures. Houston Foresight's mission is to help students and clients enhance their strategic planning and decision-making capabilities, utilize foresight methodologies to anticipate and prepare for possible futures, and to foster a deeper understanding of emerging trends and disruptions.

Houston Foresight's methods are comprehensive, and span all five domains of Foresight practice: embracing all of empirical, interpretive, critical, creative and mindful approaches to futures thinking. These tools include Environmental Scanning, Trends Analysis, Scenario Planning, and participatory workshops. In the empirical domain, they utilise Environmental Scanning and Trends Analysis, gathering and evaluating quantitative data, which they see as essential for sectors like public policy and business. They also valorise the interpretive domain, where they dissect complex issues through Scenario Planning and policy analysis[14]. Additionally, in the creative domain they espouse a desire to help their students "envision, plan for, and work toward their preferred future." They also encourage creative engagement via workshops that incorporate storytelling, arts and crafts. Further, certain curricula feature a variety of concepts and tools which show a strong acceptance of the mindful domain. For example, the course "Alternative perspectives on the future" includes readings and discussions on spiral dynamics and integral theory, Causal Layered Analysis, intuition, Visioning, "presencing" and "big questions." This holistic approach is designed to enrich participants' understanding and emotional connection to the futures they explore, ensuring a comprehensive examination of potential outcomes[15]. There is also strong evidence that Houston Foresight embrace criticality, perhaps most notably in their open aim of challenging "prevailing assumptions about change".

Houston Foresight subscribes to a progressive systems theory philosophy, emphasizing the interconnectedness of various components within complex systems. Their approach considers the dynamic interactions between social, technological, economic, and environmental factors. By fostering a holistic view of these interrelationships, they seek to address complex challenges more effectively The organization integrates systems thinking in its Foresight work, encouraging clients to consider multiple perspectives and the broader context of any issue. Their coursework and collaborative efforts reflect this commitment, helping clients understand how various factors interact within broader systems, shaping future outcomes.

Summary: Houston Foresight's approach to futures spans all five domains of Foresight practice. By employing methods like Scenario Planning, trends analysis, participatory workshops, and Environmental Scanning, they help clients from diverse sectors prepare for complex futures. Their progressive systems theory philosophy underscores a holistic understanding of interdependencies, allowing for more profound insight into future challenges. This comprehensive approach potentially empowers students and organizations to make informed and strategic decisions, and to navigate the uncertainties of the future.

[12] https://www.csf.gov.sg/, accessed 15.08.2024.

[13] But there is some evidence of systems thinking in the public sphere, such as a 2019 special lecture on governance and complexity delivered at the Conference on Complex Systems, by the CSF's senior advisor Peter Ho (Ho, 2019).

[14] https://www.houstonforesight.org/#foresight-definition, accessed 12.08.2024.

[15] https://www.houstonforesight.org/wp-content/uploads/2022/12/Alternative-Perspectives-Syllabus-2023-1.docx, accessed 18.04.2024.

Table 3. **Relative Strengths of the Five Domains and Systems Thinking**

Organization	Practical Dimension					Systems
	Empirical	Interpretive	Critical	Creative	Mindful	
Oxford Scenario Planning School	moderate	strong	weak	strong	weak	strong
Kishita Lab	strong	strong	weak	strong	weak	strong
WFSF	moderate	strong	strong	strong	moderate	strong
Insight-Foresight Institute	strong	strong	weak	moderate	weak	moderate
Tamkang Graduate Institute of Futures Studies	moderaate	strong	strong	strong	moderate	strong
Shaping Tomorrow	strong	strong	moderate	strong	weak	moderate
Science & Technology Policy Institute (STEPI)	strong	strong	weak	moderate	weak	strong
UN Futures Lab	strong	strong	moderate	strong	weak	moderate
Singapore Center Strategic Futures	strong	strong	weak	strong	weak	moderate
Houston Foresight	moderate	strong	strong	strong	strong	strong

Source: authors.

Findings of this study

This research project has attempted to assess whether there is evidence that Mintzberg's (2008) analytical/synthesis divide is as prevalent in today's Foresight organisations as Mintzberg claimed it was in strategic management in 2022. A distinction has been made between strategic foresight and transformative foresight, with the hypothesis that transformative foresight organizations will tend to better balance the empirical and interpretive domains of Foresight practice with the creative and mindful domains - and their associated ways of knowing and being. There was also a tentative suggestion that transformative foresight practitioners might employ the critical domain to justify that expansion into the more mindful or "softer" ways of knowing. Finally, it was also hypothesised that transformative foresight organisations would feature a greater valorisation of systems thinking. In other words, a portion of this study has attempted to determine whether these two divergent practices of Foresight currently face each other across the great divide between Deep Futures and Money and Machines Futures.

Finally, this study invited an exploration of how greater balance and depth might be brought to strategic foresight and strategic management in general.

Yet, as evidenced by Table 3, above, this study has found that no great strategic chasm currently exists amongst the ten Foresight organisations. There are differences in the balancing of left and right-brained thinking amongst the organisations, but the distinctions are not vast. All organisations strongly or moderately feature the empirical and interpretive domains; and their common tools like Horizon Scanning, the Delphi method, and scenario work. Yet the creative domain was similarly well represented, with participatory workshops, Backcasting and Scenarios being used by most organisations to strong or moderate degree. Likewise, it is clear that systems and complexity theory is highly influential amongst these ten Foresight organisations, with no organisation showing weak expression of this area of knowledge.

The most obvious omission from most of the organisations was clear espousal of the mindful domain: explorations of the deep human psyche, mythologies, dreams and spiritual perceptions. Visioning as a precise method, was barely mentioned in any of literature or online texts (though it is implicit in tools like Scenarios, Backcasting, the Futures Triangle and so on). Only Houston Foresight received a "strong" rating here, with Tamkang University's GIFS and the WFSF showing "moderate" expression of the mindful domain. The other institutions received a "weak" rating. It might be that this reluctance to embrace the mindful reflects a twenty-first century civilisation that has not quite freed itself from the Newtonian, mechanistic paradigm that has arguably constrained our potential for embodying a wider range of ways of knowing and being, since the seventeenth century (Anthony, 2008; Kuhn, 2012).

Of all the domains of Foresight practice, the critical domain is the most surprising absence in these organisations' public self-descriptions. This study found few of the organisations speaking the language of genuine criticality, as found in Critical Futures Studies - which in turn is inspired by the poststructuralists like Foucault and Derrida (Inayatullah, 2018). Again, Houston Foresight featured most strongly here, with Shaping Tomorrow and the UN Futures lab receiving a "moderate" rating – the rest were "weak" in this domain. Yet this may not be entirely reflective of the genuine aims and beliefs of these organisations and their members. Instead, it may simply be a metaphorical case of not wishing to bite the hand that feeds – and where more diplomatic language is required in public relations.

Yet ultimately, none of these organisations can be said to be purely practicing "strategic foresight." All feature enough balance across the left-right-brain divide to be called practitioners of transformative foresight. This study suggests that the current practice of Foresight has (internally) bridged Mintzberg's strategic divide, including an embracing of systems thinking. These ten organisations appear to be propelling us towards Deep

Futures (as opposed to Money and Machines Futures). Yet this is a tentative conclusion, given the limitations of the study posited in the following section.

Still, these findings suggest that the practice of Foresight may have progressed to bridge only *part* of the strategic divide, and is yet to truly embrace a wider range of right-brained thinking, feeling and perception. This conclusion is drawn from the lack of representation of the mindful domain amongst most of our ten Foresight organisations. Of course, this point can itself be challenged from a position somewhat closer to the centre of the continuum; with the argument that the mindful realm is too esoteric and "unscientific" for most Foresight practice, especially in the corporate sector and amongst governments and large public, academic and scientific institutions. Nonetheless, there is a possible yet unrealised future where Foresight organisations might more readily incorporate processes like mindfulness, intuition, visioning etc. into their practice of Foresight.

Limitations of this Study

The findings of this study are based on the author's interpretation of texts, predominantly the public descriptions of the organisations themselves. The classification of the Foresight tools (Table 1), and the final "ratings" (Table 3) are subjective, and based on a perusal of the documentation. These cannot be deemed definitive conclusions. Instead, the author's hope is that they might generate further research and discussion, given the application of more time and the energy of other enthusiastic explorers of Foresight.

Another limitation of this study is that it has examined only ten Foresight organizations, and as such, they cannot fully represent the entirety of Foresight practice today. Furthermore, all but two of the organizations selected are based in Europe and Asia (with two American). There is no representation from other regions across the globe, where a significant number of Foresight practitioners and organizations are located. A larger and more diverse sample might have yielded somewhat different findings.

It must also be acknowledged that Foresight organizations, by their very nature, tend to be progressive (in the academic sense), typically challenging dominant ideas and narratives of contemporary society and business. Generally speaking, people do not become futurists and Foresight practitioners to uphold the status quo. As a result, while these findings indicate that Foresight organisations generally espouse Deep Futures (as opposed to techno-centric Money and Machines Futures), this study cannot definitively conclude that Mintzberg's strategy split has been bridged in spaces beyond the discipline of Foresight. To extend these conclusions to strategic management in general, for example, the study would need to include a comparison with other organisations that do not practice Foresight, as well as assess the contemporary literature on strategic management—an endeavour that is beyond the scope of this paper.

A further potentially impactful aspect of this research topic that is not addressed in this paper regards the more cognitive science that Foresight organisations may be covertly researching (and possibly applying) in their businesses, but not wishing to publically acknowledge. It is theoretically within the best interests of these organisations to apply this knowledge in order to enhance the well-being and productivity of their staff and clients. The elucidation of these opaque components of organisations, including Foresight organisations, would require a different methodology than that applied to this study, as the knowledge is implicit. Nonetheless, because this theoretical shadow domain may add further evidence for a shift towards transformational foresight in general, this is a realm of investigation that is potentially fruitful for future research.

Finally, this paper has not focused on detailed case studies—specific instances of Foresight organizations working with corporations, businesses, NGOs, governments and so on. It is possible that, at this level, the day-to-day business of Foresight may prove to be more practical, more analytical, and more aligned towards strategic foresight than the transformative. Alternatively, we may find that there is more of the critical and mindful domain. In regard to the latter, as noted earlier in this paper, there is a comtemporary shift towards the mindful in medicine, cognitive sciences, business and innovation management, and education (Anthony, 2022; Dunning et al., 2019; Carole et al., 2024; Gómez-Olmedo et al., 2024; Morin, Grondin, 2024; Ping, Long, 2024; Remscar et al., 2023;). These strong signals are a potentially rich and important focus of further research.

Conclusion

The study has found tentative evidence that, within the ten Foresight organizations examined, Mintzberg's concerns about the analytical-synthesizing management divide may be overly pessimistic. The institutional cultures present amongst these organisations can be said to be representative of transformative foresight. Further, it appears that systems thinking is now common in the practice of Foresight today, although sometimes merely implicitly. However, there is less evidence of the more transcendent, potentially paradigm-breaking features of «Deep Futures,» as found in embodied practice of the mindful domain.

Corporate and civilisational sustainability is not just about profit, nor merely about the "environment." Sustainability is about fostering ways of knowing and being that allow human beings to thrive in conscious relationship with nature and with each other. And with themselves – with their own psyches. Therefore, a process of self-correction and self-reflection is necessary to enable the personal and civilizational shifts that our futures require of us.

Civilisational paradigm shifts tend to be slow, as Thomas Kuhn noted in the 1960s. But they are more frequent than we often realize. At the beginning of the 20th century, Western civilization was still caught in the tension between Neo-Darwinism and the Romantic movement—a left-brained-right-brained struggle that has roots going back to the scientific enlightenment of the 17th century, and to ancient Greece itself (Anthony, 2008). Foresight work has the potential to help shape a civilizational shift towards a more balanced expression of human consciousness. This study suggests that we might be at the edge of such a shift in paradigm, in consciousness. But that is a matter of interpretation. The signals are not quite "strong," but they are strengthening.

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