

Article

The Futures Telescope: A Dynamic Tool for Exploring The Space of Possibilities

Eva Tomas Casado

simple thinking, Weiz, Styria, Austria*

Abstract

The Futures Telescope is an innovative framework for futures thinking that merges structured foresight with subjective perspectives. Building on complexity theory, it challenges traditional models that view the future as a linear projection from the present. Instead, the Futures Telescope allows practitioners to explore multiple futures by adjusting for personal biases and cultural paradigms. This approach emphasizes flexibility and inclusivity, fostering collective sense-making and enabling the co-creation of adaptive, pluralistic futures. By integrating tools like Causal Layered Analysis (CLA), the Futures Telescope encourages a deeper understanding of the layered influences that shape future perceptions. Its iterative methodology includes stages for identifying biases and co-creating futures scenarios. Ultimately, the Futures Telescope offers a more dynamic, flexible tool for engaging diverse stakeholders in shaping the future, moving beyond static visions to create inclusive, collaborative futures.

Keywords

Metamodernity, Protopia, Participatory Futures, Complexity, Futures Telescope

Introduction

The ontological basis of every futures thinking effort is the assumption that our world is indeterministic in nature, meaning that while the future is influenced by the past, it is not yet decided. This underlying postulate is supported by findings from complexity theory, which views the world as an open, complex adaptive system—one that evolves through path-dependent processes influenced by unpredictable interactions (Poli, 2011). Given this inherent uncertainty, futures thinkers seek tools that can help visualize the multiplicity and openness of potential futures.

One tool for this visualization, which simultaneously serves as a taxonomy of multiplicity, is the Futures Cone model.

Originally introduced by Sangchai Somporn as "Distances in Alternative Futures" (Somporn, 1974; Somporn, 2024) with the taxonomy of immediate futures, probable futures, possible futures and distant futures, the model was later expanded by Taylor (Taylor, 1990) and subsequently refined by Hancock and Bezold (Hancock&Bezold,1994) with the main categories probable, possible futures, preferable and plausible futures.

Since this initial phase of the depiction many variations of this tool have been developed including the extended version by Joseph Voros consisting of 7 different alternative futures (Fig.1) (Voros, 2017).

E-mail addresses: eva@simple-thinking.at (Eva Tomas Casado).

^{*} Corresponding author.

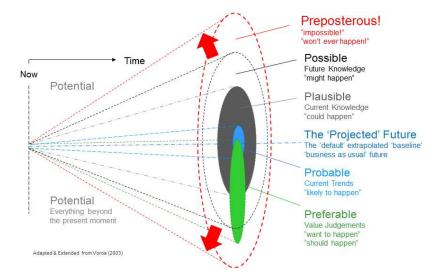


Fig. 1: The Futures Cone Use and History (Voros, 2017); : https://thevoroscope.com/2017/02/24/the-futures-cone-use-and-history/

The Futures Cone, while historically foundational in futures thinking, is increasingly criticized for its rigid taxonomy and failure to address the subjectivity of futures perspectives (Voros, 2017; Inayatullah, 1998).

On the one hand, the cone's linear structure implies that the future unfolds from a single point in the present, without accounting for the intricate and dynamic interactions between past, present, and future.

Embracing the findings of complexity theory that complex systems are path dependent, meaning that their future behavior depends on their past behavior in interaction with other dependencies, challenges this view of the cone.

Roberto Poli writes: "(...)The guiding intuition is that the present can no longer be considered a kind of durationless interface between the past and the future, as an infinitely thin boundary between what has been and what will be." (2011)

Poli's concept of the "thick present" redefines the understanding of time, moving away from the traditional notion of the present as a fleeting moment that separates the past from the future. Instead, the present is seen as an extended, dynamic space where past experiences and future possibilities overlap. This challenges the Futures Cone, which simplifies time by presenting the future as a singular, linear projection from one present point.

On the other hand the failure to address subjectivity is becoming more and more problematic in a field that calls for decolonization in futures practices (Inayatullah, 2023).

While the Futures Cone provides a structured yet linear categorization of futures, Hardin Tibbs' Futures Landscape offers an alternative, emphasizing the cognitive and psychological dimensions of futures perception (1999). Tibbs describes the future as a structured mental space where cognition, emotions, and intention interact, shaping our strategic decisions. His model introduces a visual framework in which the strategic actor—whether an individual or an organization—looks out onto a vast futures landscape. Key elements in this landscape include the chessboard, representing the shifting tactical terrain where competitive moves and adaptations are made; the mountain, symbolizing concrete strategic goals that require effort and perseverance to reach; the star, serving as an enduring guiding principle that provides long-term direction without being an endpoint; and the self, representing internal agency, values, and identity, which influence futures navigation.

By structuring futures in this way, Tibbs 'model integrates anticipation and aspiration into strategic thinking, offering a means of clarifying relationships between different elements of foresight. This psychological structuring helps decision-makers separate competing influences and better navigate uncertainty.

The Futures Telescope merges and extends both approaches—the Futures Cone and the Futures Landscape—into a dynamic model that accounts for both structured foresight and subjective perception. While the Futures Cone provides a taxonomy of possible futures and the Futures Landscape emphasizes the mental framing of strategic

direction, the Futures Telescope incorporates the idea of shifting perspectives and contextual lenses. It enables futures practitioners to not only map potential futures but also adjust their vantage point by recognizing the biases, beliefs, and cultural filters that shape their views.

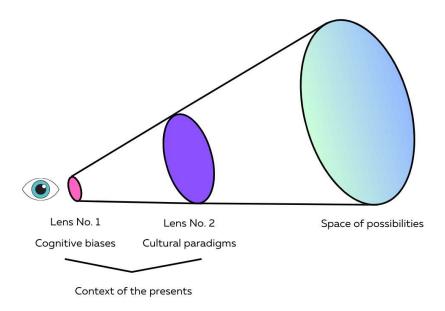


Fig.2: Futures Telescope (Image by the author)

The Futures Telescope serves as an intuitively accessible instrument for navigating the space of possibilities, integrating the lenses and mirrors of personal biases, cultural philosophies, and individual perspectives into the exploration of the multiplicities. Much like a technical telescope adjusts its focus based on different lenses, this metaphoric tool acknowledges that our vision of the yet-to-come is shaped by these subjective (individual or collective) filters.

Rather than looking at the future as a static set of categorized possibilities projected from a single present moment, the Futures Telescope allows us to see how our cultural, historical, and personal perspectives create unique views of the futures and helps us navigate this liminal space.

This flexibility makes the Futures Telescope particularly useful in settings like scenario planning, where diverse stakeholders must navigate the same uncertain future from different vantage points, creating engaging pathways to these scenarios. Adjusting for personal or cultural views in an early stage of the process leads to more engaging and agent outcomes of Futures Work processes (Milojević & Inayatullah, 2015).

Moreover, the Futures Telescope delves into the liminal space where futures are neither fully determined nor entirely unknown. It acknowledges that our views are shaped by cultural and individual contexts, fostering dialogue through the exchange of these "lenses." By doing so, participants can collaboratively navigate this space of uncertainty, leading to a more cohesive, shared vision of the futures — shaped by ongoing progress and adaptability. Through this collective process, diverse perspectives converge to create a flexible and inclusive vision of the future.

Causal Layered Analysis (CLA), a widely applied methodological framework in futures studies (Inayatullah, 1998), provides another relevant connection. CLA explores multiple levels of meaning, from surface-level trends (litany) to deeper systemic structures, worldviews, and underlying myths or metaphors. The Futures Telescope aligns with this perspective by recognizing that views on the future are inherently shaped by layered influences. While CLA systematically deconstructs these layers to expose underlying assumptions, the Futures Telescope offers a means of engaging with and recalibrating these perspectives in a tangible and interactive manner. Thus, these two approaches enhance one another: CLA provides a structured methodology for uncovering hidden assumptions, while the Futures Telescope offers an interactive means of refining and reorienting perspectives.

The Futures Telescope is not a finalized tool but a flexible framework intended to be shaped by the futures community. By leaving space for co-creation, it invites futures thinkers and practitioners to refine, test, and expand its applications through collective engagement.

Constructing the Futures Telescope

The Futures Telescope is designed to intuitively account for the multiplicity of futures, building on the core concept of the "space of possibility" discussed by Poli (2017).

This idea emphasizes that futures are not singular or deterministic, but emerge from a wide range of influences, creating a dynamic and branching space of potential outcomes.

Just as we use the device of a telescope to examine and work with the astronomical space around our planet, we can use such a device to explore the space of possibilities.

As in the real technical device telescope, the process of the metaphoric Futures Telescope starts by adjusting the ocular lens, where personal biases are identified and recalibrated to prevent distortions in the exploration.

Then, the cultural paradigm lens is reset, allowing practitioners to consider diverse societal worldviews that shape how different futures are imagined. These steps create an inclusive and adaptable understanding of future possibilities.

Adjusting the Ocular - Uncovering personal biases and harnessing intuition

Rather than eliminating biases entirely, the Futures Telescope encourages practitioners to adjust for them, just as one would fine-tune a telescope for clearer vision.

The Futures Telescope begins by adjusting the "ocular" lens, which in this metaphor refers to recognizing and uncovering personal biases that cloud our vision of future possibilities.

In much the same way a telescope must be adjusted to the observer's eyesight to provide a clear view, futures thinkers must first identify and correct for the cognitive biases that distort their foresight.

Cognitive biases are automatic mental shortcuts that influence decision-making, often unconsciously. They include tendencies such as optimism bias, confirmation bias, and hindsight bias, which can lead to distorted, unclear images of futures (Kahneman, 2011).

While cognitive biases are commonly framed as judgment errors, recent perspectives, such as those by Gerd Gigerenzer (2007), emphasize that intuition—a fast, unconscious process based on experience—can play a crucial role in decision-making under uncertainty.

Intuition is particularly valuable in complex systems, where linear analysis may fail due to the inherent unpredictability of such environments.

Drawing on embodied knowledge and pattern recognition, intuition enables quick and effective decision-making, especially when time or data is limited (Hogarth, 2010). In futures thinking, intuition helps practitioners navigate the unknowns and emergent trends that characterize complex futures (Kahneman & Klein, 2009).

However, to ensure that intuition is constructive rather than biased, practitioners must engage in debiasing techniques, such as cognitive forcing—questioning initial judgments—and reflective practice, where past decisions are revisited to uncover biased thinking, help refine intuition and improve decision-making.

By adjusting for these personal biases and learning to distinguish them from embodied intuition, futures practitioners can develop clearer, more balanced views of futures. This alignment of personal lenses allows for a broader, collective exploration of the space of possibility, where intuition is leveraged but continuously refined through conscious reflection and bias mitigation.

Cultural Paradigms - a collective lens that leads to different views

Just as telescopes are set up with a variety of lenses and mirrors that act and interact together, so too are our perceptions of the space of possibilities not only by our personal beliefs or intuitions. The observer's view is additionally shaped by the cultural paradigms we inhabit.

Cultural paradigms are the foundational narratives or worldviews that shape how societies interpret reality and envision the future. These paradigms, which include concepts like modernity, postmodernity, and metamodernity, act as collective lenses that influence not only how we define progress and innovation but also how we understand limitations and risks.

In futures thinking, these paradigms shape the entire framework through which possibilities are explored, determining what is seen as probable, preferable, or even imaginable.

The Futures Telescope incorporates these paradigms to allow for a more comprehensive view, where different cultural perspectives lead to diverse interpretations of the same future events or trends.

Inayatullah (2023) emphasizes that these paradigms do not merely color our personal beliefs; they shape the entire cultural, social, and philosophical structures through which we navigate the futures. Without a shared understanding of the cultural paradigm in use, it becomes challenging to create a unified vision of future possibilities (Stoev, 2022).

The view of cultural paradigms presented here is inherently rooted in a Western intellectual tradition, which is critical to acknowledge. As Western-centric paradigms, such as modernity and postmodernity, have dominated global discourse, they can inadvertently marginalize or overlook alternative ways of seeing the world. This is particularly true in the field of futures thinking, where assumptions about progress, technology, and individualism are often grounded in Western ideals. Inayatullah (2023) call for a decolonization of futures practice, advocating for an approach that opens up space for alternative cultural paradigms, particularly those from Indigenous, non-Western, and collectivist perspectives.

Cultural paradigms are not arranged in a strict order or timeline. At any moment, one may be more dominant, but all are always present—they just vary in how visible or widespread they are (Freinacht, 2017). The way we imagine the future is shaped by these cultural lenses, which influence the kinds of futures we see. This matters when working with diverse groups, as it affects how people build agency to shape their own futures (Milojević & Inayatullah, 2015).

Inserting the modern lens - Utopia on the horizon

Modernity, rooted in the Enlightenment, introduced a worldview where rationality, science, and technological progress were seen as the primary tools for shaping the future. This cultural paradigm offered a unified vision of the future, grounded in the belief that complexity could be understood and resolved through scientific knowledge and logical reasoning. The result was the development of Utopia, a singular, ideal future that modernist thinkers believed could be achieved through the application of rational thought and technological innovation (Stoey, 2022).

The modernist approach to the future envisioned a world in which societal issues could be systematically addressed and resolved through progress, with rationality at the helm. The belief in this unified future—the Utopia—was tied to the notion that once humanity mastered the intricacies of science and technology, it could predict and control its destiny. This vision, which dominated Western thought, fueled industrialization and the expansion of European colonialism, spreading the idea that Western scientific rationality could bring about global prosperity (Christophilopoulos, 2022).

However, this grand vision of Utopia also revealed significant limitations. As described by Freinacht, the pursuit of Utopia ignored the inherent complexities of human societies, cultures, and ecosystems. Modernity's belief in rationality as the sole path to progress failed to account for the multiplicity of human experiences and the unpredictable nature of complex systems. The assumption that complexity was merely a lack of knowledge—a problem to be solved by science—oversimplified the realities of human and environmental systems (2022). The cracks in this Utopian vision became evident as social inequalities, cultural conflicts, and ecological degradation emerged, challenging the belief that one future could serve all of humanity.

In retrospect, modernity's focus on Utopia was both ambitious and flawed. While it drove remarkable advancements in science and technology, it also imposed a homogenizing narrative that overlooked the diversity of global cultures and the unpredictability of the future. This lens, though powerful, ultimately failed to deliver the perfect world it envisioned, setting the stage for a more fragmented and pluralistic understanding of the future in subsequent paradigms.

Especially in corporate environments, where complexity is often still perceived as obstacle to overcome, this lens

is widely used to look into the space of possibilities for the organisation in a linear way.

While this can be a valuable practice at hand to focus on a specific goal and the path thereto, it comes with a tremendous amount of pitfalls.

Focusing on one preferred outcome, bears the risk of looking at the yet-to-come with blinds, overlooking potential threads and possibilities. Furthermore, the success of this practice is based on the assumption that everyone part of the process shares this view of the futures. Therefore, approaching the space of possibilities in this linear way bears significant risks in the factual complex, interwoven environment we operate in.

The application of the Futures Telescope as a tool can help create awareness of the lens in operation and foster dialogue—building on an intuitively relatable image—on how to incorporate a more nuanced, non-linear perspective.

Postmodernity as a lens in the Futures Telescope - the birth of the Futures Kaleidsocope

Postmodernism arose as a reaction to the certainties of modernity, questioning the belief in a singular, objective truth. Instead, postmodernism highlights the fragmented and socially constructed nature of knowledge, suggesting that reality is interpreted differently by each individual, depending on their unique experiences and cultural context (Stoev, 2022).

Each perspective creates a different, subjective vision of what the future might hold, challenging the modernist belief that one solution or vision could be universally applied (Freinacht, 2022).

The postmodernist lens turns the Futures Telescope into a kaleidoscope of possibilities.

While this approach allows for a diversity of futures, it also raises the challenge of fragmentation, where shared visions of the future become increasingly difficult to achieve.

As it deconstructs the once-shared vision of Utopia, it reveals two divergent pathways. The first is a well-trodden path towards Dystopia, a reflection of the collective anxiety over what happens when utopian ideals are deconstructed and their flaws exposed. This narrative is common in recent science fiction, where futures are often depicted as bleak, dystopian societies that reveal the darker sides of unchecked progress and the erosion of shared visions (Stoev, 2022).

The second pathway highlights the absence of a collective future and the rise of Eutopias—subjective, individualized visions of the "good place" (Freinacht, 2022). These Eutopias offer personal fulfillment but lack the collective resonance of a shared societal goal. Without a unified vision, these individualized futures often lead to fragmentation and social isolation, as each person or group pursues their own ideal without broader cohesion.

In postmodern futures work, while this diversity of perspectives is celebrated, it paradoxically leads to greater disconnection, as the ties that once held collective visions together weaken (Christophilopoulos, 2022).

To avoid disconnection from possible outcomes in postmodern settings, it is essential to use the Futures Telescope to make each lens visible to all stakeholders. By raising awareness of why it may be difficult for some participants to envision the same futures, the Futures Telescope helps them navigate the liminal space—the uncertain, transitional zone between individual perspectives. By adjusting their personal and cultural lenses, stakeholders can engage in a dialogue that brings them from fragmented, subjective views toward a more shared understanding. This process overcomes obstacles to engaging effectively in Futures Work by embracing the uncertainties inherent in futures thinking.

The archipelago of emergence: aiming for Protopia

As we navigate the archipelago of emergence (Gotseva, R. 2024), we find ourselves in uncharted waters where the currents of modernity and postmodernity swirl together, each competing for dominance in a vast sea of possibilities.

Modernity's strong current remains influential, yet it is continuously challenged by the postmodern splintering of narratives and truths. These waters are populated by emergent islands—new ideas and paradigms that represent the diverse ways humanity might shape its future.

However, the task of naming this new era, whether as "Hypermodernity", "Metamodernity", or even a fallback into archaic worldviews, remains undecided. Future historians will likely provide the labels, but for now, we must focus on crafting a lens that can guide us through these uncertain times (Freinacht, 2017).

The proposed lens to navigate these complexities is a protopian one, a concept that emerges from metamodern thinking. First introduced in a technological context (Kelly, 2011), Protopia has since developed into a broader way of thinking about the future. Instead of aiming for a perfect, fixed state, it encourages steady, ongoing improvements—grounded in resilience, diversity, and shared effort (Freinacht, 2022). As we question systems and categories once seen as permanent, this approach offers a balanced path. It holds space for both hope and discomfort, without promising ideal outcomes or ignoring future risks. Using the Futures Telescope through this lens helps move beyond rigid utopias or scattered, place-specific ideals. The tool brings fragmented visions into focus by adjusting for different cultural and personal perspectives. In doing so, it strengthens collective agency and supports the cocreation of futures through small, intentional steps—futures shaped by shared understanding, not fixed predictions (Stoev, 2022).

Proposed Practical Methodology

This initial framework for the Futures Telescope invites futures practitioners to co-create and refine its application, making it a flexible tool for exploring diverse futures. While this paper introduces the concept, future iterations will develop a more structured methodology.

Stage 1: Adjusting the Ocular Lens – Identifying Personal Biases

The first stage focuses on recognizing and adjusting for personal biases, which can distort how futures are perceived. Just as a telescope needs to be adjusted to the observer's vision, practitioners must first identify and recalibrate their "ocular lens"—the individual cognitive biases that may affect the clarity of their view into the space of possibilities.

This adjusting process can be carried out by applying techniques to uncover cognitive biases such as Self-Reflection and Bias Identification or Bias Mapping. As a second step recalibration techniques such as cognitive forcing can be applied.

The outcome of this phase is a clearer, less biased personal perspectives on futures.

Stage 2: Adjusting the Cultural Lens – Exploring Collective Paradigms

The second stage involves recognizing the collective cultural paradigms that shape group perspectives on the future. Cultural paradigms are akin to the lenses in a telescope, influencing how a collective group of people—be it a society, organization, or team—envisions future possibilities.

By focusing on paradigm awareness, dominant cultural paradigms that influence the effectiveness of collective visioning, can be identified by building on techniques like cultural paradigm mapping or discussion circles.

This step lays the ground for being able to exchange individual or fragmented cultural lenses to more collective lenses.

Stage 3: Focusing the Telescope – Co-Creating Futures

In this stage, the Futures Telescope is focused to bring individual and collective perspectives into sharper alignment, allowing participants to collaboratively envision futures that integrate diverse viewpoints. The process moves from understanding personal and cultural biases to synthesizing these perspectives into a cohesive, shared vision.

Through techniques such as collaborative scenario building or futures collage creation, participants will begin to shape collective futures that reflect the multiplicity of lenses through which they view the world. These exercises encourage participants to actively engage with each other's perspectives, merging their adjusted personal and

cultural lenses to create a unified yet dynamic view of future possibilities. The flexibility of the Futures Telescope ensures that the vision created is not rigid, but adaptable, evolving as new insights and lenses are incorporated.

The outcome of this stage is a set of co-created, pluralistic future scenarios, offering a richer, more inclusive vision of the future that accounts for the diversity of perspectives within the group. This collective vision forms the foundation for taking concrete, collaborative action towards shared futures, where participants feel empowered to act on the future they've co-created.

Conclusion

The Futures Telescope offers a relatable metaphor for futures thinking, particularly for non-futures practitioners. Unlike more linear, abstract models like the Futures Cone, the Telescope metaphor is intuitive, drawing on the familiar experience of adjusting lenses to bring distant possibilities into clearer focus. This tool allows practitioners to engage more deeply with the dynamic, evolving nature of futures by recognizing and adjusting for the personal biases and cultural paradigms that shape our views of the yet-to-come.

By allowing users to navigate the liminal space between subjective individual perspectives and collective futures, the Futures Telescope enables the co-creation of a shared vision. This vision is not static or predetermined but rather emerges through intentional collaboration and the inclusion of diverse viewpoints. It fosters collective agency, ensuring that all stakeholders feel empowered to engage with and shape the future, rather than being passive recipients of a preordained outcome.

In contrast to the rigid, linear framework of the Futures Cone, the Futures Telescope emphasizes the fluidity of futures thinking. Through this tool, participants can visualize Protopia—an evolving future that accounts for both individual and collective perspectives. By continuously refining and adapting lenses, the Telescope supports the creation of inclusive, pluralistic futures that are shaped by the diverse experiences and cultures of those involved.

As an open and flexible framework, the Futures Telescope invites further refinement and co-creation by the futures community. Its value lies not only in its current design but in its ability to evolve in response to the ever-changing challenges and needs of futures work. By offering a relatable and intuitive approach, the Futures Telescope can serve as a bridge for non-futures practitioners, making futures thinking accessible while enhancing the depth and engagement of those within the field.

Through continued iteration, the Futures Telescope has the potential to become a key tool in building resilient, inclusive futures that honor both individual and collective goals. It provides a way to move beyond static visions of the future, empowering participants to co-create futures that are adaptable, actionable, and reflective of the multiplicity of human experience.

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