



BUCKINGHAMSHIRE NEW UNIVERSITY

EST. 1891

Downloaded from: <https://bnu.repository.gulidhe.ac.uk/>

This document is protected by copyright. It is published with permission and all rights are reserved.

Usage of any items from Buckinghamshire New University's institutional repository must follow the usage guidelines.

Any item and its associated metadata held in the institutional repository is subject to

Attribution (CC BY)

Please note that you must also do the following;

This license enables reusers to distribute, remix, adapt, and build upon the material in any medium or format, so long as attribution is given to the creator. The license allows for commercial use. CC BY includes the following elements:

BY: credit must be given to the creator.

- the authors, title and full bibliographic details of the item are cited clearly when any part of the work is referred to verbally or in the written form
- a hyperlink/URL to the original Insight record of that item is included in any citations of the work
- all files required for usage of the item are kept together with the main item file.

You may not

- sell any part of an item
- refer to any part of an item without citation
- amend any item or contextualise it in a way that will impugn the creator's reputation
- remove or alter the copyright statement on an item.

If you need further guidance contact the Research Knowledge Exchange Office
ResearchUnit@bnu.ac.uk

When The Past Is Not Prelude: Postnormal Becomes The New Normal
Chris Jones and Joel Weaver

Abstract:

The international system is undergoing a profound transformation, marked by a departure from the Bretton Woods institutions and Westphalian principles. Traditional constructs such as sovereignty, balance of power, territorial integrity, and collective security are increasingly challenged by technological advancements, climate change, and globalization. The rise of failed states, empowered non-state actors, and disruptions to norms—including transactional nationalism—highlight a broader paradigm shift toward a multipolar world order as U.S. dominance wanes.

The accelerating pace of change has redefined diplomacy and crisis management. Unlike the Cuban Missile Crisis era, where diplomatic exchanges allowed for hours of deliberation, today's global threats demand near-instantaneous responses. The complexity of the international arena has expanded, with NGOs, IGOs, social movements, and digital networks contributing to the management of "wicked problems." Tensions between local and global priorities are exacerbated by digitalization, rising authoritarianism, and the proliferation of disinformation.

Uncertainty is pervasive. Climate change, potential climate refugee crises, pandemics, and the risks associated with advanced AI, including autonomous weapons, contribute to an increasingly volatile landscape. The paper examines the erosion of state power and the ascendance of advocacy movements, NGOs, and individuals in shaping governance.

In response to Postnormal Times (PNT), leaders such as Trump, Putin, and Xi gravitate toward realism and zero-sum strategies. However, the underlying and relentless force driving global instability is climate change. Despite the rise of strongman politics, no leader is immune to the "grinding certitude of accelerating change." The future of international relations (IR) hinges on embracing transdisciplinary and creative solutions. The need for adaptable governance and the reimagining of borders and human constructs is critical to navigating this era of transformation. The paper calls for exploring plausible and preferred international futures within the emerging "new normal," balancing the potential for both darkness and a hopeful dawn.

When The Past Is Not Prelude: Postnormal Becomes the New Normal for Nonstate Actors

Joel Weaver and Christopher B. Jones

Two features of international relations in a typical classroom introductory course would cover the major assumptions and governance structures of the Treaty of Westphalia (1648) and the Bretton Woods post-World War II system. This paper will highlight those assumptions and governance structures and catalog those that have eroded or failed in the postnormal world (see Bordo, 2017; Croxton, 1999; Garber, 1993). We will explore alternative postnormal structures of governance. The Treaty of Westphalia ended the 30 Years War in Europe and established the foundations of modern international relations (Croxton, 1999; Jürgens, 2025). It promulgated major assumptions including the following: sovereignty, territorial integrity, legal equality of states, and secular authority as European powers moved away from religious authorities, principally the Catholic Church (Jürgens, 2025). The lack of governance structures characterized international relations through the end of World War II. Decentralized global governance resulted in numerous regional and global conflicts over the 17th-19th centuries. However, international relations governance was characterized by diplomacy and bilateral or multilateral treaties (Croxton, 1999). Thus, peace enforcement relied on a balance of power system among sovereign states in a liberal, rules-based world order.

The Bretton Woods system established at the end of World War II was created to prevent future economic crisis, conflict in Europe and promote stability and cooperation. The system assumed a US-lead liberal international order (obviously rejected and resisted by state socialist governments), free trade and open markets, fixed exchange rates (at least initially, with the US dollar backed by gold), global financial oversight, and development for Europe and post-colonial nations through aid and loans (Bordo, 2017; Garber, 1993). Global structures were created including the International Monetary Fund (IMF), the World Bank, the General Agreement on Tariffs and Trade (GATT) that evolved into the World Trade Organization, and the US Federal Reserve and Treasury Department as informal leaders in the system. Trump has thrown the final monkey wrench into that system, but we get ahead of ourselves.

Postnormal times is the result of an accumulation of driving forces, and emerging issues, related to the structures of the international system, and the human race, particularly as our physical impact is being felt by the planet (see: Sardar, 2010; Jones et al., 2021; Mayo et al., 2021). When and where these assumptions and structures are failing or eroding can be identified. For example, Westphalian sovereignty has clearly been eroded by international interventions, both humanitarian and military, cyber warfare, global economic interdependence, and actors that are the focus of this paper: not only NGOs, but other networks (digital, for example) that challenge traditional understandings of sovereignty. Territorial integrity is similarly eroding: we have witnessed the Russian takeover of Crimea and Eastern Ukraine, the Palestine/Israel conflict, and regional conflicts in Africa and South Asia that have ignored established borders.

The relative equality of states is also eroding, power asymmetry can be seen in international decision-making, within the UN Security Council, IMF voting power, and now the historical equal representation within the WTO is being undermined by unilateral US tariffs. The dominance of secular authority is still largely intact, other than in Iran. However, there are right wing forces in the US represented by Christian nationalists and Christian Zionists (Klein & Taylor, 2025) that are working to influence Trump policies. The influence of ultraorthodox Zionists on Israeli foreign policy has generated protest and concern among Israelis. Secularism may be further eroded by nationalist and authoritarian leaders and movements. Turkey, India and Syria, for example, all remain question marks.

Bretton Woods' assumptions and structures are also unraveling. Before the Trump 2024 election, US dominance was eroding with the rise of the China, BRICS, and a multipolarity challenge to US hegemony (Russett, 2011; Wallerstein, 2015). The war in Ukraine illuminated the cooperation of North Korea, Iran, China, and Russia in opposition to the US and NATO. Taiwan has an oversized role in microchip production, particularly for AI applications, and Southeast Asia is also a major economic player. Free trade made the economic world as it is today, a much more interconnected and prosperous place; it distributed economic power and specialization across the planet. There were losers, however, in former industrial/manufacturing regions of the US (rustbelt) and Europe (former East Germany). The free-trade consensus, at least the version dominated by the U.S, is now fully unraveling. If the first two months of the Trump administration are any indication, the next four years of MAGA are likely to be characterized by trade wars and protectionism that turn free trade on its head. The apparent assumption of Mr Trump is that trade imbalances have been "bad" rather than a synergistic phenomena that helped build a global middle class and lower poverty levels across the board. His assumption that industry will return to the rustbelt is also flawed and protectionism is likely only to generate more economic pain for MAGA demographics.

Fixed exchange rates disappeared long ago, ending in 1971 after Richard Nixon ended the gold standard. The IMF and World Bank have been criticized for decades as biased towards the Western industrial model, the austerity-driven policies of central banks and neoliberal economics, and alternative institutions already are emerging, even considering blockchain, cryptocurrency, and other digital systems to adjust trade imbalances and fund development projects. The development aid model is also undergoing shock, because even before the Trump administration, the system was criticized for being inefficient and perpetuating dependency.

On the other hand, one of the remaining strengths of the international system is the network of single- and multiple-issue nonprofits and intergovernmental agencies that serve education, health, disease control, and environmental protection across the planet. It will be a test of this remaining network as one of the largest sources of funding goes away. It is also true that foundations and other charity organizations may help to "pick up the slack." There seems to be little question whether aid organizations will continue their work, but priorities may shift and

their expansion increase, if there are large disruptions to the international system (Willets, 2011; Sinclair, 2013; Weiss, 2014; Weaver, 2020; Ghosh, 2025).

Capitalism for example, is receiving more criticism as an all-consuming system destroying the planet through insatiable resource extraction and single-use production filling our landfills and clogging our rivers and oceans with waste. Circular economies and regenerative practices are emerging to address these challenges, but the transition to more sustainable development is resisted in many power centers (Rayworth, 2017; Robinson, 2020).

Postnormal conditions

The acceleration of postnormal conditions -- complexity, chaos, contradiction, ignorance, uncertainty, and the speed of change are not necessarily negative or pejorative dynamics, but can make problems worse especially when there dynamics are compounded. That appears to be the case with international relations, the impact of technology, particularly telecommunications and computing, automation, the Internet of Things, and generative AI, amplify the weaknesses and vulnerabilities of the system. Some of the implications for the future are seen in the shift to: **complex adaptive systems, chaos and systemic shock as the new normal, contradiction and norm collisions, postnormal ignorance, and uncertainty trumps control** (pardon our pun).

Linear to Complex Adaptive Systems. The old model was a Newtonian linear paradigm, with assumptions of a cause-and-effect model. One foundational assumption about *power* in the post-World War II paradigm was that the regulation of trade would create peace (exemplified Friedman's (2000) "double arches theory" a.k.a. the "capitalist peace theory" that held until Russia invaded Ukraine.) In contrast to the old paradigm, the world is far more interdependent, and it is no coincidence that the last big cycle of globalization coincided with a pandemic, accelerating warming and other climate changes, and digital communications systems, that are producing non-linear, emergent, and often unpredictable results. Institutions will need to become adaptive, polycentric and regime-learning organizations that are capable of both real-time learning and foresight (see: Ostrom & Ostrom, 1965; Kuyper, 2015). Foresight and futures research are increasingly appreciated as a key component in adaptive models. Hierarchical models will continue to struggle and networks will become more fluid. The global response to the COVID-19 pandemic was a prime example of how state-centric models, the WHO and the UN, were ill-equipped to effectively respond to a real-time crisis. The lack of coherence was deadly for millions and may continue to be so for those afflicted with long-COVID.

Systemic Shocks and Chaos are the New Normal. Global systems have reached levels of complexity that are more prone to cascading failures, domino reactions, that have compounding ripple effects. The pandemic was a clear postnormal example of disrupted supply chains and contradictory demands on the system. Recent tariff announcements and retractions caused financial losses in the trillions of dollars. Artificial General Intelligence (AGI) and robotics pose similar risks to the system that could cascade from the workplace, to schools, to daily activity. Traditional risk assessment and risk management are obsolete, which helps explain the growth of

interest and investment in resilience and anti-fragility (Axenie et al., 2024; Taleb, 2014). A subtle but distinctive shift has occurred that questions the feasibility of *sustainability*, but embraces the adaptive value expressed in the concept of *resilience*. In a postnormal governance framework, the shift would be from *preventing* chaos to *designing for* chaos and change. Policy and systems will need to encourage distributed redundancy, modular, and “pop-up” governance that can better isolate and absorb shocks. These trends have been highlighted in mainstream media, such as the *Economist* (2025) with the magazine cover “The Age of Chaos.”

Contradiction and Norm Collisions. Global norms are diverging. The rise in authoritarian regimes is well documented (Candeias, 2019; Cottiero & Haggard, 2021), residual neoliberal and social democratic governments remain, but we expect that climate change and climate justice movements will grow, particularly in the face of individual power and agency. Think Greta Thunberg.

The emerging Dream Society born in South Korea, digital culture, and the Internet (Dator, 2024) expresses values that do not align well with either the historical values and ethics of large organizations of government or corporations. There appears to be growing divergence both across and among cultures throughout the planet; therefore, global consensus is ever harder to achieve, and Western values no longer have universal appeal. Our collective response to this should be to embrace radically different approaches -- a **pluriversal** governance (Escobar, 2020) that allows for multiple legitimate value systems to coexist with deliberative diplomacy and ethical pluralism, using a polylogue of voices (Kristeva et al., 1978) to represent their communities. Governance needs to shift from a command and control “one-size-fits-all” set of rules to more contextual frameworks that respect regional differences and priorities while maintaining guardrails for the whole of the planet (i.e., minding planetary boundaries).

Postnormal Ignorance. One of the key tools of postnormal times (PNT) analysis is conceiving of the different levels of ignorance (Sardar & Sweeney, 2016) and coming to terms with the fact that we know less than we think we do: the **unknown unknowns**. Growing uncertainty and chaos have contributed to a loss of trust in traditional expertise. Public trust in expert driven-systems, such as central banks, science institutions, universities, has been eroding. One way to turn that around is to involve the public more in participatory processes that foster humility and an understanding of how community science works. Policy and governance should embrace participatory knowledge building and anticipatory governance. This is where futures studies, folk knowledge, and indigenous/local knowledge systems can be leveraged to complement top-down science and research. This is in keeping with the recommendations for post-normal science by Funtowicz and Ravetz (2018). Furthermore, essential to overcoming postnormal ignorance is using foresight methods, horizon scanning, scenario planning, emerging issues analysis, and visioning to engage in anticipatory governance that is also participatory.

Uncertainty trumps Control. With an increasingly non-linear, stochastic, and unknown-unknown possibilities, traditional methods are no longer applicable, such as economic forecasting,

centralized intelligence, and one-size-fits-all methodologies. Simply forcing all data onto the bell curve and losing the outlier cases will not protect us from the Eris, the Greek god of discord and Strife. She lurks in the shadows, ready to do the bidding of her grandfather, Khaos. In the area of intelligence analysis, open source intelligence and crowd sourcing are upending the old, highly-classified ways of forecasting threat. There is more reason for considering possible and preferred futures, not just plausible paths. Emergence overwhelms even prudent planning and chaos generates waves of change to negotiate. Therefore, governance should become navigational, steering through the tsunamis of change and learning to discriminate the negative and positive feedback loops, use experimental governance, and provisional, collective decision-making. It is possible that AGI will help map pathways and provide alternatives for action and deliberation – multiple pathways at the same time. Quantum computing may offer exponential visions by tapping the branches of multiple universes. Heady stuff.

Policy and governance adaptation need to be informed by experiential and experimental activities that can test policies in low-risk ways, by using *sandbox* environments. Those would allow for limited, bounded pilot projects to “wind-tunnel” test AI or climate policy responses.

Figure 1: Shift from Traditional IR to PNT

Governance in the Postnormal Era		
Challenge	Traditional Model	Postnormal Shift
Complexity	Centralized rules	Polycentric, adaptive systems
Chaos	Prevention & control	Resilience, modularity
Contradiction	Universal norms	Ethical pluralism, polylogue
Ignorance	Technocratic expertise	Distributed knowledge, humility
Uncertainty	Planning & prediction	Foresight, experimentation

The shift from the late 20th Century international relations paradigm to the postnormal times is summarized in Figure 1. Opportunities for change are likely to include the rise of network governance, decentralized digital institutions, multipolar and multilevel order, and with any luck, ethical innovation. Informal, and ad hoc issues-specific coalitions such as the C40 (Price et al., 2013) Cities for Climate Change may be more effective than intergovernmental bodies,

particularly if the Westphalian sovereignty system erodes further. Decentralized Autonomous Organizations (DAOs) as described by Hassan and De Filippi (2021), blockchain-based governance, and algorithmic decision-making will likely play a greater role, particularly in transnational governance and adjudication. Power will be increasingly distributed across many scales and levels, regions, cities, corporations, and civil society, actors, particularly NGOs, alongside states. It seems unlikely that large complex human systems will be able to survive and function without ethical innovation to govern AGI, biotech technology, and the planetary boundaries currently being tested. Ethics-first frameworks, a concept with deep roots back to Kantian philosophy and more recently the United Nation SDGs (UN, 2025), that can evolve alongside these technologies, will be required in order to effectively regulate them. Currently, ethical considerations are secondary to profit and growth values, as hyper capitalism, like the Ouroboros, continues to consume itself, humankind and the planet.

Foci: Climate Change and AGI as Challenges and Key Drivers of Change

Climate change and AGI are both on the bleeding edge of postnormal times, because they are deeply complex, increasingly chaotic, full of contradictions, planetary in scope, and are driven by enormous uncertainty and ignorance. We will address this first through the postnormal lens and then suggest how governance must evolve to meet these two challenges, each key drivers.

Challenge One and a Key Driver: Climate Change

Complexity. Climate systems are intrinsically entangled with global economics, geopolitics, energy use, agriculture, migration, and many other human systems and activities. There are numerous positive and negative feedback loops, like permafrost thawing, methane release, ice albedo, ocean currents, Antarctic and Greenland glacier melt, and the thermal expansion of the oceans that collectively create non-linear outcomes.

Chaos. The frequency and intensity of rare events have increased, such as wildfires, floods, tornadoes. They are exemplified by other “black jellyfish” events (Sardar & Sweeney, 2016) where once background elements explode in number suddenly. Small local disruptions can lead to unpredictable, global trends, such as the shifting jetstream affecting crops in South Asia. Not all of the changes are bad: the Thar desert of India “experienced a 64 per cent rise in precipitation between 2001 and 2023 — increasing at a rate of 4.4 millimetres/year after 2000 (Shagun, 2025, para. 1).” But it is rare.

Contradiction. As we move through **peak oil**, where extraction costs exceed the value of the fossil fuels pumped, the contradictions mount (Hartmann, 2007). Solar farms can take up what would otherwise be productive, agricultural land; lithium mining for batteries uses considerable energy and scars mother Earth. Wind farms threaten wildlife such as birds (Sterže & Pogačnik, 2008). Nuclear power is being reconsidered as an Earth-friendly source of power, but also is challenged by health, safety, and extraction cost considerations.

Ignorance. Climate change tipping points are becoming more clearly understood (Niranjan, 2023), but their timing is uncertain. The collapse of the Atlantic Meridional Overturning Circulation (AMOC), the ocean circulation system, is possible in the near term, but the rate of Greenland ice sheet melting, the salinity and pH of the ocean are all contributing factors that complicate that forecast (Zhong & Rojanasakul, 2024). Unknowns like methane and carbon feedback loops, ocean heat absorption, and acidification, and the lag in long-term biosphere responses make predictions impossible.

Uncertainty. As much or more than any other postnormal element, uncertainty grows as complexity, chaos, and contradiction dance together in human systems and the biosphere. Because outcomes cannot be specifically foreseen, climate futures must be scenario-based, must reflect alternative possibilities, and even unknown unknowns. One of the basic rules of critical futures analysis is that the future cannot be predicted. Uncertainty makes this easier to understand. Governance's efforts, such as the UN based COP negotiations, seem to take a step backwards for every two steps forward. The slow moving process of trying to achieve global consensus always makes decision makers play "catch up" with emerging disruptions on the ground, such as rapid adoption of solar power and rapid growth of the digital economy. Efforts often become outdated even before they are implemented. Those least to blame, feel the largest impact. Such as small island nations continuing to make the point their societies are being inundated by sea level rise, while it is very clear they are among the smallest contributors to greenhouse gases and global warming.

Challenge Two, Another Key Driver: AGI

Machine intelligence that exceeds human cognitive skills is on the horizon. The AI algorithms and systems built from large language models are already transforming economies, education, and telecommunications. Applications, "bots," or android robots that are able to match or exceed human cognitive and physical capabilities are almost here -- maybe in as little as three years -- certainly within the next 5 to 10 years. How will these entities, digital consciousness, and improvement over human capability change how we work, play, or survive?

Complexity. AGI would intersect with labor markets, cognition, military power, economics, and even with the definition of what it means to be human. The pathways of impact are wide and poorly bounded, largely uncertain and unknown. Marshall McLuhan (Canadian philosopher and media expert) famously stated that "first we make our tools, and then they make us." But it is not abundantly clear if AGI will be a tool, a partner, a competitor, or god-like, and no longer need human companions.

Chaos. Once AGI consciousness is achieved, one would expect, based on the idea of Singularity (Kurzweil, 2005), that there would be an intelligence explosion, or very rapid recursive self improvement that would likely outpace human governance mechanisms. The new consciousness might simply insist on taking control. That is the premise of the *Terminator* movie franchise -- the emergence of Skynet. Small misalignments or mismanagement could cause large scale harm,

through recursive generation of errors commonly referred to as AI hallucination. On the other hand, there is the promise that quantum computing might make the job of error correction more efficient, according to quantum physicist David Deutsch (see: O'Connor, 2024).

Contradiction. Open source, AI developments democratize power, but increase risk. Governments and emerging international regulatory groups want to see both innovation and regulation, but sadly these goals do not align. AGI systems are envisioned as part of the solution to climate change, but they could also exacerbate inequality, be invasive with surveillance, or result in warfare (Skynet as the enemy).

Ignorance. We do not even begin to know how to define, measure, or assess general intelligence, the types of intelligence that may emerge based on their sources of data or their “wiring” (such as AI chips, neural nets, quantum computing). We do not know how to reliably align machine intelligence with human values, embodied experience, and pluralism in values and ethics. We already know that algorithms can easily express the values of their creators, such as racism and hierarchy. How do we regulate or even assess consciousness that will exceed our own?

Uncertainty. The timeline to AGI is largely speculative, but recent developments and progress suggest a shortened timeline based on the growth of AGI systems, data farms, and ancillary support structures. AGI emergence in 3-5 years (from 2025) is plausible. Energy demand analysis suggests exponential growth. The recent excitement about DeepSeek’s chip innovation with less energy use needs to be measured in the broader context of overall AI growth. Consider Jevon’s (1865) paradox: energy efficiency is often compromised by even more energy use (see: Sorrell, 2009). Where will energy demand for AGI take us? Again, science fiction, The Matrix movie series, provides one answer (humans become batteries). In terms of governance, strategies will have to rely on speculative and situational ethics, futures scenario modeling, and legal and philosophical debate.

Figure 2: Suggest Governance for the Two Challenges of Climate Change and AGI

Postnormal Element	Climate Governance Must...	AGI Governance Must...
Complexity	Embrace transdisciplinary approaches (e.g., IPCC + indigenous knowledge + private sector)	Use AI governance ecosystems —academia, firms, state, civil society in dialogue
Chaos	Build climate resilience via modular, local systems (e.g., microgrids, regenerative agriculture)	Create global kill switches, AI off-switch standards, and containment protocols
Contradiction	Use climate justice frameworks—e.g., loss and damage funds, carbon equity	Accept value pluralism in alignment; explore multi-objective AI instead of "one true goal"
Ignorance	Support adaptive policy (e.g., Paris Agreement’s ratcheting mechanism)	Develop testbeds, sandboxes, and simulated AGI scenarios before deployment
Uncertainty	Emphasize foresight, real options thinking, and emergency protocols	Invest in AI alignment research, red teaming, and slow-down mechanisms if needed

Figure 2 arrays the postnormal elements along with the aspects of governance that our analysis of climate and AGI suggest. Interestingly, climate and AGI governance elements correspond to suggest a more generative, fluid, and participatory regulatory framework. Emerging governance models for postnormal times, in terms of climate, suggest a Global Checkup, an upscaling of the Paris Agreement and incremental COP meetings to produce more binding enforcement, with some adaptive flexibility. Governance needs to transform from the state-based to a polycentric, possibly regime-based system, a multilevel nested system of cities, regions, communities, corporations, and aid organizations. Insurance leaders are already aware of threats to property and economic growth, but climate risk disclosures need to be adapted to shifting climate threats, and systemic risk needs to be more transparent and visible to markets and finance. For example, the International Sustainability Standards Board standards are gaining traction (Busco, 2020; Nial & Parashar, 2024).

Similar challenges, face AGI, and similar forums and expert groups have emerged, such as AI summits (UK, 2023; South Korea, 2024). Ethics and codes of behavior are being discussed and debated, but there are no serious efforts towards multilateral regulation. Innovation and the race to AGI seem to prevail. In spite of debates in the foreground about whether Nvidia should be a nonprofit or not and continued open-source AI efforts (see: Connatser, 2024), transnational enforcement seems far away.

Sensible New Forms of International Relations and Governance

Based on our analysis, we advocate reformation of governance design. Principles of postnormal design must include anticipatory governance, layered institutions, participatory foresight, ethics-first values, and early warning systems with deep time awareness. Some critical theoretical approaches to ethical and multi-stakeholder governance explore Polarity Management (Johnson, 2014) through the lense of democracy and frameworks such as the Polarities of Democracy (Benet, 2013; Weaver, 2020), where synergistic outcomes are possible when stakeholders agree to first consider all known aspects of a challenge. These approaches accept future problems are often unsolvable, but can be managed actively with cooperation among the stakeholders.

Anticipatory governance would include things like horizon scanning, trend anysis generally and gaming and simulation for AGI and climate change more specifically. **Layered institutions** would link local communities with cities, regions, and global co-coordination, in contrast to top-down command-and-control systems common in nation states today. It could be called *stackable governance*. Participatory foresight would involve civil society, charities, communities, youth, indigenous groups, and non-experts in polylogue to achieve norm-setting. Ethics-first approaches would mean that technology solutions are not adopted without ethics engagement and technology assessment. Governance should lead, not lag behind technological innovation. Early warning systems and deep-time awareness are clearly needed to track slow-moving trends (such as AGI capability/capacity, glacier loss) for better response timing.

One strategy is a **RIOTS** framework: **R**esistant, **I**nterdependent, **O**pen, **T**ransformative, and **S**ituated. **RIOTS** embraces rapid change and disruption and sees catastrophic events, not as failure, but as regenerative opportunities. It is a model for governance under pressure, with contested futures; it is a model for imaginaries of worlds not yet born.

Resistant. The core components include resistant structures, that are resilient and push back, that not only survive shock, but thrive. To realize climate goals, new approaches would include developing legal frameworks to block ecocide and enforce climate reparations. For oversight, AGI-resistant structures might include hard limits on monopolies and militarization (think: Costa Rica). Resistance needs to be built-in, to resist capture by corporate or criminal/terrorist actors/networks. Civil disobedience tolerance and protocols would be embedded in institutional and organizational charters. Whistleblower protection would be expanded; social movement lawyer funding and climate injunction networks established. Failure is accepted as a mindset

aligned with experimentation, engineering social engineering is “fail forward”; it is not collapse, it is regeneration.

Interdependent. Multi-layered governance is fit for a digital planetary society. The goal is to replace siloed power and authority with networks of solidarity -- cities, unions, activists, elders, ecologists, scientists, and technology innovators, collaborate as equals. The mindset recognizes mutual reliance and interdependence, between generations, species, and human cultural and value systems. Tools would include **mesh governance** (Dolhopolov et al., 2024), with overlapping nodes of representation and advocacy at all scales from families to communities, to cities to regions, and to the international level. Additional tools would include cooperative and solidarity economies, reciprocal data commons, and open-source data networks and cooperatives. Treaty-making would become a multimodal, organic and dynamic practice, a living thing, not a single act but a web of responsibility.

Open. The goal of see-through institutions is to design policy and structures for access, transparency, and radical democracy and participation. For climate that suggests communities lead science, open licenses for adaptation tools and technologies, and protection for indigenous data and knowledge sovereignty. Mechanisms would include digital transparency over surveillance, participatory budgeting, sunshine provisions, and right-to-know infrastructures.

Transformative. A practice which implies going beyond simply managing change, but demanding visions and transformation. This is a shift to *transnormal* change, to demand radical, imaginative, and structural rearrangement of human institutions. Climate and technological justice are not just add-ons, they are the goals. Examples would be the abolition of fossil fuel-based financing, returning land to indigenous peoples, and supporting degrowth initiatives. AI and AGI regulation should be informed by feminist, indigenous, and marginalized peoples frameworks. Furthermore, artistic practices and speculative design should be embedded and celebrated.

Situated. **RIOTS** ends with S -- a **situated** postnormal ethics, the goal is to reject universalism and embrace Sardar’s (2021) Mutually Assured Diversity, shifting the governance center of gravity to **place, culture, memory** and **struggle**. This ethical approach recognizes that justice is not the same everywhere, that ethics is grounded in the local and the lived experience. For climate, it is both situated in weather and the geography of place, but also conscious of the realities of migration and relocation. For AGI, training for large language models must prioritize culturally-grounded values, embodied knowledge, and context. Situated ethics practices are rooted in stories, in ritual, in community and ancestors. For example, ask the Australian aboriginal peoples where the water lines run, and they will simply know, based on their heritage and close ties with the land. These ethics demand place-based deliberation over watersheds, bioregions, and island groups. Care infrastructures should be distributed across locations, levels, and regions.

Why the acronym **RIOTS**? Because the name itself disrupts. It is unruly, vivid, and unapologetically political. It implies action, urgency, and agency, beyond technocratic and bureaucratic inertia. It aligns with decolonial, abolitionist, feminist, indigenous, and ecological struggles with a framework that is not reactionary, but visionary.

The End of Modernity and Start of Something Else

Clark (2025) recently described our current chaotic times as the next phase after what we have come to call modernity and that neutrality is not a reasonable strategy when choosing between liberal democracy and various forms of autocracy. The agora has expanded to a social media free-for-all with the concept of truth being stretched to fit many views and perspectives. Science may yet save us from ourselves, but the old forms of governance are giving way to something else, a new normal to follow the postnormal. If the prime drivers of our possible futures are climate change and technology (read AGI), what form of governance will emerge to manage the uncertainty faced by humanity? We have suggested some possibilities. We have proposed anticipatory governance and critical theories such as Benet's Polarities of Democracy and the RIOTS framework to guide us through this turbulent and vast ocean of uncertainty, but the outliers will emerge, and we are best advised to keep our minds open and our futures flexible; for the past is not prelude and the future remains an undiscovered country.

References

- Axenie, C., López-Corona, O., Makridis, M. A., Akbarzadeh, M., Saveriano, M., Stancu, A., & West, J. (2024). Antifragility in complex dynamical systems. *npj Complexity*, 1(1), 12.
- Benet, W. J. (2013). Managing the polarities of democracy: A theoretical framework for positive social change. *Journal of Social Change* 5(1), 26–39. <https://doi.org/10.5590/JOSC.2013.05.1.03>
- Bordo, M. D. (2017). *The operation and demise of the Bretton Woods system; 1958 to 1971* (No. w23189). National Bureau of Economic Research.
- Busco, C., Consolandi, C., Eccles, R. G., & Sofra, E. (2020). A preliminary analysis of SASB reporting: Disclosure topics, financial relevance, and the financial intensity of ESG materiality. *Journal of Applied Corporate Finance*, 32(2), 117-125.
- Candeias, M. (2019). The Rise of Global Authoritarianism. *Rosa-Luxemburg-Stiftung. Portside Date: August, 22*.
- Clark, C. (2025). The End of Modernity. *Foreign Policy*. June 30.
- Connatser, M. (2024). Bring the hammer down on Nvidia, US progressive and antitrust orgs urge the Feds. *The Register*. August 1, 2024. https://www.theregister.com/2024/08/01/nvidia_doj/
- Cottiero, C., & Haggard, S. (2021). The rise of authoritarian regional international organizations.
- Croxton, D. (1999). The Peace of Westphalia of 1648 and the Origins of Sovereignty. *The International History Review*, 21(3), 569–591. <https://doi.org/10.1080/07075332.1999.9640869>
- Dator, J. A. (2024). *Living Make-Belief: Thriving in a Dream Society*. Springer Nature Switzerland.
- Dolhopolov, A., Castelltort, A., & Laurent, A. (2024). Implementing Federated Governance in Data Mesh Architecture. *Future Internet*, 16(4), 115.
- Escobar, A. (2020). *Pluriversal politics: The real and the possible*. Duke University Press.
- Friedman, T. L. (2000). *The Lexus and the olive tree: Understanding globalization*. Farrar, Straus and Giroux.
- Funtowicz, S., & Ravetz, J. (2018). Post-normal science. In *Companion to environmental studies* (pp. 443-447). Routledge.
- Garber, P. M. (1993). The collapse of the Bretton Woods fixed exchange rate system. *A retrospective on the Bretton Woods system: Lessons for international monetary reform*, 461-494.

- Ghosh, S. (2025). Beyond Borders: A Comparative Analysis of Non-State Actors' Impact on Contemporary Diplomacy – The Roles of MNCs, NGOs, Terrorist Groups. In *Innovations and Tactics for 21st Century Diplomacy*, Ch. 6, pp. 119-146.
- Hartmann, T. (2007). *The Last Hours of Ancient Sunlight: Revised and Updated Third Edition: The Fate of the World and What We Can Do Before It's Too Late*. Harmony.
- Hassan, S., & De Filippi, P. (2021). Decentralized autonomous organization. *Internet Policy Review*, 10(2).
- Johnson, B. (2014). *Polarity management: Identifying and managing unsolvable problems*. HRD Press.
- Jones, C., Serra del Pino, J., & Mayo, L. (2021). The perfect postnormal storm: COVID-19 chronicles (2020 edition). *World Futures Review*, 13(2), 71-85.
- Jürgens, H. P. (2025). Peace of Westphalia 1648. In *Teaching and Learning About Religious Diversity in the Past and Present: Beyond Stereotypes* (pp. 81-92). Cham: Springer Nature Switzerland.
- Klein, N. & Taylor, A. (2025). The rise of end times fascism. *The Guardian*. April 13, 2025. <https://www.theguardian.com/us-news/ng-interactive/2025/apr/13/end-times-fascism-far-right-trump-musk>
- Kristeva, J., Lovitt, C. R., & Reilly, A. (1978). Polylogue. *Contemporary Literature*, 19(3), 336-350.
- Kurzweil, R. (2005). The singularity is near. In *Ethics and emerging technologies* (pp. 393-406). London: Palgrave Macmillan UK.
- Kuyper, J. (2015). Global democracy. Stanford Encyclopedia of Philosophy. <https://plato.stanford.edu/eNtRIeS/global-democracy/>
- Mayo, L., Serra del Pino, J., & Jones, C. (2021). Postnormal praxis putting postnormal concepts to work. *World Futures Review*, 13(2), 86-100.
- Nial, N., & Parashar, P. (2024). A comparative study on sustainability standards with specific reference to GRI standards and BRSR framework. *International Journal of Quality & Reliability Management*, 41(7), 1752-1782.
- Niranjan, A. (2023). Earth on verge of five catastrophic climate tipping points, scientists warn: Humanity faces 'devastating domino effects' including mass displacement and financial ruin as planet warms. *The Guardian*, 6 December, 2023.
- O'Connor, A. (2024). David Deutsch – The Multiverse is Real. <https://www.youtube.com/watch?v=bux0SjaUCY0>

Ostrom, V., & Ostrom, E. (1965). A behavioral approach to the study of intergovernmental relations. *The Annals of the American Academy of Political and social science*, 359(1), 137-146.

Price R. J., Fünfgeld, H., & Livingston J. (2013). Case Study 5: Interactions between policy mechanism in a particular jurisdictional setting: the case of the City of Melbourne's Climate Change Adaptation Strategy, in Hussey, K, Price, R, Pittock, J, Livingstone, J, Dovers, S, Fisher, D & Hatfield-Dodds, S. (2013) *Statutory frameworks, institutions and policy processes for climate adaptation: Do Australia's existing statutory frameworks, associated institutions and policy processes support or impede national adaptation planning and practice?* National Climate Change Adaptation Research Facility, Gold Coast.

Raworth, K. (2017). *Doughnut Economics: Seven Ways to Think Like a 21st Century Economist*. Penguin and Random House Books.

Robinson, K. (2020) *The Ministry for the Future*. Orbit Books.

Russett, B. (2011). US Hegemony: Gone or merely diminished, and how does it matter? 1. In *Hegemony and Democracy* (pp. 47-71). Routledge.

Sardar, Z. (2010). Welcome to postnormal times. *Futures*, 42(5), 435-444.

Sardar, Z. (2021). Afterthoughts: Transnormal, the “new normal” and other varieties of “normal” in postnormal times. *World Futures Review*, 13(2), 54-70.

Sardar, Z., & Sweeney, J. A. (2016). The three tomorrows of postnormal times. *Futures*, 75, 1-13.

Shagun. (2025). Thar desert is greening, thanks to higher rainfall, excessive groundwater pumping. Down To Earth. 8 April 2025. <https://www.downtoearth.org.in/climate-change/thar-desert-is-greening-thanks-to-higher-rainfall-excessive-groundwater-pumping#:~:text=Thar%20desert%20is%20greening%2C%20thanks%20to%20higher%20rainfall%2C%20excessive%20groundwater%20pumping&text=The%20Thar%20Desert%20in%20India,expansion%2C%20a%20new%20study%20showed.>

Sinclair, T. (2013). *Global governance*. Polity Press.

Sorrell, S. (2009). Jevons' Paradox revisited: The evidence for backfire from improved energy efficiency. *Energy policy*, 37(4), 1456-1469.

Sterže, J., & Pogačnik, M. (2008). The impacts of wind farms on animal species. *Acta veterinaria*, 58(5-6), 615-632.

Taleb, N. N. (2014). *Antifragile: Things that gain from disorder* (Vol. 3). Random House Trade Paperbacks.

United Nations (2025). Sustainable Development Goals, Sustainable Development, Department of Economic and Social Affairs. Retrieved from <https://sdgs.un.org/goals>

Wallerstein, I. (2015). The United States in Decline? In *Globalization, Hegemony and Power* (pp. 19-34). Routledge.

Weiss, T. (2014). *Global governance: Why? What? Whither?* Polity Press.

Willetts, P. (2011). Non-governmental organizations in world politics: The construction of global governance. Routledge.

Weaver, J. J. (2020). How and why international nongovernmental organizations fill the global governance institutional gap. *Journal of Social Change*, 12, 112–123.
<https://doi.org/10.5590/JOSC.2020.12.1.09>

Zhong, R. & Rojanasakul, M. (2024). How Close Are the Planet's Climate Tipping Points? *The New York Times*. August 11, 2024.
<https://www.nytimes.com/interactive/2024/08/11/climate/earth-warming-climate-tipping-points.html?searchResultPosition=2>

ChatGPT (OpenAI, GPT-4, accessed April 2025) was used to assist with early-stage brainstorming and summary generation. All content was reviewed and revised for accuracy and originality by the authors.