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Editorial: Beyond the frontiers of political science: is good governance possible in cataclysmic times?

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Editorial on the Research Topic
Beyond the frontiers of political science: is good governance possible in cataclysmic times?

Introduction

This volume acknowledges the interdisciplinary nature of the climate crisis and aims to transcend the traditional boundaries of political science. By incorporating insights from various disciplines, the book seeks to provide a comprehensive and holistic understanding of the challenges at hand.

The interconnectedness of global existential crises, such as climate change, require a multifaceted approach, involving scientific, social, economic, ethical, and technological dimensions. By embracing interdisciplinarity, the book seeks to leverage diverse perspectives and expertise to explore innovative answers and policy approaches.

Interdisciplinarity allows for the integration of knowledge from different fields, fostering a more comprehensive understanding of "super wicked" problems such as climate change (Lazarus, 2008). It suggests that researchers and practitioners should consider a broader range of factors than they usually do, including scientific data, societal impacts, political dynamics, cultural values, and technological possibilities. This broader perspective enhances the capacity to develop effective governance strategies and policies that account for the interconnectedness of various angles of the problem.

The goal is to use a holistic approach departing from conventional methods of governance as the complex and interrelated events, phenomena, and resulting problems defy the limitations of disciplinary boundaries. To make progress and effectively address these challenges, political scientists must tap into and seek aid from the larger breadth of human knowledge while exploring uncharted territories and envisioning novel scenarios and institutional frameworks.

In summary, at the core of this Research Topic lies the belief that political scientists alone cannot adequately tackle the governance challenges brought forth by the climate crisis and other transnational issues. Given the challenge of complexity, interdisciplinarity has become an essential prerequisite, a *sine qua non* for the advancement of the natural sciences and for that of political science, as well as of political action itself. We can note how the geological

concept of the Anthropocene managed to move from the natural sciences to the social and human sciences, where it led to the proliferation of passionate debates, meetings, and new concepts (Wabnitz et al., 2020; White, 2020; Conversi, 2021a,b, 2022; Killian, 2021; Zalasiewicz et al., 2021; Eriksen, 2022). Meanwhile, interdisciplinarity is already a central aspect of the reports drawn up by the main international organizations dedicated to understanding the impact of climate change, with the participation of a growing number of social scientists (IPCC, 2021, 2022).

Many Earth scientists have launched calls to overcome the rapidly increasing lack of integration of existing scientific data (Cuhra, 2019; Ripple et al., 2019). Despite the IPCC's efforts, a flood of information that could be of vital importance for political choices and the orientation of citizens remains relegated to specialist areas that prevent its diffusion. In particular, it has been observed that "Today's distributed corpus of human intelligence, including the scientific publication system, cannot be exploited with the efficiency needed to meet current evidence synthesis challenges" (Balbi et al., 2022).

The problem is amplified when we move from the natural to the social sciences. The latter and the humanities even more so seem to have become belatedly aware of developments in the science of climate change. In the absence of a common language and of a "shared semantics" between the various scientific disciplines, the social sciences have been particularly hesitant, reluctant, and slow to incorporate new data that have emerged in other disciplinary areas, especially if these data do not corroborate previous narratives and their footsteps do not resonate on well-trodden paths. This resistance increases all the more as the new data appear too "pessimistic" to be included within the predominant discourses. As we will see, the division of the world into nation-states plays a central role here, and the paths of national identities and everyday nationalism appear more comfortable in the persistent inability to discuss climate phenomena in contexts of everyday life.

The social sciences are, however, at least one step behind the exact sciences: they are often reactive, rather than proactive, with regard to most scientific discoveries, as often with the emergence of new technologies. Despite the rare intuitive ability of some scholars, they have remained behind for a long time in dealing with the social reverberations of complex phenomena such as the ecological crisis. Known exceptions include the interdisciplinary area of environmental humanities.

Yet in other areas, substantial difficulties remain in incorporating the latest scientific knowledge, in particular the rapid and changing advances in the sciences of climate change and the Earth System.

The very asking of many questions was late in almost all the social sciences, with the possible exception of anthropology, an ontological and epistemological paradox considering the *anthropos* shared by ≪anthropology≫ and ≪Anthropocene≫.

The "denigratory campaign" launched against scientists who had dared to question the limits of development (Meadows et al., 1972, 2018) could not fail to backfire on anthropology as on all other social sciences.

Among the few social scientists who have been engaged for years in incorporating new scientific knowledge, Latour (2015) criticizes academic conservatism enclosed by insurmountable walls and locked within disciplinary circles with occasional and scarce scientific footholds. Latour (2017a,b) prefers to consider the greater flexibility of some disciplines, especially social and cultural anthropology, compared to other social sciences that are more static and closed to novelties.

In the historical sphere, the ≪four theses on the Anthropocene≫ proposed by Chakrabarty (2009) to conceptualize the ≪deep confusion≫ that the alteration of the planet has produced in life history have imprinted a trajectory that goes far beyond the historical discipline. For Chakrabarty, we are falling toward a sense of the present, where the future is now disconnected from the past. Past, present, and future can no longer be perceived as a sequence and along a sense of continuity. Subsequently, in a book that expands the "four theses" approach, Chakrabarty (2018) criticizes the limits of traditional history, catalyzing multidisciplinary reflections on ontology, freedom, and justice inside and outside of the social sciences, the natural sciences, and the applied professions: going beyond history, philosophy, cultural and postcolonial studies, one necessarily comes to include geoscientists and bioscientists. According to Chakrabarty, climate change collapses the distinction between natural history and human history, and we are thus destined to abandon the specialized way of thinking with which we have identified since the Enlightenment.

According to provisional data, the victims of climate change are already in the millions, distributed across various regions of the planet but often concentrated in specific areas (Romanello et al., 2021): research published in *The Lancet* indicates that climatic event extremes have appeared in regions stable until a few years before, while anomalous temperatures (too high or too low) linked to the climate crisis are responsible for 5 million deaths a year (Zhao et al., 2021). We can well-understand how these numbers are set to increase rapidly and, in some places, exponentially as climate change-related crises expand. Inevitably, as a corollary, an increasing number of conflicts, wars, poverty, and famines have been linked to the consequences of climate change, as in Sudan, Syria, Somalia, and other countries and regions (Ide and Scheffran, 2014; Ide et al., 2014; Schilling et al., 2020).

This volume is not the first attempt to bring together various disciplines to tackle the multiple crises, particularly climate change (Bhaskar, 2010; Frodeman, 2013). However, it is the first to raise these existential questions, which have a primarily political focus and hence demand a new political imagination. The editors took up the challenge and embraced interdisciplinarity, leveraging the knowledge of anthropologists, political scientists, sociologists, geographers, physicists, philosophers, and mathematicians. Together, they contributed to a comprehensive understanding of how multifaceted our global challenges are in order to inform decision-making in governance.

Scheffran has contributed by delving into the geopolitics of the Anthropocene. He considers alternative futures spanning from the collapse of human civilization to geopolitical power struggles, conflicts, technological innovations, and changes in systems within ecological limits. Scheffran connects geopolitical conflicts such as the recent Russia–Ukraine conflict with climate change, as has been done by other authors (Zuk and Zuk, 2022). The link is that climate change requires cooperative governance efforts for mitigating,

adapting to, and managing the complex crisis landscapes emerging in the Anthropocene, which conflict makes impossible. Peace is needed to facilitate the energy transition at the core of climate change resolutions. For Scheffran, only peace can offer cooperative governance to address the world's complexity and transition from a negative nexus of problems to a positive nexus of solutions. Hence, the goal is to work to prevent the escalation of crisis dynamics and geopolitical conflicts.

Within the energy–security nexus, Scheffran highlights the importance of strategies that mitigate land competition, biodiversity loss, and risky dependencies on strategic raw materials and conflict minerals. Sustainable energy transition measures such as energy efficiency, conservation, renewable energy adoption, decarbonization, circular economy practices, and nature-based solutions are identified as key elements for addressing conflicts, especially energy conflicts (Zuk and Zuk, 2022). He focuses on the climate–conflict–migration nexus and sees synergistic approaches in climate, migration, and security policies as fundamental factors to build socio-political environments where available solutions can be applied. These aim to mutually reinforce sustainability and peace while preventing the multiplication of risks within the nexus.

Eriksen's contribution approaches governance by highlighting the need to broaden the definition of politics vis-à-vis the inability of the state to contribute to viable solutions to multiple crises, particularly the twin losses of biodiversity and cultural diversity. In fact, Eriksen argues that politics is part of the problem. He states: "since the reduction of diversity is caused by governments and corporate interests, it is necessary to look elsewhere for resistance movements". He looks especially at political actions and projects engaged in by activists, NGOs, and citizens that seek political change. At the same time, Eriksen does not exclude the positive outcome of international agreements but remains skeptical about the implementation of their resolutions as they are hardly, if ever, followed by effective action.

If Scheffran looks at conflicts, which are often seen as a major obstacle, Eriksen emphasizes the impact of economic upscaling, homogenization, globalization, the flattening of ecosystems, and the increasing power of corporations as the primary culprits for the climate crisis. In this chapter, Eriksen suggests that the solution lies in decelerating, cooling down, or scaling down these processes. He suggests that the COVID-19 lockdown period in Seychelles offered a clear illustration of the consequences of dependency on imported goods. Planes reduced their flights to essential cargo, and certain fresh vegetables that were flown in daily became scarce. People adapted and planted their own food, even in urban settings such as flats, and focused on traditional Creole foodstuffs such as plantains, dessert bananas, yams, sweet potatoes, and tomatoes. For the sake of clarity, Eriksen's argument extends beyond these practical adaptations during the pandemic. He asserts that any attempts to restore some of the lost diversity in ecosystems and food systems inherently involve an element of *downscaling*. This implies moving away from the large-scale, homogenized systems dominated by corporations and instead embracing smaller-scale, diverse approaches.

By highlighting the need to decelerate and scale down, Eriksen emphasizes the importance of reevaluating and reconfiguring our economic and ecological systems to prioritize sustainability, resilience, and local self-sufficiency. This approach challenges the prevailing paradigms of relentless growth and globalized systems, suggesting that a more localized, diverse, and balanced approach is necessary for achieving peaceful cooperation and effective climate resolutions.

We note that, as recently observed in *The Lancet*, "environmental degradation can reduce self-identification with nature, leading to decreased pro-environmental behaviors and decreased cooperation with out-groups, further increasing the likelihood of transgressing planetary boundaries" (Oliver et al., 2022).

Two further chapters tackle the problem of governance raised by Eriksen and partly also by Scheffran. Conversi and Posocco ask whether nationalism is at the core of conflicts, lack of coordination and cooperation, homogenization, and other problems linked to climate change that were raised in the previous chapters. They also ask whether the nation-state system is compatible with the struggle to halt or minimize climate change and related environmental catastrophes and whether other form(s) of government, informed or not informed by nationalist ideology, could better address climate change.

The authors state that nationalism, in particular *resource nationalism* (RN) and its connection to the corporate world, is a major problem at the core of the climate crisis as it makes nation-states uncooperative, resistant to coordination, and more worried about domestic agendas than global issues. However, instead of dismissing nationalism and the nation-state completely, as if they could entirely be replaced overnight, they explore specific national scenarios that stand out in sustainability achievement. They might serve as potential "examples" of increased sustainability. Multilevel experiences that have emerged in Norway, Denmark, Sweden, Switzerland, and Germany are seen as potentially viable and greener alternatives to the classical obstructionist nation-statism entrenched in resource nationalism that has often prevailed during international climate negotiations. In their perspective, examples of climate perpetrators are nationally based corporations entrenched in power-holding, hegemonic, or leading positions, such as in the USA, or in countries whose regimes are more obsessed with attaining the "status" of developed countries than tackling the climate crisis, such as China, India, or Brazil under Bolsonaro (Diele-Viegas et al., 2021; Iamamoto et al., 2021; Silva Junior et al., 2021). However, the crucial goals of the complete phasing out of fossil fuels and the implementation of a circular economy are absent from the prevailing policies of both the greener nation-states and the top polluters.

In the chapter on *Reflexive Green Nationalism* (RGN), Posocco and Watson take this subject further and look at greener nation-states, asking what makes them more successful than others in cutting their CO2 emissions, which is the main problem behind global warming. They point to reflexivity and reflexive modernity, two concepts first theorized by Beck et al. (1994) as major contributors. They define reflexivity as the capacity for self-criticism, the ability to recognize the problems or side effects of modernity and implement strategies that make communities and states greener and less disruptive to the national and global environment. They then delve into understanding the factors that prevent nation-states from

adopting a more reflexive strategy and explore potential triggers for reflexivity.

By means of case studies, the authors suggest that knowledge created through reflexivity is more often than not directed toward the nation-state to improve national standards rather than targeting the global community. As the nation-state is so prominent and pervasive, it is not surprising that reflexivity is influenced by dynamics internal to it. They also identify various elements that can trigger reflexivity, including civil society, critical elites, traditional and social media, influencers, environmental NGOs, subcultures, indigenous minorities, the public sphere, and youth movements (e.g., Greta Thunberg's Fridays for Future or Extinction Rebellion). The authors explore the case of NGOs and their potential to trigger change at the governmental level while highlighting some reasons why this institution is not as effective as it was during the first environmental turn in the 1960s and 1970s. They also address secondary problems that arise from attempts at resolutions, aligning with Lazarus' hypothesis that climate change is a wicked problem, one that defies resolution due to the enormous interdependencies, uncertainties, circularities, and conflicting stakeholders involved in any effort to develop a solution (Lazarus, 2008, p. 1159).

Hau's chapter fits into the discourse of local vs. national and global governance and its connections to nationalism and the nation-state. He examines minority nationalist political actors who actively seek to link environmental issues to autonomy in Scotland, Catalonia, and Corsica. Hau observes how issues of autonomy in the UK, France, and Spain have become linked to environmentalism. These minority groups claim that with greater autonomy, they would pursue more ambitious green policies for the environment. For Hau, this serves as proof that nationalism is not only an obstacle but can potentially be the foundation for climate action, espousing the idea of "green nationalism" already present in the aforementioned chapters (Conversi and Posocco; Posocco and Watson).

Connecting the climate crisis to the COVID-19 pandemic, Bohle and Marone's chapter examines how experiences from past crises can inform societal responses to future challenges. Their chapter delves deeply into the matter of governance, focusing on the governance of adaptation to complex adaptive dynamics such as those emerging from the COVID-19 pandemic and the climate crisis.

Mazon et al. ask whether declaring a climate emergency is sufficient to halt global heating, and like Bohle and Marone, they too draw lessons from COVID-19. Their answer to the question is largely negative (Mazon et al.). They analyze, however, the possibility of a global climate alarm declaration as an international legal tool and present a template for stopping emissions and achieving the objectives of the 2015 Paris Agreement. While they acknowledge that their proposal is not without controversy, their point is that without a radical change of course, supported by legal tools similar to those activated during the COVID-19 pandemic, the world will not achieve the desired results in terms of CO2 reduction.

Finally, Hammy and Miley look at Rojava, a territory in northern Syria that Kurds consider an integral part of a politically non-existing Kurdistan, for inspiration. This territory has undergone significant transformation since Kurdish revolutionary forces took control in 2012, attempting to build a radically egalitarian, ecological society inspired by the ideas of Öcalan and Holloway (2020), Bookchin (2005). Their chapter provides a general background of the geopolitical scenario, an overview of the theories advanced by Öcalan and Holloway (2020), Bookchin (2005) outlining the requirements and outputs of an ecological society, and a thorough analysis of the Rojava case study to extract lessons. They highlight three important lessons: (1) the lesson of revolutionary hegemony, (2) the lesson of economic democratization challenges, and (3) the lesson of autonomy and geopolitical constraints. The first lesson explores how the installment of a new government in Rojava by paramilitary authorities led to a top-down, militaristic, and partisan approach that influenced the construction and consolidation of popular assemblies, deviating from the intended bottom-up direct democratic governance. The second lesson emphasizes the difficulty of advancing economic democratization and ecology during war, as oil became a fundamental resource and a source of revenue for the revolutionary authorities, causing ecological and democratic plans to take a backseat. The third lesson emerges from the hostile geopolitical context that hampers ecological endeavors. The addiction to oil by powerful imperialist nation-states, with whom Rojava collaborated, made the dream of ecology and democracy impossible.

In all, this volume brings together a host of disciplines, exploring the current global climate predicament and associated crises from a variety of theoretical angles areas that have not been brought together before. Many of the articles have placed this polycrisis firmly within the institutional precinct of the nation-state and its founding ideology, nationalism. All point to the urgency of finding a multiplicity of political solutions to the gravest global crisis in human history. As all authors agree, it is a crisis that can only spin out of control if we continue pursuing the current head-in-the-sand ecopolitical model. Moreover, if no immediate action is simultaneously taken at the individual, local, national, and global levels, this model is well on the path to rendering large parts of the world *unliveable* for people in *all* countries.

Author contributions

LP: Conceptualization, Writing—original draft. DC: Conceptualization, Supervision, Writing—review and editing. IW: Conceptualization, Supervision, Writing—review and editing.

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References

Balbi, S., Bagstad, K. J., Magrach, A., Sanz, M. J., Aguilar-Amuchastegui, N., Giupponi, C., et al. (2022). The global environmental agenda urgently needs a semantic web of knowledge. *Environ. Evid.* 11, 5. doi: 10.1186/s13750-022-00258-y

Beck, U., Giddens, A., and Lash, S. (1994). *Reflexive Modernization, Politics, Tradition and Aesthetics in the Modern Social Order*. Stanford, CA: Stanford University Press.

Bhaskar, R. (ed.) (2010). *Interdisciplinarity and Climate Change.Transforming Knowledge and Practice for Our Global Future*. London: Taylor and Francis.

Bookchin, M. (2005). *The Ecology of Freedom. The Emergence and Dissolution of Hierarchy*. Oakland, CA: AK Press.

Chakrabarty, D. (2009). The climate of history: four theses. *Crit. Inq.* 35, 197–222. doi: 10.1086/596640

Chakrabarty, D. (2018). *The Crises of Civilization*. Exploring Global and Planetary Histories. Oxford: Oxford University Press.

Conversi, D. (2021a). Exemplary ethical communities. A new concept for a livable anthropocene. *Sustainability* 13, 5582. doi: 10.3390/su13105582

Conversi, D. (2021b). "Geoethics versus geopolitics," in *Shoring up the Nation in the Anthropocene Cul-de-sacm, Geo-societal Narratives: Contextualising Geosciences*, eds M. Bohle and E. Marone (Cham: Springer), 135–152.

Conversi, D. (2022). "Economic nationalism in the anthropocene," in *Handbook of Economic Nationalism*, ed A. Pickel (Cheltenham: Elgar Publishers), 29–44.

Cuhra, M. (2019). The scientist: creator and destroyer—"Scientists' warning to humanity" is a wake-up call for researchers. *Challenges* 10, 33. doi: 10.3390/challe10020033

Diele-Viegas, L. M., Hipólito, J., and Ferrante, L. (2021). Scientific denialism threatens Brazil. *Science* 374, 948–949. doi: 10.1126/science.abm9933

Eriksen, T. H. (2022). The sustainability of an anthropology of the anthropocene. *Sustainability* 14, 3674. doi: 10.3390/su14063674

Frodeman, R. (2013). *Sustainable Knowledge: A Theory of Interdisciplinarity*. New York, NY: Springer.

Iamamoto, S. A., Mano, M. K., and Summa, R. (2021). Brazilian far-right neoliberal nationalism: family, anti-communism and the myth of racial democracy. *Globalizations* 20:1–17. doi: 10.1080/14747731.2021.1991745

Ide, T., and Scheffran, J. (2014). On climate, conflict and cumulation: suggestions for integrative cumulation of knowledge in the research on climate change and violent conflict. *Global Change Peace Sec.* 26, 263–279. doi: 10.1080/14781158.2014.924917

Ide, T., Schilling, J., Link, J. S., Scheffran, J., Ngaruiya, G., and Weinzierl, T. (2014). On exposure, vulnerability and violence: Spatial distribution of risk factors for climate change and violent conflict across Kenya and Uganda. *Polit. Geogr.* 43, 68–81. doi: 10.1016/j.polgeo.2014.10.007

IPCC (2021). *Summary for Policymakers. In: Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge: Cambridge University Press, 3–32. Available online at: https://www.cambridge.org/ipcc (accessed September 11, 2023).

IPCC (2022). *Climate Change 2022: Impacts, Adaptation and Vulnerability (Contribution to the IPCC Sixth Assessment Report-IPCC Working Group II)*. Geneva: The Intergovernmental Panel on Climate Change.

Killian, K. D. (2021). Welcome to the anthropocene: Gregory Bateson, disaster porn, Swamp Thing, and 'The Green'. *Globalizations* 18, 1017–1032. doi: 10.1080/14747731.2020.1859761

Latour, B. (2015). *Science in Action. How to Follow Scientists and Engineers through Society*. Cambridge, MA: Harvard University Press.x

Latour, B. (2017a). "Anthropology at the time of the Anthropocene: a personal view of what is to be studied," in *The Anthropology of Sustainability. Beyond Development and Progress*, eds M. Brightman and J. Lewis (Cham: Springer), 35–49.

Latour, B. (2017b). *Facing Gaia: Eight Lectures on the New Climatic Regime*. Oxford: John Wiley and Sons.

Lazarus, R. J. (2008). Super wicked problems and climate change: restraining the present to liberate the future. *Cornell L. Rev.* 94, 1153.

Meadows, D. H., Meadows, D. L., Randers, J., and Behrens W. W. (1972) *The Limits to Growth: A Report for the Club of Rome's Project on the Predicament of Mankind*. New Yor, NY: Universe Books/A Potomac Associates book [I limiti dello sviluppo: rapporto del System Dynamics Group Massachusetts Institute of Technology (MIT) per il progetto Club di Roma sui dilemmi dell'umanita'. Edizioni scientifiche tecniche Mondadori 1983].

Meadows, D. H., Meadows, D. L., Randers, J., Behrens W. W., Peccei, A., and Stefes, A. (2018). *I limiti alla crescita: rapporto del System Dynamics Group Massachusetts Institute of Technology (MIT) per il progetto del Club di Roma sulla difficile situazione dell'Umanità*. Massa: Lu.Ce.

Öcalan, A., and Holloway, J. (2020). *Sociology of Freedom, the: Manifesto of the Democratic Civilization, Volume III: 3*. Oakland, CA: Pm Press.

Oliver, T. H., Doherty, B., Dornelles, A., Gilbert, N., Greenwell, M. P., Harrison, L. J., et al. (2022). A safe and just operating space for human identity: a systems perspective. *Lancet Planet Health* 6, e919–e927. doi: 10.1016/S2542-5196(22)00217-0

Ripple, W. J., Wolf, C., Newsome, T. M., Barnard, P., Moomaw, W. R., and Grandcolas, P. (2019). World scientists' warning of a climate emergency. *Bioscience* 70, 8–12. doi: 10.1093/biosci/biz088

Romanello, M., McGushin, A., Di Napoli, C., Drummond, P., Hughes, N., Jamart, L., et al. (2021). The 2021 report of the Lancet Countdown on health and climate change: code red for a healthy future. *Lancet* 398, 1619–1662. doi: 10.1016/S0140-6736(21)01787-6

Schilling, J., Hertig, E., Tramblay, Y., and Scheffran, J. (2020). Climate change vulnerability, water resources and social implications in North Africa. *Reg. Environ. Change* 20, 1–12. doi: 10.1007/s10113-020-01597-7

Silva Junior, C. H., Pessôa, A. C., Carvalho, N. S., Reis, J. B., Anderson, L. O., and Aragão, L. E., et al. (2021). The Brazilian Amazon deforestation rate in 2020 is the greatest of the decade. *Nat. Ecol. Evol.* 5, 144–145. doi: 10.1038/s41559-020-01368-x

Wabnitz, K. J., Gabrysch, S., Guinto, R., Haines, A., Herrmann, M., Howard, C., et al. (2020). A pledge for planetary health to unite health professionals in the Anthropocene. *Lancet* 396, 1471–1473. doi: 10.1016/S0140-6736(20)32039-0

White, R. G. (2020). Mental wellbeing in the Anthropocene: Socio-ecological approaches to capability enhancement. *Transcult. Psychiatry* 57, 44–56. doi: 10.1177/1363461518786559

Zalasiewicz, J., Waters, C. N., Ellis, E. C., Head, M. J., Vidas, D., Steffen, W., et al. (2021). The Anthropocene: comparing its meaning in geology (chronostratigraphy) with conceptual approaches arising in other disciplines. *Earth's Fut.* 9:e2020EF001896. doi: 10.1029/2020EF001896

Zhao, Q., Guo, Y., Ye, T., Gasparrini, A., Tong, S., and Overcenco, A. (2021). Global, regional, and national burden of mortality associated with non-optimal ambient temperatures from 2000 to 2019: a three-stage modelling study. *Lancet Planet Health* 5, e415–e425. doi: 10.1016/S2542-5196(21)00081-4

Zuk, P., and Zuk, P. (2022). National energy security or acceleration of transition? Energy policy after the war in Ukraine. *Joule* 6, 709–712, doi: 10.1016/j.joule.2022.03.009