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Climate action and the vantage point of imagined futures: a scenario-based conversation

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This paper is a structured dialogue between its four authors on the question “How might future scenarios nourish our thinking about climate action?” A scenario set for the future of European regional inequality in the year 2048, developed by the Horizon Europe funded IMAJINE programme, is used as the prism for this conversation. Each author has a distinct disciplinary and professional background, and initially approaches the question from their own angle. These individual explorations encompass: the nature of climate change and our understanding of it in each IMAJINE scenario; questions of risk and responsibility now and in times to come; the use of scenarios to identify current blind spots and stimulate creative thinking; and the possibility that scenarios might offer fresh perspectives which allow us to reevaluate our notions of the sustainable “good life” and identify vulnerabilities which are overlooked in the present day. The second part of the paper comprises reflections on these individual contributions, with the authors pairing off so that two authors comment on the inputs by the other two, and vice versa. This exemplifies the polyphonic and discursive nature of scenarios, understood as “the art of strategic conversation”. The concluding comments reflect on the wider ability of readers, writers, and researchers to use scenario processes and structured conversations like those in this paper to sustain open spaces of mutual uncertainty, exploration, and generation.

How can exploring the future of territorial inequality usefully inform climate action? How can scenario planning methods which seek to enable “strategic reframing”¹ in turn support discussion of the strategies which will enable mitigation of climate change’s hazardous effects?

In this paper, four scholars and practitioners reflect on the scenarios produced by the IMAJINE Project², a Horizon Europe-funded research programme exploring questions of territorial inequality and spatial justice: do Europeans have equal rights and opportunities regardless of where they live? Are different places treated fairly, or are Europeans’ abilities to realise their rights compromised geographically?

Given that justice is always discursively defined, it is not possible merely to “run the numbers” on such questions when projecting how they will play out in times to come. Fairness is not merely a point on a graph, and, as two of this paper’s authors have written elsewhere:

Looking at inequality doesn’t just mean measuring the difference between “haves” and “have-nots” as we understand them today, and projecting whether that gap will narrow or widen. It means understanding the lenses through which inequality and injustice are defined now—and considering the way those issues might be framed by future generations³.

IMAJINE’s four scenarios, developed using the Oxford Scenario Planning Approach, were devised to allow policymakers and other stakeholders to explore questions of spatial justice and territorial inequality from a perspective beyond the framing of the present.

In their future orientation and recognition of the limits of predictive forecasting, Oxford-style scenarios sit alongside a number of foresight approaches including futures literacy⁴, causal layered analysis⁵, and future design.

The latter, in particular, shares with the Oxford approach the element of manufacturing hindsight from the perspective of times yet to come. Saijo, drawing on Iroquois notions of intergenerational impact, writes that we must “design the future through negotiating with an imaginary future generation as well.”⁶ This is resonant with Whyte’s exploration of time as kinship, noting that “climate change risks are already caused by peoples’ not taking responsibility for one another’s safety, well-being, and self-determination” and the notion that an “ethic of shared responsibility” might be needed between generations past, present, and future (p.40)⁷. This is a question also raised by Sandford with regard to reparative climate justice through the prism of a ‘thick present’: “one with duration, in which experience can unfold”, encompassing overlapping notions of past, present, and future⁸.

For Ramírez and Wilkinson (p. 126–127), “Considering the system and its context from future vantage points seeks to look back at the current context with “new” eyes, unhampered by past and current conditioning and opening new possibilities.”⁹

This enables strategic “reframing” and re-perception of the present-day situation within which choices are made and action is taken, as Ramírez and Wilkinson go on to explain:

In conceptualizing any situation one has already “framed” it: something is in the frame and other things are left out. This happens whether one is attending to this explicitly or not [...] Reframing occurs through strategic conversations that explore new territory, and that accommodate disagreement and render it a productive asset. Scenario planning supports these with a combination of rigorous open systems thinking and imaginative storytelling. These help to co-create a set of plausible and contrastable future contexts that can, in turn, be used in a process of immersive learning to rehearse actions and stimulate re-perception of the present situation. Re-perception happens when people experience what the future frame feels like and what options it opens up (or closes down). (p.10)¹

To explore how a diversity of perspectives and voices can be cultivated by a scenario planning process, the present paper uses a structured dialogue pioneered by Ramírez et al.⁹. In that paper, four co-authors discussed the question “what might constitute wisdom for the future?”. In short comments, each author explored a “distinct but related angle” in turn; then the authors paired off and each pair commented on the contribution of the other.

This architecture illustrates what Van der Heijden calls “the art of strategic conversation”¹⁰: showing, rather than telling, how discussion of plausible imagined futures can shift thinking and enable the development of fresh perspectives on issues characterised by turbulence, uncertainty, novelty, and ambiguity. Ramírez and Wilkinson, comparing scenarios to novels, cite Carlos Fuentes:

The novel, like the scenario, enables conversational relations between readers and the writer in reading and rereading: “never again should we have only one voice or reading. Imagination is real and its languages multiple”. (p.44–45)¹

Here, we offer a similarly structured discussion around the IMAJINE scenarios and their relationship to climate change interventions, mitigations, and governance. Each author makes a distinct contribution. Marie, a geographer who led the scenario element of IMAJINE, will orient you in the basic elements of each scenario and link them to issues of justice and climate. Malka, a science fiction novelist, aid worker and social scientist, reflects on ways in which the scenarios speak to dynamics of risk, disaster response, and mitigation. David, a science communicator and sustainable development educator, explores how the scenarios’ spatial justice framing challenges climate-oriented users to investigate broader issues of socio-technical and geopolitical change. Matt, a strategy researcher and practitioner who works on the Oxford Scenarios Programme and consulted on the foresight elements of IMAJINE, considers the value of “manufactured hindsight” from multiple scenario vantage points.

After each offering an individual response, the authors then pair off to reflect on the contributions of the group’s other two members, considering at every turn: “What can the IMAJINE scenarios tell us about climate action?”

As these reflections took place, Marie and Matt - who were part of the core team responsible for facilitating the original IMAJINE scenario process - were led to consider different understandings of risk used in the Oxford scenario approach and in Malka’s own perspective on climate action. David’s articulation of scenarios as “boundary objects” helped Marie and Matt to see how the scenarios themselves became valuable artefacts for thinking through this tension, by exploring how definitions of risk are themselves historically contingent and might vary in each scenario.

Meanwhile, for Malka and David, their own situatedness, lived experiences, and the ability of scenarios to diversify people’s perspectives on climate futures and spatial injustice were an initial emergent theme based on

Marie’s contribution. Matt’s lens of a ‘good life’ provoked questions about individual values and whether notions of a ‘good life’ exclude more-than-human perspectives. They reflect together on how people already explore futures and situate themselves in the lives of others through fictions, game worlds and more. They seek to connect these with a call for more playful, radical perspective-taking in a broader range of societal settings than traditional futuring niches.

Marie – climate change in the IMAJINE worlds

What will be the main issues and concerns framing climate change ideologies in 2050? How will spatial justice be used as a measure of the potential future impacts of climate change? Where might the burdens of climate change fall? IMAJINE’s four scenarios hint at what some of these issues and associated challenges might be, and reflect the potential of spatial justice as a concept to reframe the discussion on climate change.

The task of IMAJINE, funded under the European Commission’s Horizon Europe programme, was to

formulate new integrative policy mechanisms to enable European, national and regional government agencies to more effectively address territorial inequalities within the European Union, and to imagine a future for European regions in which the distribution of resources is consistent with principles of social and spatial justice¹¹.

Soja defines spatial justice as ‘the fair and equitable distribution in space of socially-valued resources and the opportunities to use them’ (p. 3)¹². Although originally focused on the causes of urban inequalities^{13,14} the concept has also been increasingly used in studies of rural and regional injustice^{15,16}.

In the context of climate action, a spatial justice perspective on climate change reveals, for example, how the socio-spatial context can produce climate-related inequities for already vulnerable populations and places, emerging in a dialectical way that reproduces and reinforces negative climate impacts¹⁷. It advocates for such socially and spatially unjust outcomes to be contested and for the right to take part in decision-making that is in turn based on values of justice and fairness. In this regard, spatial justice has also been invoked as the right of citizens to identify the kinds of development that best reflect their capacities and aspirations to achieve an acceptable quality of life¹⁸. This could, for example, include the right to embrace degrowth as a defining aspect of progress¹⁹.

The IMAJINE scenarios are outlined here, presenting four visions of the European mid-century in which the principles of spatial justice are construed differently.

The first is SILVER CITADEL, in which by 2048 the EU has achieved its current goals of economic equality between regions through a strict state capitalism in which the equitable distribution of wealth is guided by centralized machine intelligence. European culture has been reshaped by years of migration from Islamic countries, while the rise of the EU as a geopolitical bloc, expanding to incorporate Belarus and the Ukraine, has created new tensions with its neighbours to the east, and a perpetual Cold War.

Under SILVER CITADEL, a central EU governance entity makes overarching decisions, with equitable distribution of wealth and economic prosperity at the core. Climate challenges are not regarded as spatial justice ones, as long as any problems they create can be bargained or conveyed away - dealt with in another time and place, specifically, outer space. Notions of climate justice as dimensions of spatial justice are viewed in very specific ways; solidarity does not actually mean wide-ranging public participation with all citizens in decisions on climate mitigation, nor is climate justice about opening Europe’s borders to external climate refugees. Rather, it is

about an internal gaze, pursuing collective bargaining agreements with business and union representatives who all want the same “just transition” towards a New European Social Model of economy that guarantees continued prosperity and economic growth which has also reset societal ideals about sustainability. For policymakers, there is some recognition that climate impacts like temperature rise impacting on crop production cannot be ignored forever, and that the investment in necessary genetic engineering has not been forthcoming. However, the broad sentiment is that the EU is powerful and cohesive enough to strike a deal with external partners like the US to collaborate on technological and other scientific advances that deal with climate change.

The next is GREEN GUARDIAN, in which climate catastrophe triggers a flight from disease-ridden cities and drowned coastlines to once-marginalized rural and upland areas. A new postcapitalist world order arises, repudiating the wasteful ways of Western consumerism, as shaped by Chinese hegemony as the post-1945 settlement was by the Allies of the Second World War.

GREEN GUARDIAN’s climate change ideology is influenced by an anti-growth position. The way that notions of climate justice potentially map onto spatial justice are influenced by the knowledge that the EU “knows best”; it has already successfully led EU society through a series of climate crises in a reasonably fair and equitable way. This approach to fair distribution of resources and supports to achieve a “restrained” quality of life is accepted by citizens who are acutely conscious of the potentially spatially unjust impacts of climate change because of having lived through them. Here, spatial injustice has been about them or someone they know losing their homes to flooding or fires, their health to disease and pandemics, and their livelihoods to drought or sea-level rise. It is recognised that spatial injustice continues to be an experience for those forced into internal migration because of these climate events, or for those who cannot leave threatened urban and coastal areas to secure a decent quality of life. Notions of climate justice are regarded as inherently ones of spatial justice and for the time being, the EU is not too closely questioned on how it decides on redistribution or on growth constraints, on how it would view citizens’ demands for greater involvement in that decision-making, or on how it is positioning itself geopolitically.

The third scenario is SILICON SCAFFOLD, presenting a future dominated by corporate city-states in which citizenship resembles today’s software subscriptions, and citizens living thousands of kilometres from their digital “home” can trade their rights and responsibilities online, with the “haves” and “have-nots” divided by restrictions on their access to virtual space.

Climate change principles under SILICON SCAFFOLD are framed more by the priorities of powerful city-states and transnational corporations that define a region’s prosperity and authority. This framing sees climate change as a set of problems to be solved primarily for the benefit of those under the protection of these regions, and as such it will unlikely result in any extreme experiences of spatial injustice in these places. This is instead the fate of those outside such regions. In the digital world of SILICON SCAFFOLD, some impacts of climate change may possibly be alleviated, for example, by citizens of wealthier regions giving some of their personal carbon credits to externally-located family members. However, physical relocation to better-off and better-protected regions to escape the excesses of climate change is more difficult. Public participation in debates on climate justice as a reflection of spatial justice is not a feature of this society, with widespread exclusion as the norm.

Finally, PATCHWORK RAINBOW depicts a Europe fragmented by lack of agreement on common values, with wildly diverging societies

forming around conflicting notions of identity, gender, wellbeing, and even truth. In some parts of the resulting patchwork, conditions have grown so poor that the traditional flows of migration have reversed and Europeans now flee south for the promise of a better life in a thriving African “Silicon Savannah”.

The PATCHWORK RAINBOW future reflects little strategic framing of climate change issues; instead, it is for individual regions to decide what they want to prioritise and how. There is no overarching consensus then about climate justice, and spatial justice as inherent to the experience of climate justice is manifest in varied and inconsistent ways. Forced migration of entire communities to escape the impacts of climate change at vulnerable locations leads to large scale displacement to other, equally risky locations since the borders of more safe and affluent regions are likely to be closed in this highly individualistic world. Citizens’ participation in debates about climate justice only occurs insofar as their concerns match the climate change priorities of the communities and/or regions of which they are a part. Social exclusion as a direct result of climate change is widespread.

Malka – futures of risk and responsibility

Risks, like the future, are unevenly distributed. While we know that climate change will eventually affect everyone, it isn’t affecting all of us in the same way, or to the same extent. Some of this has to do with the ways wealth can insulate populations from change and disaster; some of it is geography, or development history. Given this disparity, how do we think about territorial justice? How do we foster collective action?

At the same time we are more and more connected. Rapid travel and distended family networks, along with tightly linked supply and distribution chains, mean that even isolated disasters can affect a far-flung population. This is also reflected in the growing federation of our governance systems. As Ted Steinberg wrote about the United States, disaster insurance and reconstruction “worked to sever risk from space.” In this way, “the risk associated with living in, say, a flood- or earthquake-prone area was now amortized to taxpayers across the country. [...] Ethical responsibility, not to mention ecological literacy, suffered in a world where everyone and thus no one bore the cost of residing in a hazard zone”²⁰. The U.S. sees constant struggles between federal and states’ rights; the European Community is untangling the push and pull between the individual countries and the overarching government; and supra-national organizations in Africa, Asia, and South America are moving towards greater cohesiveness; the balance of autonomy and unity is pressingly relevant, and even more so facing the urgency of climate change (for discussion of the relationship between climate change and federalism, see Cocciolo and Mariachiara Alberton)²¹.

We can see the tension inherent in these dynamics play out in the IMAJINE scenarios. Such scenarios offer us narrative worlds for us to imagine ourselves into, providing a more complete understanding of the stakes involved in complex and emotionally resonant questions—do we allow people to live in high-risk areas? What do we do about the people already living there? What is our responsibility to those disproportionately affected by disasters? IMAJINE does not answer these questions, but by playing out the possibilities inherent along four quadrants—solidarity to autonomy, economic growth to well-being—it gives us a more visceral grasp of the results.

For example, in the GREEN GUARDIAN scenario we learn that “Large parts of the Netherlands have flooded, and Dutch refugees have spread across the EU.” Is this part of what pushed people to such emphatic environmental protections? And yet, from our current world, it triggers a note of unease: are Dutch refugees treated the same way that North African or Middle Eastern refugees are treated today? In the push for solidarity, are there concerns about assimilation and the loss of Dutch identity, along with

others? Even that brief sentence, presented in the context of a more fully imagined world, is more evocative than a prediction about numbers of climate refugees or inches of sea level rise.

None of the IMAJINE scenarios solve our problems. Rather, they offer us a more comprehensive way of understanding the spectrum of choices ahead of us, a way to follow through and untangle some of the implications and second-order effects of large-scale concepts like “autonomy” and “wellbeing.”

David – creative boundaries and blind spots

Sustainable development is a hotly contested space of ideas, narratives, and stories²². Climate change is less abstract. It is lived, felt, and experienced by diverse people all over the world. However, what any one person knows about climate change—as a planetary phenomenon and its many local manifestations—is miniscule compared to what that individual does *not* know. Thus, between any combination of individuals, their shared ignorance dwarfs their shared knowledge. Such a “symmetry of ignorance”, as described by Fischer²³, is leveraged by IMAJINE. Confronted by speculative futures, intellectual humility should be the default position, and from there, individuals and groups can start to fill in gaps via socially creative processes.

The IMAJINE scenarios are artefacts rich with details, implications, possibilities, and provocations about plausible futures of spatial justice. They are also full of holes, vagaries, and statements that encourage or demand critique, evaluation, or elaboration in the mind of a reader, or in the discussion of a group. When used to stimulate discourse across differences, they function as boundary objects and enable collective learning²⁴:

In these contexts, relevant knowledge, which needs to be drawn out of and synthesized from the perspectives of the contributors, does not exist a priori and cannot simply be passed on by those who have it to those who need it. (p. 528)²⁵.

Unlike scenarios designed explicitly to explore climate-challenged futures, IMAJINE’s spatial justice framing forces climate-oriented participants to seek relevant threads, hints, and mentions within broader stories of socio-technical and geopolitical change. This encourages reflection on existing practices in the communication of climate change as a scientific issue. A well-recognized challenge in climate communication is its scale, complexity, and negative emotional impact—once this has taken root in an individual or audience, using climate-oriented tropes such as “hot house world” as future-framing devices may trigger a range of defensive reactions²⁵. IMAJINE provokes the question: could “other-than-climate” scenarios, wielded thoughtfully, enable *more* effective civic discussion of climate action?

For example, Silicon Scaffold depicts a future in which we inhabit infinite virtual environments more than we experience physical ones. How such a shift might affect people’s motivations and values for climate action is underexplored. Children who access nature are more connected to it, an effect which persists into adulthood²⁶; and biophilic values strongly relate to personal climate-positive actions²⁷. So, will lives spent in infinite virtual environments—which may include simulations or representations of natural places—undermine some of the values which underpin current climate action? Or could such technologies enable unprecedented connection, co-learning, and coordinated action, and enable young people to force institutional and inter-generational change, such as transformation of education or political systems to enable radical climate action?²⁸

The UN’s Sustainable Development Goals have very little to say about virtual spaces, advances in ICT, or artificial intelligence—despite their varied

implications for the attainment of many goals, including climate action and goals relating to education and inequality²⁹. Interrogating IMAJINE’s futures reveals that our next global framework will need to better anticipate such advances or be flexible enough to accommodate emerging waves of change.

The IMAJINE scenarios and accompanying social learning processes allow us to step into futures without needing to prove their probability. Once there, our imagination, intuition, and engagement with fellow future-visitors can help us to critically reflect on the way we think, feel, and act today. Beyond the core audience of this project—policymakers—rich opportunities exist to test and develop such methods in education and community engagement, and support more robust conversations about futures and climate action.

Matt – good lives and spectral figures

Ramírez and Wilkinson write that “Considering the system and its context from future vantage points seeks to look back at the current context and its possible unfolding with ‘new’ eyes, unhampered by past and current conditioning and opening new possibilities.” (p.127)¹.

When thinking about climate action and spatial justice, these fresh perspectives invite reflection on what we will value, and what will be marginalized, in times to come. The work of Fuchs et al. on consumption corridors highlights that the setting of minimum and maximum consumption standards for a sustainable society, “within which individuals may make their consumption choices freely and sustainably” (p. 33) depends not merely on “running the numbers”, but on defining what is meant by “a good life” (p.1)³⁰.

IMAJINE’s scenarios offer plausible futures in which Europeans might well define the good life differently; they also highlight that opportunities to live the good life, however it is construed, may not be fairly distributed. As IMAJINE respondent Gail Carson put it with reference to the future of infectious disease,

Looking at these scenarios can identify systemic weaknesses before we have to endure the next hit; doing that work of identification and early intervention would be an honourable thing to do with these scenarios³¹.

Carson’s point also applies more broadly. Peeren uses the “spectral metaphor” to explore a range of dispossessed, overlooked, and marginalized figures in contemporary society, ranging from undocumented migrants and missing persons to servants and domestic figures, “likened to ghosts or related figures, on the basis of their lack of social visibility, unobtrusiveness, enigmatic abilities, or uncertain status between life and death” (p.5)³². Scenarios can help to reveal spectral figures of many kinds: those who are vulnerable yet marginalized, obscured, rendered hard to perceive or even less than human through the frames our society uses today, yet whose suffering would be more evident in a future setting. These might include, for example, those city-dwellers left behind in GREEN GUARDIAN’s sustainability transition, where the poles of today’s urban and rural inequality have flipped, or the “have-nots of the Metaverse” in SILICON SCAFFOLD’s privatised, cloud-based future.

This approach may also help guide us to solutions as well as the recognition of previously unseen challenges. For John Dewey³³, new design ideas could be found through “reflection” on a “felt difficulty”; Rumelt draws on Dewey to suggest that strategy is a design problem which can also be addressed in this way³⁴. Just as reading Peeren in the context of scenario work helps us to identify potentially vulnerable groups which have not yet arisen, Rumelt points the way to the use of scenarios to feel a potential future

difficulty, reflect on it strategically, and address it before it has arisen within contemporary decisionmakers' terms of reference. For example, in IMAJINE's collaboration with the TAFTIE network of European innovation agencies, participants were able to perceive that their agency's role, and the attendant challenges, would vary widely between scenarios where innovation was defined in postcapitalist sustainability terms (GREEN GUARDIAN) or agencies were spun out from the public sector of the nation-state entirely (SILICON SCAFFOLD)³⁵.

This concern with future roles is also resonant with Lang's work on the "temporal mismatch" between identity and strategy: while identity is often inherited from the past, and strategy oriented towards the future, scenarios create the opportunity for entities to play with alternative identities, allowing "new identity possibilities to be considered without the current one being imperilled"³⁶. Climate action is not just a question of what action is taken, but who the actors are and in what context they act, with what consequence. Scenarios like IMAJINE's help us to explore: *Who might we have to become, and what will we value, as we seek to mitigate the hazardous effects of climate change?*

Marie and Matt—exformation and value-creating systems

As Malka argues, the uneven distribution of risk is fundamental to questions of spatial justice in matters of climate action. Malka's use of this term presented a healthy challenge to us, as probabilistic risk is contrasted in Oxford-style scenario planning with unpredictable uncertainty. In this, we follow the economist Frank Knight³⁷, "whose seminal distinction between 'risk' and 'uncertainty' rested on the limits of analogy"³⁸. Scenarios deal in unpredictable uncertainty, rather than Knightian risk, which is calculable based on analogy to past precedent, and risk is not a term we would have previously used on the IMAJINE project.

Reflecting on Malka's contribution, we came to see that risk itself may be understood differently in each scenario, and indeed may be the subject of foresight work in its own right, as per the *Riskworld* scenarios which ventured seventeen years into the then-future to explore "how societal risk perception and management might evolve"³⁹. Such scenarios, indeed, served precisely as the boundary objects which David invoked, allowing "discourse across difference" and reminding us that the definition of risk itself is historically contingent and might change in each scenario, with consequences for climate action. Ochigame identifies that "the idea of fairness-by-algorithm dates back at least to the seventeenth century" and emerges from the predictive concerns of the insurance industry, entwined with the actuarial question of how to calculate and assign risk⁴⁰. Insurance itself is imbricated with questions of power and privilege, as in the case of wildfire protection, where those who pay may be saved while the uninsured may see their properties burn⁴¹, or in what Lucas and Booth describe as the privatizing of climate adaptation through insurance markets that leaves little incentive for adaptive practices borne, for example, out of local social solidarity⁴².

The social order determines not just how society's members are differently compensated or protected in the face of adversity, but also which adversities are avoided or mitigated—and which might even be caused by the ways in which society is structured. If Sen could famously argue that "there are no famines in democracies"⁴³, we can use scenarios to ask: what kinds of society are susceptible to what kinds of crisis? As Malka herself (2022) has pointed out, "So-called 'natural' disasters are increasingly understood as the result of an interaction between natural triggers, or hazards, and social vulnerabilities."⁴⁴ We can also think of societies, present and future, which may be responsible for *generating* hazards and disasters—as the poet Myung Mi Kim puts it, drawing on the language of Shakespeare's sonnets, "making famine where abundance lies"⁴⁵.

This speaks to David's concern with ignorance and what goes unknown, perhaps wilfully. When we explore questions of climate action, is there an *a priori* acceptance of the significant gaps in our knowledge? We can consider such blindspots as *exformation*^{46–48}, information which lies beyond the frame of reference within which we can take for granted a common understanding. This includes the issues and uncertainties which may be "framed out" when we focus too narrowly on "solving climate change" as an objective in itself. David's call for "intellectual humility" in adopting a scenarios perspective reminds us of Keats' notion of *negative capability*, "being in uncertainties, Mysteries, doubts, without any irritable reaching after fact & reason"⁴⁹.

This is not to say that we must choose paralysing analysis over action; rather it is to recognise that many climate issues involve what Ravetz calls *contradictions*, "here meaning a tension whose resolution, or a problem whose solution, is impossible in the terms of the currently accepted frameworks."⁵⁰

Addressing such problems involves reframing the issue to uncover a fresh perspective; as one misquote attributed to Einstein puts it, "No worthy problem is ever solved in the plane of its original conception."⁵¹ For Normann, scenarios provide "cranes, from which we can then send down a hook to lift us into realms that we could not imagine."⁵² Ramirez and Mannervik, building on Normann's work, suggest that this fresh perspective can provide the basis for the creation of "value-creating systems", where actors negotiate resilient and mutually rewarding networks of relationships capable of enduring and thriving under conditions of uncertainty⁵³.

The intellectual lineage of these systems, and of Oxford-style scenarios, includes Emery and Trist's notion of "turbulence"⁵⁴; under such circumstances, Trist proposed the following response:

Negotiate to survive; accept macro-regulation [...]; interact with other organizations so as to orient to possible futures; use holistic thinking to solve problems; prefer a holographic to a bureaucratic form; design for redundant functions *not* parts; use information-based technology; learn to be aware of the context of learning; continually adapt when planning; disperse bases of power; increase variety of action; and replace hierarchical authority with socio-ecological influence⁵⁵.

All of these resonate with the approach set out here. As Malka notes, we are more and more connected, which has implications for the impact of future disasters. By attending to relationality as well as the ways in which uncertainties may play out in times to come—using Normann's crane to achieve the panoramic perspective of plausible futures as well as the ground-level view of mutually rewarding relationships in the here and now—scenarios may provide the basis for wiser climate action in times to come.

Malka and David—playable climates and conclusions

To what extent does a society or a place need to live through harsh impacts of climate disruption for it to take climate action seriously? Marie and Matt both explore the importance of vantage points—inside/outside, experiencing/not experiencing, and more. As we co-wrote this piece, one author was breathing the smoke of distant climate-amplified wildfires in North America, while the other recalled the same experience in Australia just a few years before. In both events, the societal question was posed: *Is this shared distress what it takes to get serious about climate action?* What are the failures of connection between climate change and democracy? In what forms of democracy can we imagine citizens truly seeing their relationship and responsibility to the whole and acting on that vision?

IMAJINE's scenarios do not replace lived experience, but offer narratives instead of numbers to support us in empathising with plausible

spatial injustices wrought by climate change – mixed with other tidal forces—in Europe. They allow us to step outside whatever in-groups we typically inhabit and protect, and grasp multiple vantages on this planetary issue. However, our judgement of what we find as we take these imaginative journeys will be shaped by our values, as Matt raises in his discussion of the ‘good life’.

There is an ever-present tension between the rights and choices afforded to individuals to act, and the limitations on actions that impinge on others. Driving a large SUV through a city might appear, to some, as a marker of a good life—it affords air-conditioned comfort, space for a large family, and safety relative to other road users. This comes at the expense of the safety of others and utility of public space (a local concern) and high carbon emissions (a global one)⁵⁶. How we judge the risk or information in such a situation might differ based on our gender, race, or other identity facets⁵⁷, or the “interpretive community” we align with⁵⁸. Perspective-taking through scenarios may enable us to discover how life could actually be better without some of these things that we assume we need, or to understand how our actions today might create, using Matt’s term, “spectral figures” in tomorrow’s societies, or the “have nots” of a metaverse future. However, a tiny minority of people actively engage with structured futuring processes such as IMAJINE – their impact is, thus, limited.

Conversely, people play with other identities and the future constantly—through gaming, or immersion in fictions on screen or page or in the schoolyard or theatre. Gaming, in particular, can afford access to complex, rich, future-oriented scenario worlds with substantial player agency. Existing serious games exploring future energy imaginaries offer great promise, but have been critiqued for reflecting current resource-exploitative structures in their design⁵⁹. Opportunities exist to make climate-adjacent scenarios such as IMAJINE playable. Imagine the feeling of being “dropped in” to a future Europe and finding out you are a hard-negotiating union representative in Silver Citadel, or a climate migrant on the move in Patchwork Rainbow. How might such a game experience change how we feel about the present and future, for ourselves and others?

In the spirit of IMAJINE, it also bears questioning what is excluded when discussions are framed in terms of lived experience or a “good life”. These anthropocentric planes could be warped to instead centre concepts such as system experience—cumulative knowledge held in relationships and histories of human and more-than-human actors – or what defines a “good life” for a place, not a person. Whanganui River in New Zealand is one of multiple rivers now to hold legal standing⁶⁰ – issues of spatial injustice and climate action are incredibly relevant for such entities. In the hypothetical IMAJINE pluriverse game, we propose the opportunity to play *as* the climate: what “felt difficulty” would a heatwave encounter as it sweeps across a region? And how might a person in the present understand climate change and climate action differently if they could shift their perspective so drastically?

Throughout this paper, the four authors have sought to show, rather than tell, how the collision of IMAJINE’s social futuring processes with the topic of climate action can reframe, expose, add to or challenge each of our existing viewpoints. As Sousanis argues in his graphic treatise on interdisciplinary co-learning:

This requires a perceptual shift—a way of thinking—in which a rigid enclosed mind-set is reconceived as an interconnected, inclusive network. Distinct viewpoints still remain, now no longer isolated, each informing the other in iterative fashion, viewed as integral to the whole. In this new integrated landscape lies the potential for a more comprehensive understanding. (p. 37)⁶¹.

To conclude, we invite you to reflect on, and position yourself in relation to, the integrated, networked knowledge landscapes of climate action and spatial injustice traversed in this paper. Were you already connected to certain well-recognised nodes—such as risk, geography, migration, public engagement, artificial intelligence or futuring? Has this paper visited ideas that could ignite new possibilities in your mind—such as playable climate phenomena, how our actions today create future “have-nots”, and the concept of *exformation*?

Scenarios have been described as a methodology to produce “interesting research” that is both rigorous and actionable⁶², but their use is not confined to scholarship; indeed, scenario planning originates in the practical need for high stakes decision-makers to cope with uncertainty and unprecedented situations⁶³. During the Covid-19 pandemic, Ramírez and Lang offered a practical guide to developing “frugal” scenarios online under straitened conditions and set out pitfalls for budding scenario planners to avoid, as well as suggestions for those who might seek to make use of “ready made” scenarios built by others^{64–66}. Many communities and institutions might avail themselves of this approach: convening strategic conversations to map the present-day strategic environment for a given issue, then exploring the uncertainties surrounding that environment, before reflecting on the diverse and contrasting ways in which those uncertainties might play out in times to come.

We—that is, “we” the authors, “we” the authors plus you, the reader(s), and “we”, the authors, reader(s) and our conversational networks—are collectively capable of holding open spaces of mutual uncertainty, exploration, and generation. Our final call to action is to keep the IMAJINE process alive in your own way. Take whatever speaks to you from these pages and manifest it back into your world. The next chapter is yours.

Data availability

All relevant outputs from IMAJINE are available from the authors.

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Matt Finch—conceptualization, methodology, investigation, writing—original draft, review & editing. Malka Older—writing—original draft, review & editing. Marie Mahon—methodology, investigation, writing—original draft, review & editing. David Robertson—writing—original draft, review & editing.

Competing interests

The authors declare no competing interests.

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