Climate imaginaries and their mediums

Ruth Machen [*]

Global Urban Research Unit, School of Architecture, Planning and Landscape, Newcastle University, United Kingdom

Simin Davoudi

Global Urban Research Unit, School of Architecture, Planning and Landscape, Newcastle University, Henry Daysh Building, Newcastle upon Tyne NE1 7RU, United Kingdom

Elizabeth Brooks

Global Urban Research Unit, School of Architecture, Planning and Landscape, Newcastle University, United Kingdom

Images of climate futures surround us, from graphical images of scenario projection models to utopian/dystopian climate fiction, from advertisements to poetry, music, art and film. These diverse mediums bring different, contested, and often conflicting climate imaginaries into the realm of possibility; they embody and represent different worlds of meaning—from hegemonic institutions to indigenous communities—and shape collective behaviours, social structures and technological designs. Yet this relationship is bi-directional, with practices, social structures and technologies also shaping the types of climate imaginary that are produced. This themed issue originated from a series of discussions among its guest editors and authors about the ways in which imaginaries shape our understandings of climate change and influence the actions we take in response to it – particularly the role that different *ways of imagining* play in the types of climate imaginary produced. In drawing the themed issue together we aim to contribute to the debate about climate imaginaries and more specifically the role of medium and context in their production and circulation.

The last few decades have witnessed a growing literature on climate imaginaries with many scholars exploring the power-knowledge nexus through which such imaginaries are produced and propagated and the political projects to which they lend their support. For some, the rising attention to imaginaries is a reflection of the climate crisis which calls for "a complex social imagination" (Jasanoff, 2010); one that breaks free of "Climate Inc." (Wapner and Elver, 2016). They argue that our inability to envision our way out of climate change is the result of a "crisis of imagination" involving both limitations to collective imagining and the effect of climate change itself in exhausting the horizon of our aspirations (Ghosh, 2018; Pelzer and Versteeg, 2019; Wright et al., 2013). For others, the growing attention to imaginaries is a sign of hope and the possibility of alternative futures (McBride, 2019; Wiek and Iwaniec, 2013; Yusoff and Gabrys, 2011; Wapner and Elver, 2016). Changing imaginaries can rethink the territory of the possible (Rancière, 2004) and open new possibilities (Wright et al., 2013), including re-envisioning more-than-human climate futures (Neimanis et al., 2015) and exploring different relationships between climate change and democracy (Machin, 2022). Here, various modes of imagining – such as cli-fi, creative arts and even scenario planning – have come to hold the promise of opening up uncharted political possibilities under a climate-changed condition (Milkoreit, 2017; Strauss, 2015). Such affordances are premised on the idea that, "to imagine is to think about possibilities other than possible, times other than now, and places other than here" (Davoudi and Machen, 2021, 3). This Sartrean conceptualisation of imagination – as constitutive of the real – opens up possibilities for alternative climate imaginaries that might help address the climate crisis.

This turn to imaginaries also takes place in the context of Anthropocene debates, which signal how this crisis of imagination is intricately connected to a destabilisation of the modernist and enlightenment tenets that have shaped our relationship with the world. This destabilisation is especially fraught when, as Bargués-Pedreny and Schmidt (2019:45) argue, the Anthropocene both presents new horizons of intervention and renders any action increasingly contingent and insufficient. In a context where scientific information is not enough without the imagination being engaged (Wright et al., 2013), navigating climate crisis necessitates greater reflexivity about the breadth and diversity of imaginary space with which we are engaging. This matters because imaginaries are inescapably political - they "encode" claims to the normative as well as the possible (Jasanoff and Kim, 2015, 5–6). and are part of an "anticipatory regime" (Granjou et al., 2017, Anderson, 2010) in which "expectations are promissory, deterministic and performative" (Whiteley

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* Corresponding author.
E-mail address: E-mail address: E-mail address: ruth.machen@newcastle.ac.uk. simin.davoudi@ncl.ac.uk. elizabeth.brooks1@newcastle.ac.uk.

et al., 2016, 28; see also De Goede and Randalls, 2009). That is, they bring worlds into being by inviting legitimation, reshaping roles, and offering new directions for behaviour (Borup et al., 2006) and motivating action in the present (Beckert 2013). Here, it is useful to reiterate the distinction made by Davoudi (2018, 99) and Davoudi and Machen (2021, 3) between imaginary as collective and inherently political social practice, and imagination as "a faculty of individual mind". It is the former that resonates with Loewen Walker's (2013, 36) suggestion that imagining is not just about a disembodied mental act, but a process of enacting, embodying and co-creating.

Recognising the critical role of climate imaginaries in (un)sustainable transformation has been a key motivation behind this themed issue. Our aim is to advance the debate about the theoretical, political and normative concerns that arise from attending to climate imaginaries, their contexts and the mediums by and through which they are produced, circulated, fixed and contested. At a time when climate imaginaries are in a state of flux as part of a broader crisis of environmental politics, this themed issue invites critical engagement with questions such as: which imaginaries of climate change are called into being to legitimise certain climate actions?; who these imaginaries serve, and how are they produced?; in which contexts, and through which material and discursive ways of knowing and interacting? After a brief overview of some of the concerns in the debate about climate imaginaries, we elaborate further on the contribution of this themed issue and its individual papers.

1. Climate Imaginaries and material practices

Imaginaries and material practices are not straightforward to connect. Whilst on one hand one concern about mobilizing the notion of imaginaries lies in recognising their limits, grounded in spatial, cultural, or temporal contexts (Jasanoff and Kim, 2015; Milkoreit, 2017), on the other, multiple imaginaries often overlap with no clear boundary of where one imaginary stops, and another starts. For example, Bargués-Pedreny and Schmidt (2019)argue that contemporary environmental concerns arise through an overlap of modern and post-modern imaginaries, whilst Davoudi and Machen (2021: 1) point to the existence of "competing imaginaries […] jostling and jiving for recognition, power and control over fixing particular visions of 'the future'". There are also concerns over the way in which imaginaries might be linked with material forms of action, not least when human subjects are often positioned rather simplistically in climate imaginaries as "either drivers of climate change, or recipients of its effects, rather than as a heterogeneous and differentiated social body" (Yusoff and Gabrys, 2011: 517). While attending to imaginaries can highlight their hidden assumptions as the starting point for critique,[1] it can also perpetuate those assumptions (Wapner and Elver, 2016; Wright et al., 2013). For us, it is this inherent uncertainty and political tension that makes imaginaries the vital terrain through which societal transformation may be instantiated and where struggles over tackling climate change are often played out (c.f. Milkoreit, 2017; Wright et al., 2013).

An important aspect of this terrain to understand is the role of materiality in the production, circulation, or contestation of imaginaries. Side-stepping the snare of determinism, whereby accounts of material configurations artificially foreclose social relations, the papers in this themed issue explore how materiality might be accounted for in the production, circulation, or contestation of imaginaries in more flexible and emergent ways. Attending to the material dimension is hardly new. As Davoudi and Machen's (2021) paper in this themed issue outlines, a suite of scholars within STS have highlighted how knowledge arises through assemblages of heterogeneous actants, ranging from laboratory equipment and apparatus, to dispersed scientific practices (Galison,

1997; Powell and Vasudevan, 2007) with the language of affordances (Hutchby, 2001) offering a way to navigate the impasse between determinism and user appropriation. Here, Jasanoff and Kim (2015) have addressed a much-needed gap on the role of science in producing imaginaries by introducing the concept of 'sociotechnical imaginaries' to outline the ways in which social order is coproduced with and through science and technology in ways that seek to avoid techno-determinism.

In geography and related scholarship, attention to the relationship between material practices and climate imaginaries has focused on the way that the vibrant materiality of energy flows and infrastructures are constitutive of economic and political configurations of power (Mitchell, 2011; Barry, 2013) and how conceiving of climate change as a socio-material process produces new objects and subjects of political intervention (Knox, 2020). Building on an understanding of imaginaries as social practices (rather than mere mental or linguistic products), geographers have drawn out the implications of particular material practices for climate governance. For example, they have shown how economic accounting practices that put the emphasis on cost/benefit analysis produce imaginaries of climate governance as "maximizing the use of climatic resources up to the point of dangerous anthropogenic interference rather than reducing CO_2 emissions to the lowest possible amount (Randalls, 2011: 225).

Geographers alongside STS scholars have foregrounded the role of particular technologies such as computer modelling and remote sensing in the production of a global and deterritorialized imaginary of climate change (Demeritt, 2001; Edwards, 2010; Jasanoff, 2017; Hulme, 2011; Lövbrand and Stripple, 2009; Doyle and Chaturvedi, 2010). Building on Hulme's (2011) earlier work, O'Lear (2016: 5) argues that the Intergovernmental Panel on Climate Change's reliance on General Circulation Models (GCMs) constrains global climate politics by reducing climate to "measurable, quantifiable observations about environmental systems", leading to technocratic approaches to monitoring and managing greenhouse gas emissions. Similarly, Mahony and Hulme (2018: 402) point to the way that imagining and knowing climate change through GCMs brings particular geographies (such as the arctic) into view while portraying areas of the Global South "as 'blank' spaces to be fed into the calculative regimes which underpin efforts to offset Northern emissions through mitigation projects in the South". Geographical accounts also show spatial tensions through which particular urban imaginaries of climate futures simultaneously erase counter hegemonic rural imaginaries (Paprocki 2020). In Benner et al. (2019), this focus on GCMs is brought into conversation with other mediums – climate fiction and visual representation – to unpack their role in producing violent climate imaginaries. Finally, scholars have drawn attention to how discourses and imaginaries of climate change translate into material forms (Blok, 2010) and create the conditions for material interventions in the world (Yusoff and Gabrys, 2011). These are important contributions that expand conversations over the material role of diverse mediums.

However, even where specific material assemblages are foregrounded, there is a tendency to focus on discursive outcomes, rather than the specific relation between these and the material mechanisms of their emergence which continues to evade adequate theorisation. If the predominant thrust of this scholarship has been to highlight the socio-technical discourses and practices that produce particular ways of governing the climate – emphasising logics, rationalities, and discourses – our aim in this themed issue is to revisit the role of the matter itself within these socio-technical compositions as well as their socio-spatial contexts. Like Jasanoff and Kim (2015), we find a strong impulse in returning to the mattering of materiality (as Davoudi and Machen, 2021 put it), for the very reason that "the mechanics of the interconnections between technoscientific and political practice have not been articulated in detail or systematically" (Jasanoff and Kim, 2015: 10). We argue that omitting a focus on the material and the socio-spatial context constrains critical engagement with a key terrain in the politics of climate

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[1] As shown in Braun's (2014) critique of Wainwright and Mann's (2013) focus on sovereign power in their four imaginaries of climate governance.

imaginaries. If we do not understand the contribution of situated material assemblages through which imaginaries are produced and propagated, we miss a key pathway in the relationship between individual imagination and collective imaginaries. We also miss key routes through which imaginaries become fixed, hardened, and mobilised through circulation channels that depend in part on these material characteristics.

A critical departure point for us is that the material does not just represent or solidify existing discourse or storylines that become "embedded into material networks" (Tozer and Klenk, 2018[i], 174), but rather that these discourses are also emergent, in part, from and through their material conditions of production and their tenacity and fluidity in circulation is in part a product of possibilities tied to their material form. That is why for us imaginaries are more than discourses, and to understand them we need to revisit the mattering of matter, of apparatus, of architectures and infrastructures of thinking. This will help us grapple with the role that materiality plays in the stabilisation or disruption of particular climate imaginaries; and in restricting what kind of futures become imagined and by whom; and why certain imaginaries stick "even after they may have been thoroughly debunked or deconstructed" (Mahony and Beck, 2019), while others struggle to gain affective traction (Jasanoff, 2010; Davoudi and Brooks, 2021). As the contributions to this themed issue suggest, like imaginaries themselves, mediums are never inert or neutral lenses. They exert differential capabilities for opening or foreclosing political possibilities.

Greater attention to the materiality of climate imaginaries in terms of both comparisons and various theoretical lenses can generate diversity in reconceptualising the mattering of the material and advancing the debate on imaginaries. It offers scope for increased reflexivity on the relatively limited range of mediums used to articulate certain climate imaginaries within scientific, policy and practitioner domains. It also questions whether turning to the arts as default mediums for radical departures for imaginaries of alternative futures (Pelzer and Versteeg, 2019) is an assumption well placed? Or, in the face of newly emerging hybrid forms of creative sci-cli-art (such as scientific art discussed in Corby et al. (2021)[ii] are we seeing creative potential emerging through channels that have hitherto demonstrated universalising hegemonic tendencies and lack of affective purchase (Jasanoff, 2010; Machen and Nost, 2021)?

This attention to the material could take many theoretical inflections from STS approaches to actants and practices to new materialist approaches to lively matter, from Marxist attention to the relations of production of imaginaries (as well as the political economy of who benefits from their production and circulation; c.f. Benner et al., 2019) to bodily relations with the world and how "shuttling back and forth between matter and representation" can open up rather than stymy political agency in the face of climate change (Last, 2017: 75).

2. Imaginaries and their mediums

In response to these and related questions we asked scholars working on different mediums to reflect on their own specific research and explore what role is played by the medium in shaping emergent climate imaginaries. Medium is a term that captures diversity in the embodied and embedded material practices, technologies, knowledge infrastructures and assemblages for thinking about climate futures, through which different types of imaginaries are generated. The collection of six papers that make up this themed issue attempts to attend to this question while reflecting on the diverse empirical and socio-spatial contexts of the work in question. In bringing these diverse approaches together our aim is to prompt a new set of conversations over the means by and through which we produce collective imaginaries. The themed issue signals how attending to different mediums might expand, for example, Levy and Spicer's (2013)[iii] identification of four major competing climate imaginaries: 'sustainable lifestyles', 'climate apocalypse', 'fossil fuels forever' and 'techno-market'. Or, this might yield new theoretical directions in how to account for the role of

the medium in fostering the emergence of alternative climate political spaces. Or, it might deepen our understanding of how imaginaries are produced, fixed and contested in different social, cultural and spatial contexts. Each paper engages with the productive tensions that a renewed focus on medium prompts, tempering this with an emphasis on the embedded context in which a medium is put to work. As some of the papers in this collection show, while climate imaginaries are socially grounded, mediums are often culturally rooted in disciplinary, scientific and professional conventions. However, climate imaginaries also develop through rooted place-based lived encounters through which climate imaginaries emerge as well as the terrains through which contestation between imaginaries take place (c.f. Doering et al., 2022; Thompson and Ban, 2021 both this volume).

Davoudi and Machen (2021) open the themed issue with a fuller theoretical unpacking of the preceding discussions, focusing on its two core concepts: imaginary and medium. They argue that although the imbrication of discourse and materiality is a distinct feature of the concept of imaginary, the latter is often overshadowed by the focus on the symbolic and discursive aspects of climate imaginaries. They, first, draw on longstanding scholarship in philosophy, sociology and psychology as well as more recent debates in human geography, spatial planning, political ecology and STS to distinguish between images, imaginations and imaginaries, highlighting the utility of the concept of imaginary in rebutting the modernist dualism between the material and the ideal, the real and the illusory. Secondly, they deploy a co-productionist approach – a mode of thought largely absent from geographical work on climate change (Mahony and Hulme, 2018) – to unpack the relationship between mediums and imaginaries in order to avoid re-inscribing the binary between the virtual and the material or prescribing an overly agentic or predetermined role for the latter. By doing so, they propose a definition of climate imaginaries as, "culturally embedded socio-technical practices of collective sense makings of the past, present and the future that are co-constitutive of the material-discursive mediums through which they are produced, circulated, normalized and contested by political actors. Whilst conditioned by time, space, context and contestation, climate imaginaries remain deeply held, relatively stable understandings of the world and of ourselves as being (or not being) in that world" (Davoudi and Machen, 2021: 5 original emphasis).

These theoretical propositions are supported by a comparison between climate poetics and computerised climate scenario models and their differences in opening up and closing down of political pathways in responses to climate change. In their account, Davoudi and Machen (2021) point to the importance for climate politics of navigating between a technologically determinist stance and a radical agential materialism, which they -like Jasanoff and Kim, 2015 and Hakli, 2018- argue risk flattening the inequalities of power within climate politics. Their paper sets out a research agenda for thinking in more nuanced ways about the mattering of the medium and outlines a number of nascent questions for further enquiry.

Vervoort et al. (2022) then focus on the potential for engaging the medium of gaming within climate governance. By contrasting two different games-based projects - one local in scale involving food provision systems in Kyoto, Japan, and the other focusing on international climate negotiations at the global scale – they draw attention to the challenges, limitations and design choices involved in developing games for deployment within anticipatory governance. The medium of gaming is viewed as inherently playful, social and imaginative, a safe space that allows players to think beyond dominant imaginaries and begin to plan for emotionally challenging future scenarios. In the two case studies chosen, there are contrasts between the kinds of imaginaries mobilised by different game mediums: a traditional format card game used in Kyoto and a digital game deployed with climate negotiators. The former has the advantage of being open, flexible and responsive to local context, innovative practices and ways of thinking, but is confined to small groups and dependent on the presence of a skilled facilitator. The second

can be widely shared and is intuitive to learn but is less context specific. The authors draw from the comparison a suite of recommendations for the responsible and ethical development of anticipatory climate governance games, encouraging game designers and developers to consider which dominant imaginaries inform their content and what possibilities there are for players to resist these. Whilst arguing that the potential for impact can be greatly enhanced when games are consciously designed for real world decision-making, the authors also signal the way that developing games iteratively via repeated stakeholder engagement refines the design, framing and purposing of games in ways that are necessarily political. In doing so, they emphasise the responsibility (on game designers) that comes with intentionally seeking to influence political actors and governance arenas – an important caution in reflexivity for a modelling community that has traditionally conceptualised its work outside of the political domain.

Doering et al.'s (2022) paper on the construction of regional climate futures for the German North Fresia Wadden Sea coast, homes in further on the importance of local and situated accounts of climate futures. The authors develop the concept of *emplaced* climate imaginaries drawing from Taylor (social imaginaries) and Milkoreit (2017, 3) definition of climate imaginaries (as socio-semiotic visions of climate futures informed by and interacting with location, locale and the sense of place), adding their own emphasis on language and how climate imaginaries are articulated. Thus, for Doering et al., the local discourse on climate change is the medium of the emplaced imaginaries. Using inductive analysis of transcripts of interviews with inhabitants of the North Frisian Islands of Amrum, Föhr and Sylt, they identify-five types of focus for local climate imaginaries: meteorological, ecological, local politics, national/international politics and techno-economic. All are characterized by ways of speaking that semantically downscale and situate the imaginaries by place-binding measures and are significant for their detailed insight into how climate change is being anticipated and responded to in practice. In this paper, the authors contribute towards unpacking how, in their own words, emplaced climate imaginaries might be "methodologically revealed and empirically analysed" (2022:px) as well as how climate imaginaries and place become bound together through forms of articulation that produce meaning for their inhabitants. By interrogating articulation as an act of joining, and language itself as an embodied and situated act, the authors develop a rich and nuanced account of how places, climate change and imaginaries become entwined and conjoined in ways that both represent and produce place-based futures. They propose that, by deepening the understanding of situated experiences which ground people's preferred climate imaginary, and by highlighting the existence of multiple locally-held imaginaries, better public engagement can be achieved and a more empathetic, cooperative and consensual future regional climate strategy can be developed.

Continuing the theme of place and territory, Thompson and Ban (2021) take us to a contested coastal territory in northwest British Columbia to explore the climate imaginaries of its Gitga'at First Nation residents that take shape through an assemblage of practices and mediums that centre around the ancestral right to coastal resource harvesting. Working as collaborative, non-indigenous scholars, the authors uncover a Gitga'at climate imaginary that centres on territorial custodianship, through an ethos of reciprocated care for the land and waters, as well as the millennia-long timeframe in which they situate these practices. This is set against a context of climate-changed induced deterioration of the coast's natural resources on which the Gitga'at depend, alongside coastal impacts that originate from the drive to profit from fossil fuel extraction in the region. Thinking about lived experience and inherited relations with the land as a medium through which climate imaginaries develop, Thompson and Ban are able to draw out the varying degrees of tension between Gitga'at climate imaginaries and dominant North American climate imaginaries. The question of who governs the coast and at what temporal and spatial scale is at the heart of both the Gitga'at and settler-colonial imaginaries. Contrasting Gitga'at climate imaginaries with the four-point settler-colonial imaginary as

framed by Levy and Spicer (2013)[iv], reveals both clashes and overlaps, with Gitga'at imaginaries broadly encompassing "techno-markets" and "sustainable lifestyles" imaginaries within a wider imaginary of Indigenous self-determination, but contesting both "climate apocalypse" and "fossil fuels forever". As Thompson and Ban (2021, 2) highlight, settler-colonialism is an ongoing process that "maintains European economic systems, political structures, social norms and occupation on Indigenous lands". Climate imaginaries, however well intended, also participate in this maintenance. By understanding lived experience and inherited relations as alternative mediums through which imaginaries are produced, this paper helps to unsettle and disturb the de-territorialising tendencies of Western imaginaries and work toward "re-centring Indigenous climate imaginaries on indigenous lands and waters" (ibid., 4).

Engelmann et al., 2022 are also deeply concerned with situated accounts, when they ask how speculative and feminist practices can unsettle the hegemony of "one-world" satellite earth imaging, in a context of climate crisis. Using the European Space Agency's 'New Aspect of Earth' image, published in 2021 as a springboard, they draw our attention to the way that (unlike its better-known predecessor NASA's famous 'blue marble' shot from the Apollo missions) this image is generated from a multiplicity of smaller shots. This observation serves as an opening to re-read the imaginaries of wholeness that underwrite Euro-American worldviews which they argue, enshrine "the supremacy of military science, the hegemony of white western environmentalism and the fantasy of an all-seeing human eye" (Engelmann et al., 2022). Drawing from feminist praxis with the Open Weather Network – a feminist artistic collective in which the authors are actively engaged that hijacks satellite transmission data using DIY tools – Engelmann et al., 2022 explore alternative earth-images as a way to "mediate local conditions, express uneven relationships to environments and facilitate moments of intimacy between strangers". The paper reports on Open-weather network's attempt to disrupt the smooth uniform imaginaries of the climate crisis by intercepting and generating a nowcast collective earth-image that attempts to both "image the planet in all its contingent, fractal complexity" and "*re-imagine* the earth in the midst of a climate crisis". Intentionally profiling noise and interference, data gaps, disjunctures and the partiality of image captures, the resulting artwork captures myriad experiences of climate change across the earth's surface, with disparate and profoundly situated qualities that unsettle the ESA's all-seeing eye imaginary. Through these experimental practices and drawing from environmental humanities scholarship on fractals, and the fractiverse as an alternative visual grammar, the authors offer a speculative reading of satellite images that goes beyond considering the discursive and material aspects through which satellite imagery produces particular types of climate imaginary (in implicitly singular ways). Instead, they pluralise the possibility of these readings, developing (in practice as well as in theory) ways to engage and read satellite imagery that are more partial and embedded. In so doing, they show how satellite images can exceed their scientific trope and be understood as aesthetic objects and even art, rendering them "tactical devices for imagining and acting otherwise" (ibid: px).

The final paper by Iossifidis and Garforth (2021)[v] is focused on how climate fiction – and specifically collective engagement with this medium – can engage people affectively and emotionally. In doing so, the authors argue that collective reading practices can support people to adapt emotionally to a transforming climate through literary encounters that challenge existing imaginaries and stimulate co-creation of the resources needed for new ones. The paper is concerned with works of a particular genre of science fiction, the 'New Weird'- valued by critics for the way it embraces the passing of "normality" and engages with the Anthropocene's unfamiliar objects and landscapes. The medium under investigation here is, in the words of the authors, "how fictional texts work on, through and with readers" (ibid., 2), specifically, through non-expert discussions in two online reader forums about a major work of New Weird climate fiction, volume one in VanderMeer's 'Southern Reach' series, *Annihilation*. Using environmental educator and

geographer Blanche Verlie's (2021) work on affective adaptation to climate change, the authors argue that readers in the online forums undertake work together to generate shared or partially shared interpretations of the novel. In doing so, they undertake the affective work of mourning a valued, yet unrecoverable, past, encountering and accepting an uncertain and unsettling present while preparing for and adapting to a radically different future; themselves undergoing transformation in the process. While recognising the specificity of the online discussion forum context (a particular kind of social media context) that is predominantly populated with a privileged, and at least partly professional and climate-complicit Global North readership, Iossifidis and Garforth (2021: 8) show how groups of committed readers explore and work through their feelings in relation to the eeriness of the text together, opening up "spaces for exploring how things will and might be otherwise, and new narratives that depart from linear climate projections". In doing so, they depart from work on texts as representation to emphasise the importance of collective reading practices and "what SF readers can make with texts, rather than what texts are said to do to their readers" (ibid. 2). Analysis of speculative fiction as a medium, they argue, should not stop at the bounds of the material, but engage with the active practices of reading (collective or individual) that they prompt.

3. Concluding thoughts

Together, the six papers that make up this themed issue provide rich insights into the relationships between climate imaginaries, their mediums and their socio-spatial contexts. As a collection they signal a need for greater nuanced attention to the discursive work that materiality performs in imagining climate change in particular places and times. They highlight two important dimensions. First, they signal the significance of attending not just to materiality as matter, or mediums as 'immutable mobiles' (Latour, 1986), but rather to work through the intricate connections through which matter, context and imagination enter into a temporally emergent agentic dance (Pickering, 1995) to shape imaginaries. Second, they illustrate the importance of the medium in limiting or enhancing the performative work of climate imaginaries.

Reconfiguring the dualism between subject and object (Woolgar, 1991; Iossifidis and Garforth, 2021), the papers point to the need for further work to unravel how these become entwined in climate futures work. In line with Mahony and Hulme's (2018) call for an expanded notion of the epistemic geographies of climate change, we argue that there is a need to expand and diversify the mediums through which climate imaginaries are envisioned within the spaces of environmental governance. This would expand the discursive space through which agonistic debates around climate futures might take place. In bringing closer together the subject and object of enquiry, the questioning therefore is not one of attribution (to what extent can we distil the effect of any particular medium on the knowledge it creates) but rather, how might we account for the way in which imaginaries are constituted in and through specific (always lively) epistemic tethers, and how the selection of these might be subject to greater reflexive and imaginative engagement?

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The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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