



Geographies of authority

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Abstract

We propose a geography that pluralizes the sites, practices and politics of authority. We defend an approach that tracks less perceptible forms of authority emerging through everyday micropolitics and experimental practices. In contrast to dominant definitions of authority as institutionalized legitimate power, we define authority as a relation of guidance emerging from recognition of inequalities in access to truth, experience or objectivity. Analysing four intersecting areas of authority (algorithmic, experiential, expert and participatory authority), we propose analyses grounded in political aesthetics that trace authority's affective force, and its role in disclosing and contesting the common.

Keywords

aesthetics, common, experiential authority, expertise, judgement, participation, power

1 Introduction

Across political, social and cultural life, authority is increasingly in question. As traditional authorities decline and new authorities come to prominence, it is hard to find *positive* visions of authority from any side of the political spectrum (Glaser, 2018: 59). We face, if not a crisis of authority, then certainly a shift in structures and experiences of authority across many areas. Conventional authority figures such as politicians, religious leaders, scientists, judges, civil servants, academics and other 'experts' encounter increasing resistance to their authority.

Diverse new authorities have acquired greater weight, from credit ratings agencies and other spokespersons for 'the market' to populist leaders, celebrities and social media, new forms of dispersed intelligence, algorithmic life and non-human actors. More recently, responses to the Covid-19 outbreak endlessly repeat the mantra

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of ‘following the science’, without ever explaining what this might mean. Such phenomena point to a need to re-evaluate the spaces, politics and aesthetics of authority.

This article draws connections across a range of geographical literatures to explore how authority is tied up with everyday spatial practices, aesthetics and affect. Authority is often associated with legitimate power, or assumed to be dominating, rationalized and exclusively tied to institutional or bureaucratic hierarchies. Instead, we propose a definition of authority as a relation of guidance emerging from recognition of inequalities in access to truth, experience or objectivity. Our approach theorizes authority as multiple, dispersed, productive and grounded in affective and experiential relations. We establish authority as a relation that is distinct from power but, like power, is produced through everyday practices and can generate new orderings of sensation and experience, as well as new common grounds of judgement and thought. Spatially, authority depends on relations of proximity, distance and presence, often through topological distortions of reach that make authority feel at once present and absent, both proximate and mysterious.

We begin by critiquing influential Weberian and Foucauldian theoretical positions within geographies of authority. In Section III, we defend a new definition of authority rooted in political aesthetics, stressing the role of authority in disclosing the ‘common’: the shared grounds of experience and judgement. Sections IV to VII address specific forms of authority production: algorithmic authority, experiential authority, expert authority and participatory authority. These sections ask what insights research in these areas offers for developing a broader theorization of authority. Section VIII moves on to explore the relationships and co-constitution of these four practices of authority, showing how multiple and heterogeneous geographies of authority are entangled through improvisatory, experimental and participatory

practices that generate new topologies of reach. Finally, drawing to our conclusion, we indicate some routes for future travel.

II Geographies of Authority

Although power is a concept that is central to contemporary Geography, the closely related concept of authority remains ‘curiously unexplored’ (Bulkeley, 2012: 2428) and ‘neglected’ (Blackstock et al., 2017) within the discipline. This is surprising. After all, questions of authority, including where it is exercised, how it is authorized and who practices it, are vital for understanding changing spatialities of governance in contemporary societies (Allen, 2003; Bulkeley, 2012). A few studies, however, have explicitly focused on authority, arguing that authority is increasingly privatized (Cutler et al., 1999); internalized (Dean, 1996; Huxley, 2006); fragmented (Sassen, 2006); diffuse and deterritorialized (Agnew, 2005; Green, 2016); and automated and depersonalized (Amoore, 2013; Beer, 2017). Such work counters any narratives about the weakened importance of authority for today’s world and presents a picture of overlapping domains of authority exercised by competing bodies including state institutions, legal systems, non-governmental organizations, supranational entities, social movements, private companies, criminal organizations and everyday cultural practices. What is curiously underemphasized in much of this work, however, is analysis of how authority acquires its force. What inspires trust and confidence in authority? Why do subjects willingly acquiesce to it? What distinctive spatialities are involved in the practice and recognition of authority, as distinct from other forms of power, influence and control? How is authority experienced and practised at embodied, subjective or affective registers?

Since the 1980s, Geography has embraced the language of power but has been more suspicious of the vocabulary of authority, which can

seem to imply a conservative appeal to fixed order, stable structures or prior authorizations. It is tempting to view authority as inherently repressive and prohibitive – as encapsulated by the distanced and objectifying gaze of patriarchal, colonial and aristocratic landscapes of authority, for example (Cosgrove, 1985; Harris, 2003; Kenny, 1995; Rose, 1995; Withers, 2000). Yet we suggest that authority can also be experimental, lively, constructive, disruptive or revolutionary. Moreover, emergent forms of authority are often constituted in and by challenging authority (Brigstocke, 2014; Luxon, 2013; Sennett, 1980). A richer theorization of the spatialities of authority, as distinct from power, has much to offer human geography. The lens of authority opens up useful perspectives for thinking about the spaces and politics of aesthetics, the emotional experience of power and influence and how radical, subversive or experimental spatial practices can meet the desire for guidance, education, advice and stability.

Two perspectives are especially influential within geographical accounts of authority. First is the Weberian view of authority as legitimate power. In Weber, power (*Macht*) is a generalized phenomenon: ‘Power is the probability that one actor within a social relationship will be in a position to carry out his own will despite resistance, regardless of the basis upon which that probability rests’ (Weber, 1957: 152). By contrast, authority (*Herrschaft*) relates specifically to institutionalized command and is one of the most important *sources* of power, along with coercion and discipline (see Haugaard, 2018). Authority, according to Weber, is the probability that a command will be obeyed. In contrast to coercion, a system of authority relies on voluntary submission, due to belief in its legitimacy. There are three main grounds for legitimacy in Weberian theory: rational (‘resting on a belief in the legality of normative rules’); traditional (‘resting upon established belief in the sanctity of immemorial traditions’); and charismatic

(‘resting upon devotion to the specific and exceptional sanctity, heroism or exemplary character of an individual person’) (Weber, 1957: 215). According to Weber, bureaucratic, ‘rational-legal’ authority is the dominant mode of authority in modern capitalist societies. Such authority is rule-bound, impersonal, cold, calculating and emptied of emotion and affect.

Much geographical work on authority reproduces key elements of Weberian theories of authority, defining authority as a form of legitimate domination (on a command–obedience model) and/or assuming that modern authority is almost exclusively sited in institutional settings. John Agnew’s influential account of sovereignty, authority and territory, for example, defines authority in Weberian terms as the ‘legitimate exercise of power’ (Agnew, 2005: 441). Blackstock et al., similarly, theorize authority ‘as a form of institutionalised power, categorising individuals into the position of dominance or subjection’ (2017: 13). While this Weberian picture has been extended in insightful ways, such as by highlighting different bases of legitimacy including transparency, efficiency, expertise and popularity (Agnew, 2005: 442), the core understanding of modern authority as a form of bureaucratically legitimated command remains widespread.

This way of thinking about authority is limited in important respects. Construing authority on a model of institutionalized command and obedience obscures how authority can be characterized by dynamic, critical and sometimes creative or playful exchanges between the parties involved (Luxon, 2013). Crucially, the model of authority as institutionalized command also denies the possibility of exerting ‘illegitimate’ authority. Yet an important body of work exploring ideas such as wounded attachments (Brown, 1995), cruel optimism (Berlant, 2011), the bonds of love (Benjamin, 1988) and affective intimacies (Weston, 2017) shows that people easily bind themselves to authorities although – or even because – they

experience these authorities as illegitimate and damaging (Sennett, 1980). Conversely, a key insight of feminist performativity theory is that sometimes ‘it is possible to speak with authority without being authorized to speak’ (Butler, 1997: 157). In other words, authoritative speech may derive from factors such as embodiment and affective relationships that have nothing to do with what it is permitted to say or do. Subversive acts of resistance and rebellion can carry authority, weight and gravitas despite being ‘illegitimate’ from the perspective of dominant institutions of power, authority and domination (cf. Lovell, 2003).

A second key theoretical influence on geographies of authority is Foucauldian theories of governmentality (Elden, 2007; Hannah, 2000; Larner and Walters, 2004; Legg, 2007). According to the governmentality perspective, conduct is guided by a wide variety of authorities and agencies that target everyday forms of practice and experience, through reference to expert knowledge. Foucauldian analyses explore how external authority and truth discourses are folded into the interior of subjects, so that subjects come to work on themselves in ways that internalize authority (Dean, 1996: 222). Spatial relations are central to this enfolding of authority (Huxley, 2006; Osborne and Rose, 1999). In such analyses, no useful distinction can be made between power and authority, since power is everywhere and authority is implicated in all forms of truth.

One problem with geographies of governmentality is that they generalize authority as an almost universal modality of control, thereby marginalizing the importance of other practices such as persuasion, manipulation, seduction, incentivization and coercion (Allen, 2003). This leads to a lack of clarity over the spatial mechanisms through which governmentalities are internalized across dispersed populations and a lack of attention to subjects’ critical, embodied and affective relations with authority – as if people simply internalized

governmentalities without question. This assumption is perplexing given the broader context of increasing suspicion of, and rejection of, expert authority. It also fails to ask how experimental, creative, radical or subversive spatial practices might invent, build and nurture new and more egalitarian relations of authority. Moreover, this failure to differentiate between different modalities of control makes it impossible to account for the lived and embodied experience of authority; for example, whether we perceive something as authority (followed voluntarily) or manipulation (followed involuntarily) makes a profound difference to our experience of it, including our willingness to consent to it or rebel against it. Normative distinctions between authority, coercion, manipulation, seduction, power and persuasion – despite the difficulties in establishing clear analytical boundaries between them – are a fundamental and unavoidable aspect of people’s experience of space, power and politics.

III Authority, Aesthetics and the Common

What, then, *is* authority? In contrast to dominant geographical definitions of authority that equate it with institutionalized command, sovereignty or legitimate power, we propose a more limited and specific definition of authority as a relation of guidance that takes place between free actors and is performatively enacted by recognizing inequalities in access to truth, experience or objectivity. In this definition, ‘guidance’ refers to any practice that helps an actor orient herself in time, space and the social field (e.g. through practices such as advice and education). ‘Actor’ refers to any human or non-human cognitive assemblage capable of exercising agency and judgement (see the discussion in Section IV). ‘Free’ is open to multiple interpretations, but implies the capacity to exercise agency, and the absence of coercion or manipulation. ‘Performatively enacted’ means that authority is

constituted solely through the practice of recognition; the moment consent is withdrawn, authority vanishes. Finally, 'recognition' refers to respect for, or acknowledgement of, the unequal relation; recognition need not be conscious and willed but may be preconscious and affective.

Conventional authority figures include doctors, teachers, parents, advisors, lawyers, religious leaders and elected politicians; these figures have authority insofar as people have trust and respect for them and hence voluntarily allow themselves to be guided by them. Arendt's (1961) genealogical account of authority reminds us that authority has typically taken the form of 'wise counsel': advice, guidance, instruction, education and judgement. Arendt recalls the Roman definition of authority as more than advice but less than command – advice that cannot safely be ignored (Arendt, 1961: 123). Authority demands recognition of the authority figure's expertise, wisdom or skill; when recognition is no longer granted, the authority relation immediately collapses. This makes it very fragile. Authority is the opposite of persuasion and coercion (meaning that so-called 'authoritarianism', insofar as it rules through fear and violence, often exercises little authority). Authority relies neither on reason, nor on the force of law or command, but on an affective relationship of trust or respect that generates recognition for the hierarchical relation itself. In this respect, authority comes close to other forms of influence such as manipulation and seduction. Seduction (e.g. through advertising) works by suggestion, acting upon desires (Allen, 2003; Bissell et al., 2012). Manipulation involves a concealment of intent to bring about desired outcomes (e.g. Adey, 2008). Authority differs from these because it requires submission to be free and voluntary. Authority leads rather than misleads. Finally, authority can be distinguished from power, both in Arendt's sense of power as the capacity to act collectively ('power to') and in the more common sense of

power as some kind of command or 'power over'.

There is much to gain from distinguishing authority from these related, but distinct, forms of influence and control (see also Connolly, 1987; Dovey, 1999). Each modality of control has its own distinctive spatial logic. According to Allen (2003), a distinctive feature of authority is its reliance on spatial relations of *presence* and *proximity*:

authority's constant need for recognition implies that the more direct the presence, the more intense the impact . . . proximity and presence have a significant part to play in the successful mediation of authority relations when confronted with a diverse and dispersed civic population. (Allen, 2003: 148–149)

This is an important starting point for theorizing authority's spatial logics. However, Allen's account of authority's spatialities loses sight of more enigmatic and non-representational registers of authority. Authority is often highly elusive: it gains hold of us in ways that often resist explicit thought, reflection or representation (Ronell, 2012). It has a kind of 'mystical force' (Benjamin, 1978; Derrida, 1990) or functions as a form of 'social magic' (Bourdieu, 1996). We do not always know *why* we desire to be guided by a particular authority. This means that if authority requires presence, this presence is often enigmatic and elusive: it reaches towards the 'outsides' of knowledge and experience. Authority acquires strength by connecting individuals to dynamic forces and processes that are greater than themselves. These might be metaphysical foundations such as God, community or nation; or immanent processes such as biological life (Blencowe, 2012; Braun, 2007), economic life (Terranova, 2009) or spiritual life (Dewsbury and Cloke, 2009); or a shared experience of a *loss* of transcendence, communion or metaphysical grounds (Kirwan, 2013).

Because authority, as we have defined it, is reducible neither to command and law nor to reason and logic, the authority relation necessarily presupposes forms of *judgement* that are embodied and affective. For this reason, we suggest that analysis of geographies of authority requires a grounding in political aesthetics, since the aesthetic, in post-Kantian philosophical traditions, is the sphere of embodied judgement. Extending work in geographical politics of aesthetics (Hawkins and Straughan, 2015), we suggest that spaces of authority play an important role in giving form and order to objects of perception, thus enabling things to appear in a common, shared world (Dikeç, 2015: 5). Linking authority to political aesthetics recalls an Arendtian tradition that emphasizes the need to generate forms of ‘community sense’, shared judgement and practices that build and protect spaces for the constitution, disclosure and contestation of a common world (Last, 2017; Szerszynski, 2003). This enables us to conceptualize authority as a relation that generates shared grounds for experience, judgement and ‘ideas of objectivity’ (Blencowe, 2013a). In this spirit, we are arguing for an approach to authority that addresses the problem of how experience is materialized, collectivized, shared, transformed, experimented with and intensified (Lea et al., 2016; Noorani, 2013). A political aesthetics of authority demands analysis of spatial practices that reinforce, revise or contest the nature of the ‘common’ – the shared grounds of judgement.

This emphasis on a political aesthetics of authority means it is important to extend current understandings of authority by asking how more egalitarian forms of authority might be co-constituted through experimental, collective, more-than-human practices that experiment with the forms and limits of experience (Bresnahan, 2015; Brigstocke, 2020a; Dawney, 2013; Millner, 2013). Authority is a relation that presupposes recognition of some form of inequality, and therefore it always sits in tension with a

politics of equality (Arendt, 1961). At the same time, practices of equality often require *building* structures of authority to make them possible. This is exemplified in Rancière’s (1991) well-known discussion of schoolteacher Pierre Jacotot, which shows the importance of authoritative relationships in building the conditions for practices of equality. Jacotot does not succeed in teaching what he does not know by simply renouncing authority over the students; rather, he guides the students to engage with a common object (a dual language book) in a particular way that makes possible a practice of radical equality (see Blencowe, Brigstocke and Noorani, 2015; cf Millner, 2013). He uses an inequality between teacher and student to develop a new teaching practice that enacts a new form of equality. Rather than seeing authority as the *opposite* of equality, we suggest that it is always *in tension* with equality – a tension that can be productive and creative. A geographical aesthetics of authority, therefore, demands further analysis of whether and how some authority relations might help build and sustain collaborative settings, spaces and materials for making new claims to equality.

We now turn to four intersecting practices of authorization that play important roles in contemporary geographies of authority. These are algorithmic and automated authority; experiential and affective authority; expert authority; and participatory authority. Applying an analysis rooted in political aesthetics to each of these areas of authority, we explore each separately, before finally asking how these forms and practices of authorization are entangled and co-constitutive. These four forms of authority have been chosen because together they cover a wide range of intersecting calculative, affective and political practices of authority that do not easily fit models of state, institutional or bureaucratic command. Many other important forms of authority could have been discussed here, including charismatic authority, religious authority, educational authority, ‘authoritarianism’,

bureaucratic authority and much else. These could not be discussed in the space here, but we believe parallel analyses can and should be made across the varied geographies of authority.

IV Algorithmic Authority

Calculative, algorithmic and automated technologies of authority are a useful place to start because they immediately problematize one of the most pervasive and problematic assumptions in theories of authority: the anthropocentric idea that authority is necessarily a relation exerted by human actors, upon human actors (e.g. Kojève, 2014; Raz, 1986). Countering this humanism is politically an important move, since it helps us recognize that many avowedly ‘anti-authoritarian’ practices merely displace human authority towards more dispersed, technologically mediated, more-than-human assemblages of authority.

Consider the rationalities of neoliberalism, which in one sense are deeply anti-authoritarian, because they seek to replace individual human judgement and cognition with calculation and objective indicators such as market price (Davies, 2014). Neoliberalism is hostile to all institutions which claim authority without any relationship to markets, calculation or individual choice (from trade unions to cultural and artistic organizations to laws and democratic procedures, all of which appeal to qualitative judgements about the common good, and thus exceed or refuse measurement). Price and objective indicators supposedly offer alternatives to notions of justice and the common. Yet there is a paradox here: the more neoliberalism seeks to rationalize, quantify and demystify authority, the more its calculative instruments – price, league tables, audits and so on – acquire their own kind of quasi-sovereign, mystical authority. Rather than being devices for calculating reality, they start to *constitute* reality. Economic techniques themselves become ritualized, so that during moments of

crisis such as the 2008 financial crash, they require spectacles of state and military sovereignty to shore them up (Cowen, 2010). Far from vanishing, authority shifts towards techniques and technologies of calculation that sometimes require coercive state intervention to support them. Neoliberal calculative devices assert authority, asking us to place our trust in them even after they have demonstrably failed.

This dispersal of authority is also visible in the growth of algorithmic governance (Beer, 2017; Kitchin, 2017). Here, human judgement is replaced by automated, calculative judgements that extract value from diverse sources of unknown reliability – as with Google’s PageRank algorithm or Facebook’s news feed algorithm. Individuals, consumers, institutions and governments place a great deal of trust in these sources of information and advice. Authority becomes separated from human judgement and instead is ‘coded into’ opaque technologies and software (Amin and Thrift, 2017). Authority is redistributed algorithmically through technologies such as search engines, news trends, credit scoring, risk profiling, advertising and market segmentation and ambient intelligence (Pasquale, 2015: 8). Far from being entirely ‘rational’ in the Weberian sense, however, algorithmic authority often combines rationalized calculation with intuitive, speculative and affective judgements – such as judgements about what variables are considered to indicate riskiness or trustworthiness (Amoore, 2013). Such technologies express values and may make discriminatory decisions, but their rules and procedures are often opaque and unaccountable (Burrell, 2016). This opacity plays an important part in the political aesthetics of authority. Algorithmic governance demands trust, but the grounds on which these authoritative judgements are based are opaque and hard to engage with critically. Thus, Amoore (2020: 165) emphasizes the importance of developing a new ethics ‘that puts into question the authority of the knowing subject and opens onto the plural

and distributed forms of the writing of algorithms’.

These forms of algorithmic governance raise difficult questions around the relationship between agency and authority. Without a clearly defined actor, authority is hard to distinguish from manipulation, seduction and coercion. Yet the distinctions between these phenomena are central to the lived experiences of everyday life in a technically mediated, more-than-human world. Disentangling the modalities of influence at play here requires less anthropocentric models of authority that engage with the question of how dispersed actors earn the trust of the people who are guided by them. Conversely, viewing algorithmic governance through the lens of authority, rather than manipulation or seduction, helps us conceptualize the affective and emotional economies linking subjectivity, agency, trust and technology.

One useful point of departure for conceptualizing this is Kathleen Hayles’ (2017) account of distributed intelligence and non-human cognition, which replaces the human/non-human binary with a new distinction between ‘cognizers’ and ‘noncognizers’. Actors include humans, other biological life forms and many technical systems, such as the intelligent traffic flow system in Los Angeles. Noncognizers include material processes and inanimate objects. Hayles’ concept of the cognitive assemblage aims to capture the ‘complex interactions between human and non-human cognizers and their abilities to enlist material forces’ (Hayles, 2017: 115). This enables another distinction between actors and agents, where ‘actors’ are cognizers that exercise choice and make decisions, while ‘agents’ are material forces that may have vast agential powers (such as a tornado or hurricane) but do not make choices, perform interpretations or exercise judgement (Hayles, 2017: 31–32). This way of conceptualizing more-than-human agency makes an important contribution to a feminist politics of situated knowledge, by conceptualizing

ecological forms of thought where knowing and being are mutually implicated (Hughes and Lury, 2018). Hayles’ distinctions enable a theorization of authority that focuses on how affective relations like trust, respect and care play central roles in constructing and disclosing the common (the shared grounds of experience and judgement) as well as extending authority beyond human-to-human relations. Authority can then be further conceptualized as a form of influence, grounded in emotional and affective relations such as trust and respect, that is exercised by human or non-human cognizers over other cognizers, and sustains common grounds for making judgements. In such a conception, authority is a crucial domain in which contestation over the distribution of voice, capacity and intelligence – who or what are recognised as exercising judgements – takes place. Authority partly functions to define (or challenge) what kinds of being can exercise authority.

V Experiential Authority

Authority is a relation that gains its force from emotional relations such as trust, respect, love or fear (Sennett, 1980). Theorists of authority often stress that authority is earned through performance and recognition of personal attributes or ethical qualities such as courage, strength, wisdom, foresight, fairness, creativity, objectivity or impartiality (e.g. Kojève, 2014). Authority is also associated with more unnameable affects; Griffero’s (2018) work on the authority of atmospheres, for example, points to the importance of ineffable experiences, akin to the experience of the numinous, in creating a distinctive experience of authority based on a combination of attraction and repulsion. To understand this mysterious, transcendent quality of authority, analysis of authority’s emergence within everyday affective environments is needed.

Authority, we suggest, gains its force and its capacity to inspire recognition through an augmentation of immanent, collective capacities and experiences, and hence a disclosure of the common – a shared ground for experience, judgement and ‘ideas of objectivity’ (Blencowe, 2013a). People willingly follow authority, indeed actively desire to follow authority, because doing so promises to nurture and nourish them: to increase their collective capacities. Spinozist theories of affect, broadly defined as an increase or decrease in bodily capacity, have done much to develop this idea. As Philippopoulos-Mihalopoulos (2015) discusses, a crucial issue in Spinozist politics is how actors make embodied judgements about the causes of their desires. An actor must make judgements about which desires allow her to preserve her ‘conatus’ (the desire to keep on becoming and becoming stronger) and which desires diminish this capacity. For Spinoza, the difference between positive affects (joy) and negative affects (sadness) is a question of knowing the causes and processes behind them. Thus, Spinozist affect theory would tie authority to embodied judgements about processes underlying an actor’s desires.

One resource for understanding how such affective judgements are formed might come from Foucauldian geographies of parrhesia, or fearless truth-telling (Brigstocke, 2020b; Legg, 2019). Such accounts emphasize the emergence of authority out of mutual provocation, agonism and creative subject-formation, through practices that are bound together and nourished by affective relations of care and trust. Luxon (2013), for example, argues that experimental spaces of authority emerge through agonistic, combative ‘games of truth’ that tie truth to ethical qualities and practices of self-formation. Here, truth is co-created in an experimental, agonistic space where all parties who claim to speak the truth must risk themselves and account for themselves, to demonstrate their sincerity and worthiness to speak the truth. Such

spaces of authority-formation rely on establishing affective relations of care and trust to succeed. Truth emerges in an experimental, agonistic space of authority where embodied, emotional and affective relations, far from being excluded from notions of objectivity and truth, are the conditions of possibility for truth.

While this is a powerful model for thinking about how affective and embodied relations enable authority to emerge from outside dominant institutions and hierarchies, the picture of the spatialities of such encounters is limited (Legg, 2019). Moreover, the role of non-human agency is barely acknowledged in research in this area. Thus, theories of risky truth-telling might usefully be supplemented with a clearer theorization of material agency and the active role of space and place in conditioning practices of authority. It is here that recent geographical work exploring the pervasive influence of ‘atmospheric’ modalities of influence can speak to broader accounts of the geographies of authority.

Embodied affects, conditioned by spatial forms and atmospheres, are central to the successful performance and recognition of authority. Consider a courtroom – a space that dramatizes the authority of the law and the state (cf. Philippopoulos-Mihalopoulos, 2015). The spatial architecture of the court, with elevated judge’s bench, witness stand and jury box, the comportment and language of the participants and the choreography of court procedure, perform that authority and contribute atmospherically to how it is experienced and embodied by those in the courtroom (Barshack, 2000). Liberman’s (2018) oral history of court clerks describes how the clerk maintained this atmosphere through constant surveillance, management of movement and enforcement of etiquette. As ‘custodians of continuity’, court clerks learned ways of speaking, moving and performing that positioned themselves as the mouthpiece of the court, augmenting, through atmospheric management, the authority of the

law (Lieberman, 2018). Barshack argues that the court enacts the ‘totemic authority’ of civil religion, where the presence of the sacred thing is known and felt through the performance of ceremony: ‘the court reproduces the law by constantly enacting it magically’ (Barshack, 2000: 307). Such magic is figured by the Judge, who is produced as separate from the world, unquestioned and unquestionable, part of a clerical community entrusted to preserve the sanctity and authority of the law. The atmosphere of the courtroom, in other words, enacts the authority of the law and of the civil state through material and affective spatialities.

Thinking with atmosphere helps reveal the spatiality of authority as a relation between actors that is dispersed and diffuse (Lea et al., 2016). It allows dispersed forms of agency to emerge, while maintaining the position of the sensing body as the conduit through which they become apprehended. The ‘engineering’ of atmospheres (McCormack, 2018) does powerful political work in the manufacture and governing of consent, for example, in producing the imagined community of the nation, or the authority of the state (Adey et al., 2013; Fregonese, 2017; Sumartojo, 2016). Closs Stephens, in her analysis of the atmospheres of the 2012 Olympic Games, argues that the authority of the nation, as lived and felt experience, is constituted through an atmospheric ‘micropolitics of a feeling’ (Closs Stephens, 2016: 188). Similarly, atmosphere has been argued to play an important role in generating military authority and cultures of militarism (Dawney 2019; 2020).

A key issue, however, is how atmospheric authority can be rejected, transformed or experimented with. Work on geographies of affect and affective atmosphere too seldom distinguishes between power, authority, manipulation and seduction. An affective analysis that focused more specifically on atmospheric authority, we suggest, could deliver powerful insights into

how atmospheres are contested and challenged (e.g. Edensor, 2015).

VI Expert Authority

In the lead up to the 2016 Brexit referendum, UK Secretary of State for Justice Michael Gove claimed that ‘people in this country have had enough of experts’ at the same time as he and his colleagues mobilized inaccurate facts and figures to bolster their campaign – provoking the UK Statistics Authority to claim that they had ‘undermined trust in official statistics’. While many commentators rightly lamented the ‘post-truth’ tenor of the Brexit campaign, there is nothing new or surprising about the idea that people have had enough of expert authority, or that people have lost trust in ‘official statistics’. Since at least the 1960s, from within the academic field of philosophy of science, as well as via new social and environmental movements, the idea of universal, value-free science has been repeatedly questioned and challenged. It is important to distinguish here between the critique of liberal institutions’ claim to neutral and universal knowledge and the ‘post-truth’/‘fake news’ discourse that opportunistically channels disenchantment with these elite institutional authorities. Rather than replacing a form of elite authority based on claims to universality with an anti-authoritarian rejection of truth and expertise, the challenge is to understand how authority, objectivity and expertise can be reconstituted in more plural, egalitarian and disruptive ways (Neimark et al., 2019).

Perhaps the most influential body of work developing these ideas has been feminist epistemology’s emphasis on reclaiming objectivity, for example, through Haraway’s (1988) concept of ‘situated knowledge’ and Sandra Harding’s (1992) work on standpoint theory and strong objectivity. Geographers have engaged with the key tenets of feminist epistemology with the aim of pluralizing sites and subjects of expert knowledge production (Dillon et al., 2017; Lave

et al., 2014; Whitman et al., 2015). Moving beyond critique of liberal scientific rationality, this diverse work surfaces the ways that situated collectives construct and present alternative understandings of their conditions through the sharing of experience and the grounding of truth in the conditions of everyday life (Brown, 1992). For example, Whatmore and Landström (2011) apply an Actor Network Theory approach to knowledge production in which a ‘matter of concern’ (flood risk) becomes a means for mobilizing both certified experts (academic natural and social scientists) and non-certified experts (local people affected by flooding) to develop a more distributed understanding of flood hydrology. Without flattening the promise and potential of such collaborations, it is also important to recognize that the productive potential of citizen science initiatives, indigenous knowledge and the adaptive qualities of local knowledge more generally have been targeted and enrolled within neoliberal governance strategies over the past 30 years as state and corporate responsibility (e.g. for flood mitigation) has retreated (Mirowski, 2017; Reid, 2013).

There is always a tension in ‘expert–lay’ collaborations as power relations are both redistributed and reinforced. Community-based movements for health and environmental justice, for example, have historically sought to reclaim citizens’ power by authorizing and legitimizing lay knowledge in science, policy and public debate (Epstein, 1995; Strasser et al., 2019). Accounts of successful expert–lay collaborations tend to follow a familiar trajectory: individualized experience of a problem is followed by the socializing of the problem, which in turn is followed by the politicization of the problem as the affected community appeal to the State for recognition, rights and inclusion (see Ottinger, 2010). But a limitation on these accounts is that the authority of the new epistemic community is aligned with its efficacy in establishing a coherent ‘public’, gaining

recognition as a ‘public’ and forcing the state to address a specified problem. This linear understanding can end up reinforcing the authority of the very institutions and modes of expertise that had previously ignored or abandoned these communities. As we have stressed throughout this article, authority is not only a question of validation by elite authorizing institutions. But if expert authority is not about recognition by the powerful, then how else does it gain its force as objective expertise rather than mere subjective opinion?

Recent work addresses this question within the context of late industrialism – a term borrowed from Kim Fortun (2012) to characterize the widely distributed (if uneven) toxic legacies of industrial capitalism and the high degree of complexity and uncertainty that places inherited traditions of scientific expertise, political agency and social change into question (Hobson, 2006; Liboiron et al., 2018; Tironi, 2018). In such contexts, individuals and communities may not seek action or recognition from existing institutions; instead, they act by developing and sharing knowledge and resources that allow them to practically intervene and change their everyday, material conditions. Through her ethnographic work with communities in China living with high-levels of industrial pollution (and suffering through illnesses like cancer), for example, Lora-Wainwright (2017) describes a spectrum of perceptions and practices that affected communities deploy. These include more conventional, collective actions (protest, petitions), as well as less confrontational, family-orientated strategies aimed at minimizing the effects of pollution – closing windows at night to limit exposure to fumes, sending children to live elsewhere or quitting the most harmful of jobs. Similarly, Manuel Tironi uses the term ‘hypo-interventions’ to conceptualize the ‘minimal and unspectacular yet life-enabling practices of caring, cleaning and healing the ailments of . . . significant others, human and otherwise’ that take place in Puchuncaví, a

heavily contaminated area of Chile (Tironi, 2018: 438). Such forms of micropolitical action ‘blur the difference between activism and everyday practices’, signalling ‘how acting in a toxic world does not have to pass through the production of evidence or counter-evidence’ (Liboiron et al., 2018: 342). We can discern here steps towards a new account of expert authority, one that places a greater emphasis on the plural forms of authority that emerge through everyday practices, over the forms of authority that appeal to recognition by the State in order to gain legitimacy.

The idea that authority emerges from the often-imperceptible ways individuals and groups articulate their experiences and intervene in their everyday lives is not itself new (Harding, 1992). Noorani (2013) describes this as the making of ‘experts-by-experience’, evoking ‘a form of authority and expertise that relies on collective meaning-making, the sharing and connecting of experiences, and the production of a body of collective knowledge around ways of working on experience at its boundaries’ (Noorani, 2013: 65). With Papadopoulos (2018), we might take this further by emphasizing the ontological aspects of such knowledge practices: the material infrastructures and networks of spaces, objects, technologies and people that are required for alternative meanings and subjectivities to take shape. This takes us towards a more explicitly post-humanist reading of authority, emphasizing the more-than-human, material conditions and ecologies required to object to dominant regimes of expertise before such alternatives may be mediated and rendered governable by those regimes.

Our argument is that these accounts of expertise offer important resources for a rethinking of authority. First, they show that expert authority can arise in ordinary, unspectacular ways, through everyday negotiation or coping with circumstances. Such forms of authority do not need to appeal to recognition by the State or other elite authorizing institutions to inspire

trust and confidence. Second, these accounts of authority demonstrate the importance of building relations and infrastructures capable of changing how experiences are felt or phenomena are known through collective, collaborative, experimental practices. Such practices play a central role in a political aesthetics, by taking part in a simultaneous contestation of and disclosure of the common. Finally, they show the importance of developing an account of expert authority that avoids either appealing to elite authorizing institutions for recognition, on the one hand, or falling into an anti-authoritarian relativism, on the other hand. Experimental forms of expert authority object to existing hierarchical distributions of authority, expertise, capacities and knowledge: not by seeking recognition, but by staging a disagreement over who or what has authority to know about a particular field of experience or phenomenon. They pluralize the ‘ideas of objectivity’ that legitimize authority by creating shared grounds of experience and judgement (Blencowe, 2013a; Blencowe, Brigstocke and Noorani, 2018).

VII Participatory Authority

In recent decades, participatory politics have acquired an important place in social governance and political decision-making. Some even describe an ‘age of participation’ (Blowers and Sundqvist, 2010; Chilvers and Kearnes, 2015). However, it is often noted that the superficial incorporation of participatory mechanisms is more about the production of a pseudo-authority, a claiming of popular permission in order to manipulate legal mechanisms that can work against the interests of poor and marginalized groups (McCarthy, 2005). Conversely, participatory practices that work with more radical and egalitarian perspectives can struggle to acquire authority, often being dismissed as partial, biased or overly subjective. It is important to understand the dynamics of ‘participatory

authority', we suggest, to develop tools for differentiating radical experiments in democratic knowledge-production from manipulative legitimacy-tricks. Reading against the grain of much theorizing of participatory politics, here we argue for the importance of asking how participatory mechanisms can generate new forms of authority, rather than simply ending or flattening authority. Although authority is not often explicitly theorized in the literature discussed here, these critiques provide vital building resources for theorizing the geographies of authority.

Participatory mechanisms typically aim to empower and authorize lay actors, marginalized communities and those with first-hand experience in diverse fields of practice. With Pearce (2013), we suggest that such mechanisms entail not only participation in power relations but also a participatory co-production of and assertion of authority (e.g. questions around whose voices have weight, whose opinions are accorded respect and whose wisdom is recognized). Authority relations concern dynamics of advice and instruction and allow for the consideration of modes of participatory practice that entail consent and the augmentation of marginal voices. In our reading, there is a risk that critical literatures on participatory practice, by focusing heavily on issues around empowerment, overlook closely related but distinct issues around authority – not only the relations of authority *within* the participatory mechanism but also how participatory practices make authoritative claims and demands upon wider society.

Theorizing the political dynamics of participatory authority does, however, require an account of the growing, and problematic, authority of participation as a shortcut to legitimacy (Cooke and Kothari, 2001). Participation can easily reproduce existing authority structures rather than reconfiguring them towards more egalitarian ends. Indeed, the growing authority of participation in contemporary governance, rather than reflecting a truly

emancipatory turn, testifies to the new weight placed on civic society within neoliberalizing political-economies (Bresnihan, 2016; Millner et al., 2020; Raco, 2000; Swyngedouw, 2005). A troubling deferral to the authority of 'community' to solve structural issues of uneven access to voice, decision-making and capital may be seen to reflect a 'tyranny' of participation as a form of governmental rule, and not a true reordering of social roles and wealth (Cooke and Kothari, 2001).

In this context, we might define participatory authority as a relation of guidance that is grounded in an affirmation of the capacity of minorities, 'the people' or 'the community' to inform governance, based on recognition of their superior expertise, depth of experience or capacity for objective judgement. Through the emphasis on aesthetic and more-than-human dimensions of authority developed throughout this article, we may also think of participatory authority as a production of forms of guidance, influence and consent that operates through the incorporation of voices, presences or experiences that were previously outside the community of decision makers. This account seeks to cultivate modes of participatory authority that counter geographies of social exclusion and marginalization. By co-producing authority, we can avoid falling back on existing distributions of voice and agency (McDermont et al., 2018).

On this point, it is vital to remember how much the repertoire of participatory politics owes to longer histories of social movements and popular activism. Participatory methods and mechanisms can be traced to popular education movements across Latin America associated with the adult literacy programmes coordinated by Paulo Freire (1972). Pedagogies based in authorizing individual and collective readings of social experience were central to the revolutionary energies of such programmes, as well as the movements they inspired, such as agroecology (Anonymized). These trajectories

were influenced by liberation theology, which is one of the few practical domains that *does* explicitly theorize participation in relation to relations of authority. Liberation theology seeks to shift religion from authoritarianism (where existing structures of authority remain the same) to authoritative practice – where structures are transformed in the interests of justice. Liberation theology grounds this authority in an understanding of the Holy Spirit that dwells within the hearts of the poor (Smith, 1991), while Freire’s radical pedagogy calls this the experience of the oppressed. In both cases, the locus of transformation are pedagogies that work on shared experiences of oppression to produce collective ways of naming and claiming (Anonymized; Pearce, 2010). Freire and the Christian church are both sometimes critiqued for establishing in advance a metanarrative for how such productions should unfold. However, such movements have also fostered theories that interrogate the boundaries and limits of community as part of praxis. In particular, feminist critiques of Freire’s reliance on Marxist theories of ideology and reading ‘true’ power relations (Caretta and Riaño, 2016; Hooks, 2014) have prompted a fresh infusion of attention within participatory practice to embodied experience, diversity and a multiplicity of potential co-authored narratives (Kwan, 2002).

This raises the question of how egalitarian participatory practices and politics gain authority and weight, rather than being ignored, dismissed or co-opted. One way of approaching this issue, extending the arguments of previous sections of this article, is to observe that authority is closely tied to claims upon reality and ‘real-life experience’ (Blencowe, 2013a). As we have seen in earlier sections, authority is grounded in claims to a privileged access to reality and objectivity. Different practices of authority refer to varying conceptions of reality. ‘Biopolitical’ authority, for example, grounds authority in an experience of participation in the dynamic, generative, embodied energies of

organic life (Blencowe, 2012, 2013a; Schuller, 2018). Neoliberal authority, by contrast, is grounded in participation in a very narrowly defined conception of economic life (Davies, 2014; Larner and Walters, 2004; Reid, 2013). As much feminist activism and scholarship has shown, remaking and redistributing authority often requires challenging accepted notions of what constitutes ‘real’ life: for example, what counts as healthy life or what counts as life at all (Povinelli, 2016); what counts as participation in the economy (Cameron and Gibson-Graham, 2003); or what counts as valuable first-hand experience (Noorani et al., 2019). This insight creates an interesting challenge for any kind of participatory politics, since it emphasizes the importance for participatory practices of redefining dominant ontologies – that is, elitist and hierarchical constructions of reality itself (Blencowe, 2013b) – if they are to successfully assert authority. For example, in participatory mental health geographies, collaborative experimentation plays an important role in transforming distressing experiences but also in creating shared material tools and practices that enable service-users to communicate with broader publics to challenge ontological divisions between the ‘sane’ and the ‘mentally ill’ (Blencowe, Brigstocke and Noorani, 2018; Collinson-Scott et al., 2016; Noorani, 2013).

Recognizing the importance of transforming dominant ideas about what constitutes ‘reality’ and ‘real life experience’ in making participatory authority requires close engagement with materiality (Marres, 2012), objects (Askins and Pain, 2011) and what Honig (2017) theorizes as ‘public things’. Doing so means moving away from approaches within deliberative democracy that view publics as being constituted primarily by linguistic, deliberative or abstract communicative processes. Instead, experimental more-than-human participatory practices experiment with explicitly listening to non-human processes and actors, thereby stylizing an aesthetics of authority that extends to a diverse, dispersed

more-than-human community of actors (Bastian et al., 2016; Brigstocke and Noorani, 2017). Such participatory practices foreground the affective, embodied, material and non-human dimensions of authority. They take seriously everyday experience (Cahill, 2007), expertise-by-experience (McDermont et al., 2018) and experience derived from practices like walking (Pink et al., 2010) in research. Likewise, this experiential and embodied approach to working with participatory authority has been important to the co-production of alternative cartographies, including the use of participatory Geographical Information System Mapping (GIS) to broaden public involvement in policymaking (Sieber, 2006) and the contestation of state-based representations of indigenous territories (Dunn, 2007). The notion of unsettling spatial categories via authority-by-experience and the performative aspects of place-making has also more recently been extended to queer geographies (Brown and Knopp, 2008) and non-representational theory (Gerlach, 2014).

This way of understanding the entanglements of participatory authority with more-than-human agencies and technologies has much to learn from Science and Technology Studies, where participatory authority is revealed as a production always-in-the-making, influenced by framing political-economic conditions, but never finally decided (Chilvers and Kearnes, 2015). Sharing the 'enactive' quality of expert authority, participatory authority makes contingent accomplishments by coordinating translations between social and material worlds (Papadopoulos, 2018) that are granted legitimacy because they 'work' in the accounts of diverse constituents (Chilvers, 2008). Practices of public participation, from this vantage point, do not seek authority from pre-existing sources of recognition but actively intervene in reality, transforming ideas about what is 'real' and what counts as 'real-life experience', thereby challenging and re-inventing the criteria and

practices of recognition and consent. Participatory authority opens new sites of politics insofar as they break with given orders of voice and agency, bring new kinds of sense-making into existence and reconstitute the 'real' which grounds claims to authority.

VIII Topologies of Authority

Having analysed four key forms of authorization that are central to key debates within contemporary political life (while acknowledging that there are many kinds of authority that we have insufficient space to discuss here), we now wish to ask how these different forms of authority come together to generate distinctive spatialities. If geographies of authority are to account adequately for dynamic, everyday, experimental and more-than-human practices of authority, they must avoid falling back into logics that assume authority to involve sovereign command over a specific, spatially bounded sphere of influence with an identifiable centre. Instead, we must see authority as orientating actors within spatio-temporal relations of distance and proximity, presence and absence, transcendence and immanence, inclusion and exclusion, memory and anticipation. An important task for future research is to understand the relations between, and mutual co-composition of, multiple practices of authority and to conceptualize the aggregated spatialities that this produces.

Work in Science and Technology Studies helps us think about how to trace the relational co-composition of multiple practices and spaces of authority, working transversally across affective, calculative, expert and participatory authority. Work such as Papadopoulos' (2018) research on experimental practices and Weston's (2017) exploration of new intimacies between humans, animals and their surroundings in a high-tech ecologically damaged world makes it clear that authority is a production-in-the-making, influenced by framing political-economic conditions, but never finally decided.

An experimental politics of authority, from this vantage point, actively produces publics, commitments, affects, issues and forms of democratic engagement through the way they are composed, mediated and performed. Thus, authority relations are always open to being recomposed, precisely because they are grounded in the ‘always-contingent and compositional nature of the social world’ (Chilvers and Kearnes, 2015: 31). Such accounts lodge questions of politics, including the nature of political disagreement and action, and the conditions for the constitution and disclosure of new collectives, claims and commons, at the heart of geographies of authority.

Conceptual vocabularies for describing the spatio-temporalities of these relational, performative and compositional accounts of the social need to go beyond languages of fragmentation (Harrison, 2010), overlapping spheres of authority (Sassen, 2006), the rescaling of authority (Brenner, 2004) or extraterritorial authority (Elden, 2009). These languages do not entirely escape from geometric presuppositions that assume power and authority to unfold over pre-existing space, rather to co-compose space (Allen, 2016). Moreover, none of these framings give a clear picture of the distinctive spatialities of authority in contrast to other forms of power and control.

A promising alternative way in which future geographies of authority might usefully approach this issue is through work on spatial topologies. As Martin and Secor (2014: 431) observe, topology directs our thinking of relationality towards a questioning of ‘how relations are formed and then endure despite conditions of continual change’. Topological thinking offers useful tools for geographical work analysing the dynamic spatialities of authority and its continually shifting connections to other forms of control such as manipulation, seduction, power and coercion. Topology emphasizes how spatial figures can be distorted, stretched, folded and knotted,

forming relations that survive the process of distortion, but in a transformed way (Lury et al., 2012). Understanding how duration and stability are produced *through* change and transformation (rather than against them) is a key problem for theorizing modern authority – and topological analysis offers a powerful way of understanding this. Moreover, topological analysis helps us get to grips with an important element of the experience of authority, where authority is linked to forces that appear simultaneously present and absent, both proximate and ungraspable (Brigstocke, 2013). As Allen (2016) argues, topological analysis shows how certain processes succeed in reaching across diverse domains, as well as how one modality of control such as authority can be stretched into another, such as manipulation or coercion. Conceived topologically, authority is revealed as a practice that enacts new forms of proximity, distance and presence through the distortion (e.g. stretching and folding) of reach.

As an illustration of how different sites, practices, materialities and topologies of authority are intertwined, it may be useful to dwell on a concrete example. The Environmental Data and Governance Initiative (EDGI) formed in 2016 in response to the US elections and change of administration which threatened the integrity of US environmental agencies and policy. Initially, the main aim of EDGI was to ‘save’ data by archiving vulnerable data from official repositories as well as monitoring changes to information on federal environmental websites. Through engagement with existing environmental justice groups and activists, this work raised important questions about the politics of data and data stewardship (Vera et al., 2018). The EDGI sought to address questions of how and why particular data are collected by federal agencies by developing novel forms of data stewardship through ‘Data Together’, a community that aims to ‘decompose how decentralized and peer-to-peer web infrastructure can enable communities to access, discover, verify and

preserve data they care about' (see www.datatogether.org). As well as developing the digital tools and technologies required to do this, Data Together also organizes public engagement through in-person events and online webinars for topical conversations.

In terms of thinking critically about authority, this initiative illustrates some key points made in this article, exemplifying how expertise, objectivity, data, affect and politics are entangled through improvisatory and participatory practices that generate new topologies of reach. First, it shows how the staging of a disagreement over the nature and substance of the common does not have to be polarizing: the work of saving environmental data from federal archives and the work of creating new infrastructures for the community stewardship of data can be complementary (Vera et al., 2018). Second, the production of authority is not simply a human affair of the intellect; exemplifying feminist and anti-colonial epistemic practice, the work of the EDGI and Data Together make explicit the role of affective and convivial connection, as well as the need to use and combine technologies, to build effective infrastructures of expertise. Finally, the EDGI's open access ethos, combined with a strong environmental justice ethos, invites us to see how common projects do not have to be uniform. Protocols, tools and technologies can be developed for everyone to use, but these must be translated into different contexts where specific concerns and distinct relations of subjugation need to be surfaced. This promotes something like an intensity of scale, focusing, critically, on how tools and technologies are applied in situ, rather than on how they can be 'scaled up' and replicated (Tsing, 2012). The EDGI thus folds together digital, experiential, expert and participatory authority, resulting in a practice that does not radiate outwards from a centre, but creates new relations of distance, proximity and reach.

IX Conclusions

In the context of acute environmental, ecological and political crises, the changing nature of authority – memorably characterized by Arendt as the 'capacity for building, preserving, and caring for a world that can survive us and remain a place fit to live in for those who come after us' (Arendt, 1961: 95) – is an urgent issue. Resisting assumptions that authority is necessarily elitist or always antithetical to freedom or equality, this article has followed in the footsteps of writers such as Arendt (1961), Dewey (see Gordon, 1998) and Connolly (1987) in seeing authority, not as something inherently negative or repressive but as a relation that is ambiguous, productive and a precondition for pluralism. In limiting action, authority also provides direction, support and orientation. In contrast to dominant social science and philosophical framings that think of this orientation in temporal terms, as a link to the future or past (e.g. Arendt, 1961; Kojève, 2014), Geography has important arguments to make about the nature of authority. Authority is a vital element in practices that create the spaces, worlds and frames that make radical or disruptive assertions of equality possible. Authority arises in ordinary, unspectacular ways, sometimes making possible resistance to hierarchical distributions of expertise and capacity by staging disagreements over the composition and sensibility of the common.

Geographical accounts of authority, regrettably, currently have little purchase on broader interdisciplinary discussions. Furedi's (2013) 'sociological history' of authority, for example, makes no reference whatsoever to space, place, landscape, environment or other spatial phenomena. Our aim in this article has been to argue for the importance of further work that explicitly develops new spatial concepts, theories and vocabularies of authority. Geographical research has much to offer the social sciences in making the case for a far more

plural, post-humanist and embodied conceptualization of authority than we see in the most influential accounts, which largely come from Sociology and Political Science. The geographical research discussed in this article clearly shows the benefits of conceptualizing authority in ways that are sensitive to materiality, distributed agency, micropolitics and spatial distributions of voice, capacity and trust. Too often, however, authority is only addressed indirectly or implicitly in this work. By engaging with authority more explicitly and directly, Geography may succeed in better communicating its insights beyond its disciplinary boundaries, thereby informing the lively interdisciplinary debates around authoritarianism, anti-authoritarianism, populism, expertise and trust.

To achieve this, further theoretical and empirical developments are needed. We have suggested that geography's concern with spatial, affective, distributed and participatory practices paves the way for accounts of authority that contest overly humanist, institutional, procedural analyses. Whereas Weberian ideal-types separate the charismatic and the bureaucratic, and hence the affective and rational, dimensions of authority, other areas of geography emphasise the imbrication of human and non-human, the affective and the rational, complicating and disrupting easy bifurcations. Although the research we have discussed does not always explicitly theorize these transformations in terms of authority, we have sought to demonstrate that rereading them through this lens takes these accounts further and helps us grasp and grapple with contemporary transformations in authority. Future work in this area must be steeped in a post-humanist empiricism that is sensitive to everyday practices, micropolitics and transversal relations, including new kinds of collaborations and participatory practices that strive to recognize the authority of non-human actors (Bastian et al., 2016; Brigstocke and Noorani, 2016). Taking these insights further will require further work

directly confronting the question of authority from perspectives informed by political aesthetics, affect theory, relational geographies, Science and Technology Studies and topological accounts of the social. Connecting transformations in authority at different scales and in diverse domains may help establish a basis from which to challenge, confront and reconfigure the influences on our social world and reach towards modes of doing and conferring trust that are worthy of – or adequate to – that trust (Withers, 2018).

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References

- Adey P (2008) Airports, mobility and the calculative architecture of affective control. *Geoforum* 39(1): 438–451.
- Adey P, Brayer L, Masson D, et al. (2013) 'Pour votre tranquillité': ambiance, atmosphere, and surveillance. *Geoforum* 49: 299–309.
- Agnew J (2005) Sovereignty regimes: territoriality and state authority in contemporary world politics. *Annals of the Association of American Geographers* 95: 437–461.
- Allen J (2003) *Lost Geographies of Power*. London, UK: Blackwell.
- Allen J (2016) *Topologies of Power*. London, UK: Routledge.
- Amin A and Thrift N (2017) *Seeing Like a City*. Cambridge, UK: Polity.

- Amoore L (2013) *The Politics of Possibility: Risk and Security Beyond Probability*. Durham, NC: Duke University Press.
- Amoore L (2020) *Cloud Ethics: Algorithms and the Attributes of Ourselves and Others*. Durham, NC: Duke University Press.
- Arendt H (1961) *Between Past and Future: Eight Exercises in Political Thought*. New York, NY: Viking.
- Askins K and Pain R (2011) Contact zones: participation, materiality, and the messiness of interaction. *Environment and Planning D: Society and Space* 29(5): 803–821.
- Barshack L (2000) The totemic authority of the court. *Law and Critique* 11(3): 301–328.
- Bastian M, Jones O, Moore N, et al. (eds) (2016) *Participatory Research in More-Than-Human Worlds*. Abingdon, UK: Routledge.
- Beer D (2017) The social power of algorithms. *Information, Communication & Society* 20: 1–13.
- Benjamin W (1978) Critique of violence. In Demetz P (ed.) *Reflections: Essays, Aphorisms, Autobiographical Writings*. New York: Harcourt Brace Jovanovich, pp. 277–300.
- Benjamin J (1988) *The Bonds of Love: Psychoanalysis, Feminism, and the Problem of Domination*. New York, NY: Pantheon.
- Berlant L (2011) *Cruel Optimism*. Durham, NC: Duke University Press.
- Bissell D, Hynes M and Sharpe S (2012) Unveiling seductions beyond societies of control: affect, security, and humour in spaces of aeromobility. *Environment and Planning D: Society and Space* 30(4): 694–710.
- Blackstock KL, Dinnie E and Dilley R (2017) Governing the cairngorms national park – revisiting the neglected concept of authority. *Journal of Rural Studies* 52: 12–20.
- Blencowe C (2012) *Biopolitical Experience: Foucault, Power and Positive Critique*. Basingstoke, UK: Palgrave.
- Blencowe C (2013a) Biopolitical authority, objectivity and the groundwork of modern citizenship. *Journal of Political Power* 6: 9–28.
- Blencowe C (2013b) Participatory knowledge matters for democracy. In: Noorani T, Blencowe C and Brigstocke J (eds) *Problems of Participation: Reflections on Authority, Democracy, and the Struggle for Common Life*. Lewes, UK: ARN Press, pp. 37–47.
- Blencowe C, Brigstocke J and Noorani T (2015) Theorising participatory practice and alienation in health research: a materialist approach. *Social Theory & Health* 13(3–4), 397–417.
- Blencowe C, Brigstocke J and Noorani T (2018) Engines of alternative objectivity: re-articulating the nature and value of participatory mental health organisations with the Hearing Voices Movement and Stepping Out Theatre Company. *Health* 22(3): 205–222.
- Blowers A and Sundqvist G (2010) Radioactive waste management—technocratic dominance in an age of participation. *Journal of Integrative Environmental Sciences* 7: 149–155.
- Bourdieu P (1996) *The State Nobility: Elite Schools in the Field of Power*. Cambridge, UK: Polity.
- Braun K (2007) Biopolitics and temporality in Arendt and Foucault. *Time & Society* 16(1): 5–23.
- Brenner N (2004) *New State Spaces: Urban Governance and the Rescaling of Statehood*. Oxford, UK: Oxford University Press.
- Bresnihan P (2015) The more-than-human commons: from commons to commoning. In Kirwan S, Dawney L and Brigstocke J (eds) *Space, Power and the Commons: The Struggle for Alternative Futures*. Abingdon, UK: Routledge, pp. 105–124.
- Bresnihan P (2016) *Transforming the Fisheries: Neoliberalism, Nature, and the Commons*. Lincoln, NE: University of Nebraska Press.
- Brigstocke J (2013) Immanent authority and the performance of community in late nineteenth century Montmartre. *Journal of Political Power* 6(1): 107–126.
- Brigstocke J (2014) *The Life of the City: Space, Humour, and the Experience of Truth in Fin-de-siècle Montmartre*. Farnham, UK: Ashgate.
- Brigstocke J (2020a) Experimental authority in the lecture theatre. *Journal of Geography in Higher Education* 44(3): 370–386.
- Brigstocke J (2020b) Resisting with authority? Anarchist laughter and the violence of truth. *Social & Cultural Geography*, early online.
- Brigstocke J and Noorani T (2016) Posthuman attunements: aesthetics, authority and the arts of creative listening. *GeoHumanities* 2(1): 1–7.
- Brigstocke J and Noorani T (eds) (2017) *Listening With Nonhuman Others*. Lewes, UK: ARN Press.
- Brown M and Knopp L (2008) Queering the map: the productive tensions of colliding epistemologies. *Annals of the Association of American Geographers* 98: 40–58.

- Brown P (1992) Popular epidemiology and toxic waste contamination: lay and professional ways of knowing. *Journal of Health and Social Behavior* 33(3): 267–281.
- Brown W (1995) *States of Injury: Power and Freedom in Late Modernity*. Princeton, NJ: Princeton University Press.
- Bulkeley H (2012) Governance and the geography of authority: modalities of authorisation and the transnational governing of climate change. *Environment and Planning A* 44(10): 2428–2444.
- Burrell J (2016) How the machine ‘thinks’: understanding opacity in machine learning algorithms. *Big Data & Society* 3: 1–12.
- Butler J (1997) *Excitable Speech: A Politics of the Performative*. New York, NY: Routledge.
- Cahill C (2007) Afterword: well positioned? Locating participation in theory and practice. *Environment and Planning A* 39: 2861–2865.
- Cameron J and Gibson-Graham JK (2003) Feminising the economy: metaphors, strategies, politics. *Gender, Place & Culture* 10(2): 145–157.
- Caretta MA and Riaño Y (2016) Feminist participatory methodologies in geography: creating spaces of inclusion. *Qualitative Research* 16: 258–266.
- Chilvers J (2008) Environmental risk, uncertainty, and participation: mapping an emergent epistemic community. *Environment and Planning A* 40(12): 2990–3008.
- Chilvers J and Kearnes M (2015) *Remaking Participation: Science, Environment and Emergent Publics*. Abingdon, UK: Routledge.
- Closs Stephens A (2016) The affective atmospheres of nationalism. *Cultural Geographies* 23: 181–198.
- Collinson-Scott J, McConnell G, Maxwell D, et al. (2016) *Listen (If You Dare): An Unlikely Companion to Voice Hearing*. <http://listeningtovoices.org.uk/> (accessed 14 July 2020).
- Connolly WE (1987) *Politics and Ambiguity*. Madison, WI: University of Wisconsin Press.
- Cooke B and Kothari U (eds) (2001) *Participation: The New Tyranny?* London, UK: Zed Books.
- Cosgrove D (1985) Prospect, perspective and the evolution of the landscape idea. *Transactions of the Institute of British Geographers* 10: 45–62.
- Cowen D (2010) A geography of logistics: market authority and the security of supply chains. *Annals of the Association of American Geographers* 100: 600–620.
- Cutler AC, Haufler V and Porter T (1999) *Private Authority and International Affairs*. Albany, NY: State University of New York Press.
- Davies W (2014) *The Limits of Neoliberalism: Authority, Sovereignty and the Logic of Competition*. London, UK: Sage.
- Dawney L (2013) The figure of authority: the affective biopolitics of the mother and the dying man. *Journal of Political Power* 6(1): 29–47.
- Dawney L (2019) Affective war: wounded bodies as political technologies. *Body & Society* 25(3): 49–72.
- Dawney L (2020) Figurations of wounding: Soldiers’ bodies, authority, and the militarisation of everyday life. *Geopolitics* 25(5): 1–19.
- Dean M (1996) Foucault, government and the enfolding of authority. In: Barry A, Osborne T and Rose N (eds) *Foucault and Political Reason: Liberalism, Neo-Liberalism and Rationalities of Government*. Abingdon, UK: Routledge, pp. 209–229.
- Derrida J (1990) Force of law: the ‘mystical foundation of authority’. *Cardoza Law Review* 11: 920–1041.
- Dewsbury JD and Cloke P (2009) Spiritual landscapes: existence, performance and immanence. *Social & Cultural Geography* 10(6): 695–711.
- Dikeç M (2015) *Space, Politics and Aesthetics*. Edinburgh, UK: Edinburgh University Press.
- Dillon L, Walker D, Shapiro N, et al. (2017) Environmental data justice and the Trump administration: reflections from the environmental data and governance initiative. *Environmental Justice* 10(6): 186–192.
- Dovey K (1999) *Framing Places: Mediating Power in Built Form*. London, UK: Routledge.
- Dunn CE (2007) Participatory GIS – a people’s GIS? *Progress in Human Geography* 31: 616–637.
- Edensor T (2015) Producing atmospheres at the match: fan cultures, commercialisation and mood management in English football. *Emotion, Space and Society* 15: 82–89.
- Elden S (2007) Governmentality, calculation, territory. *Environment and Planning D: Society and Space* 25(3): 562–580.
- Elden S (2009) *Terror and Territory: The Spatial Extent of Sovereignty*. Minneapolis, MN: University of Minnesota Press.
- Epstein S (1995) The construction of lay expertise: AIDS activism and the forging of credibility in the reform of clinical trials. *Science, Technology, & Human Values* 20: 408–437.

- Fortun K (2012) Ethnography in late industrialism. *Cultural Anthropology* 27: 446–464.
- Fregonese S (2017) Affective atmospheres, urban geopolitics and conflict (de) escalation in Beirut. *Political Geography* 61: 1–10.
- Freire P (1972) *Pedagogy of the Oppressed*. London, UK: Penguin.
- Furedi F (2013) *Authority: A Sociological History*. Cambridge, UK: Cambridge University Press.
- Gerlach J (2014) Lines, contours and legends: coordinates for vernacular mapping. *Progress in Human Geography* 38: 22–39.
- Glaser E (2018) *Anti-Politics: On the Demonization of Ideology, Authority and the State*. London, UK: Watkins Media Limited.
- Gordon M (1998) John Dewey on authority: a radical voice within the liberal tradition. *Educational Philosophy and Theory* 30(3): 239–258.
- Green KE (2016) A political ecology of scaling: struggles over power, land and authority. *Geoforum* 74: 88–97.
- Griffero T (2018) *Quasi-Things: The Paradigm of Atmospheres*. Albany, NY: State University of New York Press.
- Hannah M (2000) *Governmentality and the Mastery of Territory in Nineteenth-Century America*. Cambridge, UK: Cambridge University Press.
- Haraway D (1988) Situated knowledges: the science question in feminism and the privilege of partial perspective. *Feminist Studies* 14: 575–599.
- Harding S (1992) Rethinking standpoint epistemology: What is ‘strong objectivity?’. *The Centennial Review* 36: 437–470.
- Harris DS (2003) *The Nature of Authority: Villa Culture, Landscape, and Representation in Eighteenth-Century Lombardy*. University Park, PA: Pennsylvania State University Press.
- Harrison J (2010) Networks of connectivity, territorial fragmentation, uneven development: the new politics of city-regionalism. *Political Geography* 29(1): 17–27.
- Haugaard M (2018) What is authority? *Journal of Classical Sociology* 18: 104–132.
- Hawkins H and Straughan E (eds) (2015) *Geographical Aesthetics: Imagining Space, Staging Encounters*. Farnham, UK: Ashgate.
- Hayles NK (2017) *Unthought: The Power of the Cognitive Nonconscious*. Chicago, IL: University of Chicago Press.
- Hobson K (2006) Enacting environmental justice in Singapore: performative justice and the Green Volunteer Network. *Geoforum* 37: 671–681.
- Honig B (2017) *Public Things: Democracy in Disrepair*. New York, NY: Fordham University Press.
- Hooks B (2014) *Teaching to Transgress*. London, UK: Routledge.
- Hughes C and Lury C (2018) Re-turning feminist methodologies: from a social to an ecological epistemology. In: Carol A and Taylor GI (ed.) *Material Feminisms: New Directions for Education*. Abingdon, UK: Routledge, pp. 132–146.
- Huxley M (2006) Spatial rationalities: order, environment, evolution and government. *Social & Cultural Geography* 7: 771–787.
- Kenny JT (1995) Climate, race, and imperial authority: the symbolic landscape of the British hill station in India. *Annals of the Association of American Geographers* 85: 694–714.
- Kirwan S (2013) On the ‘inoperative community’ and social authority: a Nancean response to the politics of loss. *Journal of Political Power* 6: 69–86.
- Kitchin R (2017) Thinking critically about and researching algorithms. *Information, Communication & Society* 20: 14–29.
- Kojève A (2014) *The Notion of Authority: A Brief Presentation*. London, UK: Verso Books.
- Kwan MP (2002) Feminist visualization: re-envisioning GIS as a method in feminist geographic research. *Annals of the Association of American Geographers* 92: 645–661.
- Larner W and Walters W (2004) *Global Governmentality: Governing International Spaces*. Abingdon, UK: Routledge.
- Last A (2017) Re-reading worldliness: Hannah Arendt and the question of matter. *Environment and Planning D: Society and Space* 35: 72–87.
- Lave R, Wilson MW, Barron ES, et al. (2014) Intervention: critical physical geography. *The Canadian Geographer/Le Géographe Canadien* 58: 1–10.
- Lea J, Philo C and Cadman L (2016) ‘It’s a fine line between... self discipline, devotion and dedication’: negotiating authority in the teaching and learning of Ashtanga yoga. *Cultural Geographies* 23: 69–85.
- Legg S (2007) *Spaces of Colonialism: Delhi’s Urban Governmentalities*. Oxford, UK: Blackwell.

- Legg S (2019) Subjects of truth: resisting governmentality in Foucault's 1980s. *Environment and Planning D: Society and Space* 37(1): 27–45.
- Liberman D (2018) Custodians of continuity in an era of change: an oral history of the everyday lives of Crown Court clerks between 1972 and 2015. *Legal Information Management* 18(3): 120–127.
- Liboiron M, Tironi M and Calvillo N (2018) Toxic politics: acting in a permanently polluted world. *Social Studies of Science* 48: 331–349.
- Lora-Wainwright A (2017) *Resigned Activism: Living With Pollution in Rural China*. Cambridge, MA: MIT Press.
- Lovell T (2003) Resisting with authority: historical specificity, agency and the performative self. *Theory, Culture & Society* 20: 1–17.
- Lury C, Parisi L and Terranova T (2012) Introduction: the becoming topological of culture. *Theory, Culture & Society* 29 (4-5): 3–35.
- Luxon N (2013) *Crisis of Authority: Politics, Trust, and Truth-Telling in Freud and Foucault*. Cambridge, UK: Cambridge University Press.
- Marres N (2012) *Material Participation: Technology, the Environment and Everyday Publics*. Basingstoke, UK: Palgrave.
- Martin L and Secor AJ (2014) Towards a post-mathematical topology. *Progress in Human Geography* 38(3): 420–438.
- McCarthy J (2005) Devolution in the woods: community forestry as hybrid neoliberalism. *Environment and Planning A* 37: 995–1014.
- McCormack DP (2018) *Atmospheric Things: On the Allure of Elemental Envelopment*. Durham, NC: Duke University Press.
- McDermont M and The Productive Margins Collective (2018) Alternative imaginings of regulation: an experiment in co-production. *Journal of Law and Society* 45: 156–175.
- Millner N (2013) Routing the camp: experiential authority in a politics of irregular migration. *Journal of Political Power* 6(1): 87–105.
- Millner N, Peñagaricano I, Fernandez M and Snook LK (2020) The politics of participation: negotiating relationships through community forestry in the Maya Biosphere Reserve, Guatemala. *World Development* 127: 1–15
- Mirowski P (2017) Against citizen science. *Aeon*. Available at: <https://aeon.co/essays/is-grassroots-citizen-science-a-front-for-big-business> (accessed 15 July 2020).
- Neimark B, Childs J, Nightingale A, et al. (2019) Speaking power to 'post-truth': critical political ecology and the new authoritarianism. *Annals of the American Association of Geographers* 109(2): 613–623.
- Noorani T (2013) Service user involvement, authority and the 'expert-by-experience' in mental health. *Journal of Political Power* 6: 49–68.
- Noorani T, Karlsson M and Borkman T (2019) Deep experiential knowledge: reflections from mutual aid groups for evidence-based practice. *Evidence & Policy: A Journal of Research, Debate and Practice* 15(2): 217–234.
- Osborne T and Rose N (1999) Governing cities: notes on the spatialisation of virtue. *Environment and Planning D: Society and Space* 17: 737–760.
- Ottinger G (2010) Buckets of resistance: standards and the effectiveness of citizen science. *Science, Technology, & Human Values* 35: 244–270.
- Papadopoulos D (2018) *Experimental Practice: Technoscience, Alterontologies, and More-than-Social Movements*. Durham, NC: Duke University Press.
- Pasquale F (2015) *The Black Box Society*. Cambridge, MA: Harvard University Press.
- Pearce J (ed.) (2010) *Participation and Democracy in the Twenty-First Century City*. Basingstoke, UK: Palgrave.
- Pearce J (2013) The end of authority. In: Noorani T, Blencowe C and Brigstocke J (eds) *Problems of Participation: Reflections on Authority, Democracy, and the Struggle for Common Life*. Lewes, UK: ARN Press, pp. 13–20.
- Philippopoulos-Mihalopoulos A (2015) *Spatial Justice: Body, Landscape, Atmosphere*. London, UK: Routledge.
- Pink S, Hubbard P, O'Neill M, et al. (2010) Walking across disciplines: from ethnography to arts practice. *Visual Studies* 25: 1–7.
- Povinelli E (2016) *Geontologies: A Requiem to Late Liberalism*. Durham, NC: Duke University Press.
- Raco M (2000) Assessing community participation in local economic development – lessons for the new urban policy. *Political Geography* 19: 573–599.
- Rancière J (1991) *The Ignorant Schoolmaster*, Ross K (Trans.). Stanford, CA: Stanford University Press.
- Raz J (1986) *The Morality of Freedom*. Oxford, UK: Clarendon Press.

- Reid J (2013) Interrogating the neoliberal biopolitics of the sustainable development-resilience nexus. *International Political Sociology* 7: 353–367.
- Ronell A (2012) *Losers Sons: Politics and Authority*. Champaign, IL: University of Illinois Press.
- Rose G (1995) Distance, surface, elsewhere: a feminist critique of the space of phallogocentric self/knowledge. *Environment and Planning D* 13: 761–781.
- Sassen S (2006) *Territory, Authority, Rights: From Medieval to Global Assemblages*. Princeton, NJ: Princeton University Press.
- Schuller K (2018) *The Biopolitics of Feeling: Race, Sex, and Science in the Nineteenth Century*. Durham, NC: Duke University Press.
- Sennett R (1980) *Authority*. London, UK: Secker and Warburg.
- Sieber R (2006) Public participation geographic information systems: a literature review and framework. *Annals of the Association of American Geographers* 96: 491–507.
- Smith C (1991) *The Emergence of Liberation Theology: Radical Religion and Social Movement Theory*. Chicago, IL: University of Chicago Press.
- Strasser BJ, Baudry J, Mahr D, et al. (2019) ‘Citizen science’? Rethinking science and public participation. *Science & Technology Studies* 32(2): 52–76.
- Sumartojo S (2016) Commemorative atmospheres: memorial sites, collective events and the experience of national identity. *Transactions of the Institute of British Geographers* 41: 541–553.
- Swyngedouw E (2005) Governance innovation and the citizen: the Janus face of governance-beyond-the-state. *Urban Studies* 42: 1991–2006.
- Szerszynski B (2003) Technology, performance and life itself: Hannah Arendt and the fate of nature. *The Sociological Review* 51(2): 203–218.
- Terranova T (2009) Another life: the nature of political economy in Foucault’s genealogy of biopolitics. *Theory, Culture & Society* 26(6): 234–262.
- Tironi M (2018) Hypo-interventions: intimate activism in toxic environments. *Social Studies of Science* 48: 438–455.
- Tsing AL (2012) On nonscalability: the living world is not amenable to precision-nested scales. *Common Knowledge* 18(3): 505–524.
- Vera LA, Dillon L, Wylie S, et al. (2018) Data resistance: a social movement organizational autoethnography of the environmental data and governance initiative. *Mobilization: An International Quarterly* 23(4): 511–529.
- Weber M (1957) *The Theory of Social and Economic Organization*. New York, NY: Free Press.
- Weston K (2017) *Animate planet: making visceral sense of living in a high-tech ecologically damaged world*. Durham, NC: Duke University Press.
- Whatmore SJ and Landström C (2011) Flood apprentices: an exercise in making things public. *Economy and Society* 40: 582–610.
- Whitman GP, Pain R and Milledge DG (2015) Going with the flow? Using participatory action research in physical geography. *Progress in Physical Geography* 39: 622–639.
- Withers CWJ (2018) Trust – in geography. *Progress in Human Geography* 42(4): 489–508.
- Withers CWJ (2000) Authorizing landscape: ‘authority’, naming and the Ordnance Survey’s mapping of the Scottish Highlands in the nineteenth century. *Journal of Historical Geography* 26: 532–554.

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