Voicing the environment: Latour, Peirce and an expanded politics

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Abstract

This paper takes work by Bruno Latour as the starting point from which to critically examine conceptual moves needed to develop a formulation of voice appropriate for an expanded environmental politics which expresses the interests of human and nonhumans alike. Adopting human language and the rational speaking subject as the benchmark for entry into political debate and decision making is a central problem for theorising an expanded politics. Strong arguments suggest that an expanded politics cannot be founded in a model for the right to speak which reproduces and divide between human and nonhuman worlds. The paper draws on this critique to suggest a conception of voice as 'voicing'. It argues that voicing as an agental socio-material assemblage is sympathetic both to Latour's more recent AIME project and Dobson's understanding of political voice grounded in agency.

Introduction

In the current moment of global environmental crisis, it is becoming all too clear that new forms of environmental politics will be needed for the Anthropocene better able to take into account the complex interconnections of human and nonhuman environmental processes and practices (Dryzek and Pickering, 2019). The term 'expanded politics' has been used to cover a range of processes and practices that facilitate more democratic exchange between the complex of human and nonhuman groups, individuals and interests, many of which are arguably marginalised, dismissed or simply remain unheard within dominant forms of

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environmental politics (Braun and Whatmore, 2010). An increasing number of eloquent accounts within geography and elsewhere invoke deeper and more sensitive listening as a means to recognising the 'voices' of both human and nonhuman environmental 'others' (Back, 2007; Duffy and Waitt, 2011; Gallagher and Prior, 2014; Kanngieser et al., 2017; Voegelin, 2018). Yet little work addresses how such 'voices' might be brought into meaningful political dialogue (Dobson, 2014). This paper takes work by Bruno Latour as the starting point from which to critically examine the conceptual moves needed to develop a formulation of voice for a more symmetrical expanded environmental politics better able to address the interests of nonhuman others in relation to complex socio-material environmental challenges.

In his paper *Nature and Silence* (1992) scholar and radical environmental activist Christopher Manes argues that a viable environmental ethics must confront 'the silence of nature', namely the fact that in our culture only humans have status as speaking subjects. His provocative assertion that environmental ethics must 'learn a language' able to hear voices other than those from the human world was made just one year after the publication in French of Latour's *We Have Never Been Modern* (1993). Latour's book concluded by arguing for 'a parliament of things' as a form of democracy where that which has become classified as 'nature' might find a 'voice' within a revised and more democratic constitution. Though the arguments made by Latour and Manes in favour of giving 'voice' to the nonhuman world as part of an expanded politics remain important and timely, both authors assume that voice itself is a relatively unproblematic concept. Neither Latour's *Politics of Nature* (2004) nor other authors concerned with an expanded politics in relation to agentive materiality have addressed the issue of voice directly (see, for example Braun and Whatmore, 2010; Harman, 2014; Lemke, 2018; Simons, 2017). Yet the very vocabulary concerning voice, understood in terms of 'giving voice', 'searching for' and 'finding voice' suggests voices might not just be simple ready-mades waiting to be deployed in debate but something more complex. Within political theory the issue of political voice has been called into question as part of the turn towards what is termed sensory democracy. Dobson's (2008, 2014) work on listening and democracy explores this literature and this paper picks up his critique.

A conception of human language and the rational speaking subject as the benchmark for entry into political debate and decision making is a central problem for theorising an expanded politics. Whatever forms an expanded politics may eventually take, strong arguments suggest that these cannot be founded in a model for the right to speak which reproduces the divide between human and nonhuman worlds. A model of voice based on the rational speaking subject not only privileges humans to the exclusion of nonhuman others, but has also frequently been used to exclude women, and non-European peoples from participation in political processes (Bauman and Briggs, 2003; Lawy, 2017). Recent work drawing on phenomenology and theories of affect has sought to overcome the apparent divides between human and environmental worlds and the voices represented within them by calling for more sensitive and attuned ways of listening (Kanngieser et al., 2017; Voegelin, 2018). Latour's (2013b) more recent An Inquiry into Modes of Existence project (AIME) grounded in understanding the phenomenology of different world views as ways of worldmaking echoes some of these arguments. However, there remains a pressing need to move beyond approaches in which the necessary attunements can be couched solely in terms of auditory sensitivity. To be 'heard' means more than hearing a sound, acknowledging a presence or recognising difference. Rather as Dobson suggests it requires a transformation in the way human and nonhuman others might be recognised in conversation, debate and decision making that is able to combine legitimacy and legibility as the grounding for

political recognition. The paper shows how a conception of voice might be rethought in order to address this critique.

Key developments here concern senses of voice and indeed listening thought of as both literal and metaphorical embracing a wide range of practices and materials beyond the sonic. Even in sonic terms voice may be characterised as a complex socio-material assemblage, a set of physical sound producing processes which are bound into both spatial relations and very complex nexus of socio-cultural associations (Connor, 2000; Revill, 2017; Revill, 2016). This socio-material complexity is echoed in metaphorical uses of the term. Having or giving voice is a marker of individuality, authorship, agency, authority and power, reflexive self-realisation, social and communicative reach. It brings together sound and language, affective expression and symbolically structured interaction both practically and conceptually as communicative utterance. Theories of the individual, group identification, sentiment, belonging and democratic process all share a conception of voice as a sovereign expression of feelings, wants, desires, practices, interests and actions. At the same time voice can also encompass processes of labelling and objectification in which voice and voices are assigned to objects, entities, individual and populations and accessed by third parties, specific agents and publics. Voice is used metaphorically to assign meaning to the presence of otherwise apparently silent and or passive entities such as data, text, images, maps and other items of material culture. It can also stand as proxy for heterogeneous collectivities such as 'the people', regions, nations or complex sets of processes such as climate change (Revill and Gold, 2018). Thought of in this way voice becomes a distinctly geographical phenomenon, a tool of aggregation and differentiation created through complex and relational socio-material spatialities.

This paper draws on literature which interrogates a sense of voice as simultaneously sonic and metaphorical appropriate to a conception of political voice: both to the place of speech in politics and to voice as a set of socio-material practices including gesture, deportment and 'presence' having profound affective political agency. Relating these critiques to characterisations of voice in Latour's work, the paper draws on the twin formulations of phenomenology and semiotics developed by the American pragmatist philosopher Charles Sanders Peirce (1839–1914). The paper shows how reading Peirce facilitates a conception of voice as vital and socio-material. This enables us to trace how meaningful effects grounded in specific modes of being, move, translate and transform between humans and nonhumans and across boundaries marking different, life worlds and sensoria. Finding ways to provide legitimacy and legibility for human and nonhuman others in relation to environmental politics requires an interrogation of the ways voice as sound and metaphor are generated within, circulate through and gather meanings and constituents through multiple registers, sensory regimes and socio-material environments. By relating communicative practices made through heterogeneous media simultaneously to ways of worldmaking and semiosis, the elaboration and differentiation of meanings, Peirce enables a geographical rethinking of environmental voices as 'semiotic ecologies' made through spatio-temporally complex agental socio-material assemblages. This formulation enables a theory of voice to recognise and value a multiplicity of modes of being in the world and their related regimes of expressivity.

The following sections of this paper take Latour as the starting point from which to critically examine some of the conceptual moves which might be needed to develop a conception of voice appropriate for an expanded environmental politics. The paper draws on this critique to suggest a conception of voice sympathetic both to Latour's more recent AIME project and Dobson's understanding of political voice grounded in agency. The paper then proposes a conception of voice as active 'voicing' - a semiotic ecology relevant

to an expanded politics based on the twin formulations of phenomenology and semiotics developed by Charles Sanders Peirce.

Speech as political voice

In chapter two of the *Politics of Nature* (2004), Latour is concerned with exploring the notion of speaking as a central tenet of an expanded democracy involving both humans and nonhumans. Specifically, he is concerned to 'add a series of new voices to the discussion, voices that have been inaudible up to now, *the voices of nonhumans'* [italics in original] (Latour, 2004: 69). Latour seems to suggest that voice might be a means of reintegrating the human and nonhuman helping to forge a communicative bridge that simultaneously overcomes and disintegrates the constructed boundaries between the two. Latour's invocation of voice seems to suggest both something radical, the possibility that humans and nonhumans might communicate on shared terms, and something rather conventional, that voice remains the epitome of individual volitional self-expression and the basis of political participation. Here Latour ignores the separation between material and cultural dimensions which are deeply embedded within political conceptions of voice. Weidman (2015: 234) sets out the history of this divide, arguing that the binary set up in Western philosophical and linguistic thought between the signifying, authorial voice and bodily, material vocality was closely articulated with a social project central to Euro-Western modernity. This point is also noted by Dobson (2014: 140–142) and Revill and Gold (2018: 56–58). A conception of 'voice' has been a key component in theorising polities and citizens in both Classical and Enlightenment philosophy (Bauman and Briggs, 2003; Couldry, 2010; Dolar, 2006; Peters, 1999; Rée, 2000). Yet this historical legacy both valorises voice as a 'form of reflexive agency' (Couldry, 2010: 8) and marks this out as a realm of human privilege. The early pages of Aristotle's *Politics* contain this distinction as foundational in Western thought. Arguing that humans are more political than other creatures, Aristotle (2001: 1253a, 7–18) contrasts the human gift for speech [logos] connected to 'opinion', 'account' and 'reason' with 'mere voice [phone] . . . an indication of pleasure or pain, . . . therefore found in other animals' (also Dolar, 2006: 105). As Weidman suggests (2015: 234) the model of the speaking subject assumed by key Enlightenment thinkers Rousseau and Locke embodies all our notions of voice as presence, authenticity, agency, rationality, will and self. In this context, having a voice is predicated on entry into language and the figurations of rationality associated with 'civilised thought'.

With John Locke (1632–1704) as their prime example, Bauman and Briggs (2003: 59–69) suggest the major trajectory of Enlightenment thought worked towards an increasingly rational and pure version of language separate from the 'brute' expressions of *phone* (raw sound) (also Peters, 2005: 110–114). At the same time, the developing notion of a common political or civic space of political debate preserved and refined a space for the 'animal' expressions of sound so long as this could be held in check as a purified and regulated form of discourse. Peters (1999: 27), for instance recognises precisely this set of processes in the standards for socially meaningful communication laid down by John Stewart Mill in his *On Liberty* (1859). Weidman (2014, 2015: 234) and Rée (2000) summarise this history showing how one of the ways the subject of European Enlightenment identified themselves was by differentiating their language – rational language, purified of unnecessary associations and suited to expressing 'universal' concepts – from the language of socially 'inferior' and 'racial' others, which was mired in custom and superstition. To this extent the notion of voice embodies a hierarchy of legitimate expression by valorising logos (coded as culture) over phone (coded as nature) and performs the very separation of spaces encoded as nature and

culture, material and social that Latour seeks to overcome. Bound into this tradition of thinking and without further investigation, voice is simply another manifestation of the 'modern constitution' critiqued by Latour which hides its own contradictory socio-material complexity.

The way in which the idea of voice is bound into complex encodings of culture and nature, logical reflection and raw expression is further reflected in the long association of voice with human subjectivity, self-reflection, presence and the expression of needs, wants and interests (Sterne, 2011). An important issue here is that voice acts as a signifier for a kind of agency associated with human consciousness and with logos. This too is problematic for a conception of voice as the medium for expression within an expanded or more than human conception of politics. For Connor (2000: 7), the vocalic spaces realised by human vocalisation are the defining moment of self-recognition. His assertion is based on the physical presence or 'touch' of sound, grounded in the properties of vibration which are both haptic and auditory. Here he draws on Serres's (2008) account of touch in the recognition of self-presence, similarity and difference (Connor, 2002a, 2002b). For many authors, therefore such a moment of self-realisation is central to the political agency of voice (Couldry, 2010). As Weidman (2015: 232) suggests, to say, 'I have a voice!' is a profound moment of self-realisation and self-assertion, not simply a declaration of fact. Such an assertion activates a host of culturally salient associations between voice and individuality, authorship, agency, authority and power. In common every day parlance she says these associations are found in expressions such as: '– we "find" our "voice" or discover an "inner voice"; we "have a voice" in matters or "give voice to" our ideas: we "voice concern" and are "vocal" in our opinions'.

Yet as Connor suggests in his account of the sounding voice as a biophysically embodied practice (see also Dolar, 2006), the complex relationships between verbal and nonverbal communication in relation to the practices of having and giving voice are understood as increasingly important. These ideas have been taken up by theorists of 'sensory democracy' (Dobson, 2014: 18–19). Lawy (2017), for example develops an anthropology of voice designed to provide a better account of the power mobilised by a wide range of more than textually representational dimensions of voice. These are embedded in spaces of delivery and context including tone, timbre, gesture, deportment and dress. Drawing on work by Merleau-Ponty (1962), Lawy (2017: 198) says that when speaking, we are also imbuing meaning through the way we perform the speech, and these are what generate voice. She argues that in order to be heard, the body of the speaker must be readable and legible to the audience. She concludes that:

> Voice then is more than just about what is said, as it is also about how the speaker presents themselves and puts themselves in a position to be heard. This involves both words – what is said – and the way it is said, as well as the body that uses gestures that make the speech more 'hearable', and thus understood and accepted. (Lawy, 2017: 198)

Lawy shows how listening involves much more than hearing. The practices of speaking work with the spoken word in ways that transform the mere hearing of sound into an attentive listening which conveys both sense and meaning through spatio-temporally specific registers of performative utterance (see also Green, 2010; Parkinson, 2012). One result of this work is to highlight issues of power which connect acceptability and authority to audibility. Lawy (2017) says: 'Through highlighting legibility and audibility we "enable investigation of what conditions obtrude to mute the speech of the subaltern" (Morris, 2010: 3), and we also reveal the conditions that help to accentuate the voices of dominant people' (193–194).

In this way authors concerned with sensory democracy join those from cultural studies in figuring voice as a set of socio-material practices and processes whose purchase on the world depends on so much more than literal meanings of spoken words. Whilst these conceptions of voice continue to hold a sense of reflexive subjectivity at their core, they also draw on understandings of vocal effectiveness that lie beyond the rational meanings of language. These critiques begin to open out some of the possibilities for thinking about speech and by implication voice in terms of broader senses of socio-material agency.

Spokespersons, representation and recognition

To a certain extent Latour manages to sidestep the issue of voice as reflexive subjective expression by invoking the 'spokesperson' as a vehicle for giving expression to heterogeneous assortments, assemblages and collectivities of humans and nonhumans. Latour argues (2004), 'I do not claim that things speak "on their own", since no beings not even humans speak on their own, but always *through something or someone else*' (68). For Latour the spokesperson is an active figure of intermediation. It adds a healthy sense of doubt into any communicative action helping to undermine the direct sense of transparent truth suggested by the common-sense term 'facts speak for themselves'. In this way, Latour hopes to direct the idea of speech away from claiming voice as a singular authority and towards a more modest, contingent and provisional sense of truth making. However, as Disch (2008) explains in her interrogation of Latour's thinking, the notion of the spokesperson is historically and conceptually complex and does not lead easily and directly to the place Latour would like to take us. She argues for example, that without further elaboration the term 'spokesperson' does not distinguish between representatives authorised to argue and negotiate on behalf of the interests of a constituency and delegates who are mandated to convey the wishes and words of a constituency into the political arena (Disch, 2008: 88).

Looked at one way the idea that things don't speak for themselves is a necessary counter to the way the voices of otherwise silent others can be ventriloquised, appropriated and enrolled into spatial formations, discourses and networks that do not necessarily represent or serve them and their interests. To this extent, the idea of the spokesperson suggests a model of voice as examined and challenged discourse that is designed to unsettle claims for simple univocal truth. However, translating the political power of voice from things or people themselves to a variety of advocates or spokespersons could easily be taken as a conservative move which places the authority to speak within spheres of political debate and decision making open only to those who have been granted some form of permission to speak on behalf of others such as politicians, barristers and scientists. Consequently, the authority of voice vested in spokespersons thought through a conventional model of rational language might variously either disseminate and distribute, or gather and concentrate, the collections of entities and resources it seeks to represent. It is also true that whilst Latour provides few clues as to what a 'parliament of things' might actually look like, his brief sketches envisage a range of possibilities involving a wide variety of more or less formal shapes or structures, institutions, modes of communication and areas of discussion and debate. Understood in this way, any conception of a parliament of things and by implication other forms of expanded environmental politics will require a conception of voice enabling discursive spaces which not only allow human and nonhuman others to be heard but also enable informal, alternative and non-verbal forms of communication to be recognised as valid. Thus, for an expanded politics to be realised, a range of human and nonhuman voices and forms of voicing currently considered unconventional and illegitimate no less than the spokespersons and advocates for these forms of knowledge and communication will have to

find some mode of recognition in terms of political discourse. They will somehow have to be made as Lawy (2017) says 'acceptable, legible and audible' (193).

For Dobson (2014: 144) the question of acceptability and audibility can be understood in terms of the distinction between 'affirmation' and 'transformation' made by Nancy Fraser (1997, 2007: 26–27) in relation to extending political recognition. Where affirmation involves working for the inclusion of excluded groups by positively revaluing their previously derided characteristics, transformation requires changing the rules by which inclusion is determined in the first place. Latour's concern with the need to replace the 'modern constitution' enforcing false separations of nature and culture might suggest a focus on transformation. Yet as Dobson (2014: 159–163) shows in his comparison of Latour and Bennett, both these authors provide arguments based on what he calls a strong form of affirmation, rather than transformation. Each author finds points of recognition between human and nonhuman voice based on characteristics that humans share with nonhumans '*but is such a way that it is surprising that the former share it with the latter rather than the other way round*' [italics in orginal] (Dobson, 2014: 153). Equally significant, both Latour and Bennett find some sort of metaphorical equivalent for speech in the capacity of things and materials to be active in the world. For Latour, this is closely connected to the idea of the spokesperson as intervener or disrupter, something that brings into presence an issue or matter of concern as a proposition that would otherwise not be articulated and brought into the public realm. As Disch (2008: 92) suggests regardless of whether we are speaking about politics or science, the test of Latour's spokesperson is the same: 'Are the represented "allowed to make a difference in our thinking about them?"'. The focus on making a difference suggests a conception of voice in which agency, action and influence should play a central role.

One key to the problem of political recognition for diverse voices outlined by Lawy is to encourage and develop sensitive and appropriate techniques of political listening. Latour's assertion that speech is always and everywhere being fettered by impedimenta certainly suggests the need for more attentive modes of listening. These need to focus equally on both human and nonhuman in such a way as to make the listener always alert to the masks of culture, convention and preconception which might inhibit a fine attunement to the voices of heterogeneous others. In this sense Latour might almost seem to be suggesting greater attention to the 'voices' and 'languages' of 'nature' familiar from arguments advocating the re-enchantment of nature associated with authors such as Manes quoted at the beginning of this paper. However, to take this route is to implicitly endorse romantic conceptions of voice and language which may inadvertently impose human-based norms concerning reflexive consciousness on nonhuman others (Rehding, 2009; Revill, 2018). Latour's conjunction of speech and impedimenta may be ultimately unhelpful because it also seems to suggest that somewhere deep inside the speaking body reside authentic truths or essences that struggle to gain presence without prosthetic assistance. This conception seems to speak back to very conventional conceptions of voice connected with reflexive self-recognition left over from Classical philosophy and retaining a direct link between voice and speech. Yet if one follows Connor, Dolar and others who focus on the bio-cultural, socio-material making of spoken voice and work by Lawy and others emphasising the embodied, gestural components of human spoken communication, one has a formulation of speech in which the notion of prosthesis already feels somewhat redundant. The implications here are that typed scripts or meaningful objects such as lab coats or scientific equipment are much more than prosthesis or conduits of mediation but rather creative participants in acts of voicing and the making of meanings.

In this context, Dobson's idea of 'non-voiced' political communication has much to commend it because it avoids confusing voice with speech. Rather it focuses on the

notion of communication to provide a broader sense meaningful semiotised interactions and experiences. From this perspective Dobson takes his lead on more than human political communication more directly from Bennett (2010a). She recognises that whether embodied in speech or otherwise, communication is always mediated and that such intermediations are co-constituent to communicative assemblages. These co-constituents give shape, direction and meaning to communication as an intrinsic part of the processes and practices involved. If things and humans have voice through the effects they have on the world and those who listen, then the terms 'tool' or 'technology' rather than 'prosthesis' might be more a productive, active and constructive way of imagining the socio-material assemblages of communication Peters (1999: 118) suggest active and co-constructive intervention.

Thinking of communication as technology can be helpful. The sense of communication as an immersive socio-technical medium shaping and giving meaning simultaneously to experience and material form is central to Ihde's (2003, 2009) call for a reworking of the post-phenomenology of technology as a theory of 'communicative interaction' (Langsdorf, 2006). Ihde suggests communication as a 'discursive materiality' (Barad, 2003, 2007), something messy, contingent, mutable and engaged across a wide range of affective and reflexive practices and through a heterogeneous assembly of materialities. This socio-material conception of communication grounded in a relational spatiality both speaks back to the extra-vocal communicative dimensions of speech and opens towards approaches engaging a socio-material semiotics as an active constituent in the way worlds are made within different sensoria. It is a conception of communication as material/social exchange and a medium of sense making traced back to the work of Hegel (1770–1831) by Peters (1999: 118):

> Hegel invites us to see subjects as intertwined with objects, selves as intertwined with others, and meaning as public rather than psychological. . ... The problem of communication for Hegel is not so much to make contact between individuals as it is to establish a vibrant set of social relations in which common worlds can be made.

Reworking the conception of voice for an expanded environmental politics in the 21st century will need to negotiate the relational making of common or shared communicative worlds set out by Hegel nearly 200 years ago.

Voice as semiotic ecology

Drawing on socio-material conceptions of communication situated as active forces within specific ways of worldmaking, Braun and Whatmore (2010: xxiii) highlight Daston's work concerning 'things that talk'. For Daston (2004), things are not merely instruments for recording or playing back the human voice; they 'talk' by which she means that they at once enable and constrain meaning. This is grounded in a conception of affordance in which the language of things 'derives from certain properties of the things themselves, which suit the cultural purposes for which they are enlisted' (Daston, 2004: 15). She argues that things must be approached as 'simultaneously material and meaningful' such that matter 'constrains meaning and vice versa' (Daston, 2004: 16). Here there is some common ground with Latour's conception of actant as neither subject nor object but as 'intervener' (Bennett, 2010a, 2010b: 9; Disch, 2010: 268–269; Latour, 2004: 75). However, Daston's formulation probably has most in common with Stengers's (2010: 5) characterisation of nonhuman agency as that 'forcing thought rather than as products of thought'. The notion of forcing which emphasises process over object suggests a conception of shaping, affording, enabling

and constraining closely associated with varieties of postphenomenological politics such as those articulated in relation to communication by Ihde (2003) and the arts by Rancière (2004).

Thinking about voice through imperatives of affordance, emergence and contingency in the context of a sense of agency drawing on a post-humanist sense of vital materiality is key to a conception of voice better able to embrace the nonhuman. Such a conception would have to embrace a multiplicity of modes of being in the world, both human and nonhuman and relate these to a broad sense of agency which does not privilege human reflexive self-realisation. To this extent such a move would be in sympathy with Latour even though his current work is not concerned with voice as such. Latour's (2013a: 289, 369, 375, 2013b: 296–297) modes of existence project AIME certainly started as a project concerned with modes of enunciation and still retains some of this focus. This itself suggests a concern to explore and expand multiple ways of voicing and communicating as these relate to specific sensoria. In more recent work Latour has moved very decisively towards recognising a plurality of modes of being and the sensoria and by implication the modes of communication deriving from these. Latour locates this within a project of socio-natural 'diplomacy' which is itself an art of political speech and communication (Tresch, 2013: 303). Latour claims his concern with modes of enunciation is informed by JL Austin's (1962) speech act theory which pioneered more performative conceptions of language. He suggests that utterances need to be understood within contingent discursive formations and that Austin's conception of 'felicity conditions' can play a useful role mapping out the terms on which utterances are understood, challenged, accepted, believed and rejected (Dusek, 2014).

Though Austin's theory is typological and classificatory in the manner of its time, its performative qualities certainly set seeds for more recent modes of theorising and these became one important starting point for Judith Butler's (1997) highly influential work on performativity. Thus, Austin can provide some basis for understanding the discursive, embodied and material qualities of modes of enunciation and the ways of worldmaking these shape and support. From this perspective it is possible to see why Latour might find this useful, especially in the context of his long-standing concern with the production, circulation, understanding and power of scientific language. Yet as already argued, any attempt to use the rules and conventions of spoken language and reflexive expression can provide only limited ground for understanding the broader socio-material processes involved in diverse discursive formations. The universalising system building qualities of Austin's work seem to undermine the deeply culturally relational trajectory of the AIME project (Latour, 2013a, 2013b). Surely a project which takes seriously the specificities and practicalities of lived experience requires communicative theory better able to resist subsuming diversity and heterogeneity.

The work of Charles Sanders Peirce (1839–1914) provides one productive route to understanding and theorising forms of communication between different sensoria. This is proving particularly productive for authors developing conceptions of communication both between human and natural systems and within natural systems themselves. It has been used by authors working in fields such as biosemiotics and environmental anthropology (see Favereau et al., 2012; Hoffmeyer, 2008; Houser, 2010a). Placed together Peirce' tripartite semiotics map on to his tripartite phenomenology in ways that begin to unpack relationships between experience and meaning understood across a wide range of actions and activities from mechanical processes and chemical transference to the reflexive understandings of high order cognition based on symbolic language. In contrast to the more familiar semiotics of de Saussure where human language is so frequently the default model for all sign systems, Peirce's definition of a sign is substantially agnostic concerning what signs are and what

kinds of beings use them. As the anthropologist Eduardo Kohn (2013: 29) suggests '[t]his broader definition of the sign helps us to become attuned to the life signs have beyond the human as we know it'.

Though Peirce's theory changed and became more complex between 1860 and its final iteration in the period 1906–10, a number of salient features remained constant (Short, 2007). One enduring component of the semiotic and phenomenological classification systems he developed is that they match forms of signification to forms of experience. These are informed by a hierarchy of experiential complexity understood first through things in themselves (monads), second things that relate to something else (dyads) and third experiences and entities that are mediated through a third party (triads) (Houser, 2010b: 90–97). In this way what Peirce calls 'Firsts' relate immediate experiences, givens or feelings to a first order of semiotics termed 'Icons' which refer to likenesses and resemblances. His second order classification, termed 'Seconds' relates the phenomenological properties of reactions and relations between things. 'Seconds' map on to a semiotics of Indexes, these are pointers that make a connection between something and something else. Whilst 'Thirds' are established taken for granted, meanings, practices or habits, what sociologists might call institutions, and these relate to a third order semiotics of symbols. The symbolic level of meaning opens on to worlds of formal language and reflexive understanding.

In addition, Peirce's semiotics depend on a set of reciprocal relations between three items: the sign (*Sign*), the thing to which it refers (*Object*) and the receiver/recipient of the sign (*interpretant*). Though Peirce described the relationship between the sign, object and interpretant as one of determination, this relationship is perhaps best thought of as the placing of constraints and conditions as a set of affordances which shape signification (Currie, 2004: 120; Silverman, 1998: 4). Understood in this way, it is possible to recognise an interpretant, that which is shaped or influenced by semiosis, does not have to be a reflexively conscious human but any entity which has some form of reaction or resonance with conditions present in the sign. Whilst the sign itself is not necessarily part of a closely coupled symbolic system (a language) but may equally be any entity, process, object or symbol which invokes a particular reaction in an interpretant. In addition, Peirce consistently argued that only certain characteristics of an object are relevant or brought into play by any one instance of signification. Thus objects, signs and interpretants may be connected in a multiplicity of ways which draw on the capacity of different characteristics and groups of characteristics to generate, stimulate and shape chains of signification (Short, 2007: 3). Taken together this produces a conception in which meaning is made and translated through a signifying system by a set of contexts and affordances. These entrain objects and capacities bringing them into and out of experience whilst never fully accounting for or exhausting the objects, processes or entities to which they refer. Such a formulation speaks directly to conceptions of active materiality shaping experience put forward by Latour, Bennett, Stengers and others. At the same time, it provides a clear theorisation for the heterogeneous chains of translation which for Whatmore problematise the distinction between being present and being represented and which for Dobson might characterise 'non-voiced' communication.

It is possible to read Peirce's 'three universes of experience' classificatory system as a hierarchy which privileges the complexity and reflexivity of the symbolic and this evolutionary sense reflects some of his own thinking (Houser, 2010a, 2010b: 98–99). However, in the context of Peirce's own concerns with chance and self-organisation and most particularly in terms of semiotic systems that are at all points linked to very worldly ecological complexities, it can be thought rather differently. From this perspective his approach can be understood as a more fluid schema in which semiosis passes through a variety of communicative media and a heterogeneous group of bodies, entities and sensoria as part of a broadly drawn

semiotic ecology which draws on and reflects organisational complexity within and between the 'three universes'. In this way Eduardo Kohn (2013) understands Peircean thinking in *How Forests Think: Toward an Anthropology Beyond the Human*. In one particularly instructive passage Kohn discusses how a group of Runa hunters living in Ecuador's Upper Amazon region bring down a tree during a hunting trip in order to startle a monkey. Kohn (2013: 30–34) shows how the hunters want to catch a monkey for food. The monkeys are hidden high up in the canopy of the forest out of reach for the hunters on the ground. The hunters cut down a tree whilst trying to remain hidden and quiet. They calculate the sound of the falling tree will frighten the monkeys and dislodge them from their perches whilst not giving away their own location. This will cause the monkeys to scatter making them more vulnerable to predation. Kohn (2013) says:

> Although semiosis is something more than mechanical efficiency, thinking is not just confined to some separate realm of ideas. A sign has an effect, this this precisely, is what an interpretant is. It is the "proper significate effect that the sign produces" (CP 5.475). The monkey's jump, sparked by her reaction to a crashing palm, amounts to an interpretant of a prior sign of danger. It makes visible an energetic component that is characteristic of all sign processes, even those that might seem purely "mental." Although semiosis is something more than energetic and materiality, all sign processes eventually "do things" in the world, and this is an important part of what makes them alive. (33)

The sound of the tree produces meaningful effects in both the world of the monkeys and the world of the humans but in very different regimes of experience and registers of semiosis with rather different outcomes. What Kohn sets out here is a notion of environment as ecologies of semiosis producing chains of effects running through diverse life worlds, sensoria and semiotic regimes. In contrast to a cultural ecology it treats difference made through mechanical, chemical and biophysical processes equally with those made socially and culturally. A conception of semiosis intimately linked to the experiential qualities of specific sensoria through a matching phenomenology opens out the capacity to trace and map the making of difference throughout the multiplicity of registers in which differences and differentiations are made. Speaking back to Pierce's three universes of experience these range from physical process right through to reflexive thought. It shows how difference moves through and is translated and transformed between different registers of semiosis ranging across the human and nonhuman.

Voicing environmental politics

The semiotic ecology imagined by Kohn through Peirce is capable of recognising and accounting for the heterogeneous qualities of, for example, spoken communication involving gesture, deportment, vocalisation and a wide range of situational and affective clues in addition to spoken language. This usefully moves a conception of communication away from privileging human language and the spoken word as its benchmark. Most importantly it expands our capacity to recognise communication moving through heterogeneous spaces and channels of material and communicative media and their related sensoria and registers of semiosis. Together these qualities of a Peircean semiotic ecology may provide a formulation that is able to recognise:

> ...chains of translation of varying kinds and lengths which weave sound, vision, gesture and scent through all manner of bodies, elements, instruments and artefacts – so that the distinction

between being present and being represented no longer exhausts, or makes sense of, the compass and possibility of social conduct. (Whatmore, 1999: 30)

In this way, it is possible to imagine a formulation based on Peirce underpinning a conception of non-voiced political communication as suggested by Dobson. By justifying a move away from human language as the sole model for meaningful communication, working with Peirce can be formally transformative in the sense Dobson following Fraser characterises political recognition. It builds on the idea that agency and action provide an alternative to rational reflexive speech as a basis for the expression of needs and wants and as a way of judging the voicing of interests. To this extent it is compatible with Dobson's aspirations for 'non-voiced political communication'. However, a formal, theoretical rationale for extended recognition does not necessarily translate into the sort of cultural acceptability that might result in the right to speak of and for a wide range of unheard and ignored 'voices' as part of an expanded politics. Neither the theoretical basis in Peirce, Latour and Stengers or the term 'non-voiced' political communication itself seem to have sufficient broader cultural and historical resonance to be politically effective let alone transformative in terms of the expansion of political debate beyond accepted conventions.

Clearly there are strong arguments against a conception of voice within an expanded politics grounded in a model of human speech, yet the idea of voice remains socially and culturally very powerful. Voice remains an imaginatively captivating way of recognising and articulating difference and contrasting competing interests. In common usage, the term voice is used and understood both literally and metaphorically. It appears in contexts as varied as those claiming to describe the interests of entities embedded in data, the meanings and performative potential of artefacts, objects and technologies or enacting the will, mandate or interests of specific groups and publics. Related ideas of voice are recognised and deployed in politics, academia, the arts, media and everyday speech. Crowds in fine voice chant at sports events; academics voice, compare and critiquing difference and identity; and politicians justify policies by giving voice to the will of the people. Voice connects identities and identifications to legitimacy, will and action in multiple formal and informal discursive spaces. It continues to carry a strong and commonly understood sense of the processes by which interests, identifications, demands and desires are brought into presence and seek recognition, hearing, understanding and response. Thus, voice carries moral and political force connecting widely understood discursive formations in everyday and common parlance with those which have technical and specialist usage. Together these remain key to politics understood both in its narrower institutional sense and as a wider set of public arenas for debate and decision making. The idea of voice carries a weight of historical and contemporary usage as part of a broadly shared political imaginary that the notion of non-voiced political communication is unlikely to be able to match.

Retaining the idea of voice whilst building this into a formulation grounded in a semiotic ecology based on the work of Peirce may open up shared ground between existing common-sense and specialist conceptions of voice. It may provide means to radically transform commonly held assumptions about voice in politics whilst anchoring such a transformation within something familiar. However, the idea of voice as what might be termed 'quasi-object' relationally produced and requiring listeners and media of transmission as well as messaging coupled with its reformulation as something having effects which actively engage, shape and reshape the world also proposes a move from noun to verb and from voice to voicing. Whilst voice as an object implies single homogeneous locutionary acts which bind together sovereign intentions and interests, voicing offers distinctive and contingent relational spaces holding together specific mobilisations of available resources. Voicing suggests

process in the form of expressive action and attention to actions. As such voicing can be understood as a composite of intentions and contingent effects drawing together a multiplicity of interpretations, semiotised threads, affordances and agencies. In this way a conception of voicing might move away from a focus on barriers and impedimenta to speech and recognise multiple modalities and registers of giving voice, each having legitimacy and eloquence within the terms and spaces of their own making.

Listening to environmental voices in the broadest sense proposed in this paper becomes much less about the human capacity to empathise, relate, or feel the experience of others and more a recognition of alterity and multiplicity. This acknowledges that others and particularly nonhuman others live in worlds and through sensoria which may remain very substantially unknowable to us even when we can undertake some form of meaningful exchange with them. It draws our attention to the way things escape human intentions and highlights our limited capacity to represent and predict without simply trying to reduce these encounters back into familiar human terms. This in turn suggests a move from listening as attunement to listening as attentiveness, where attunement might suggest a tuning in, a coming together and perceived reduction of distance between self and other, attentiveness posits an alert engagement with unpredictable and irreducible othernesses. In this context perhaps we should be looking out for the voicing of nonhuman others in the locations and circumstances in which for example organic life thrives and expresses its interests by escaping and surpassing human intention. Michel Callon (1986) explored this some years ago in his study of Breton Scallop fishing (see also Bennett, 2010a: 96 on earthworms). Voicing might also be found in the animations and activations of physical systems and biological processes that Bennett (2010a: 22) attributes to *conatus* or the inertial tendency for entities to pursue their own being. In this way, the voicing of nonhuman others might also be found in the resistances, disruptions and unsettlings by which nonhuman others, shape and recast environments whilst surpassing and subverting human intentions.

A conception of voice as voicing might better address Latour's conception of the spokesperson as advocate and help provide theoretical ground for unpacking and deploying this concept. Such would recognise that voices are always made through a heterogeneous assemblage of materials and media subject to multiple agencies which both shape and are shaped by the things they convey. If an important characteristic of Latour's spokesperson is to disturb and trouble the singular authority of locutionary acts, then it is useful to be reminded that all voicings can be thought of as products of mediation and multiplicity and are inherently contestable by agents, advocates and audiences. To this extent all voicings sonic and metaphorical, human and nonhuman, more or less embody the characteristics of the spokesperson. The idea of voicing is useful therefore because it decentres and problematises what is being voiced and by whom. In turn, this highlights some of the ways in which the relations from which voices are constructed themselves take on particular shapes and spatialities. As such they can be considered contested and contestable spaces in much the same way that Latour imagines his spokesperson as an act of advocacy simultaneously opening out and exposing its claims, assertions and propositions to critical examination. The hour-long sound work *Sonic Antarctica 2007–8* by environmental artist Andrea Polli for example, voices climate change in this way as profound, inexorable but complex and full of uncertainties. It brings together interviews, field recordings and data sonification. Listeners hear the environmental effects of a changing climate through the testimony of field recordings and sonification. These are juxtaposed with the testimony of scientists from the NSF Antarctic base talking about their research and scope and limitations of the data they are collecting. In this work scientific data itself, how that data are generated and what it

might mean become a critically reflexive spokesperson for voicing climate change (www. digiart21.org).

The notion of voicing highlights the way voices are themselves collections of spatial relations contingently formed around particular expressive and locutionary acts. Taken from the standpoint of an expanded politics, the heterogeneous collectivities that compose voicings may themselves be thought of as publics. Though the term voice has frequently been understood as the composite expression of a group or public, thinking of voicings as publics radically changes this understanding. Rather than conceiving voices as the expression of a fixed pregiven constituency, a conception of voicing grounded in Pierce would suggest that we might think of all voices as to some degree the expression of contingently assembled collectivities, made, remade and potentially transformed by each utterance, the repetition and restatement of interests and aspirations. This approach is informed by the dynamic and contingent conception of publics which Latour and others draw from Deweyan pragmatism (Harman, 2014: 161–163; Mares, 2012). Perhaps one might think of the way Rachel Carson's book *Silent Spring* (1962) encouraged readers to imagine and contrast the squawking, fluttering, flapping, calling and buzzing of healthy ecosystems with the deathly quiet of the lifeless landscapes affected by DDT. This became a powerful and widely understood rallying cry against the potentially devastating consequences of uncontrolled pesticide usage. In the words of Stewart Udall, US Secretary of the Interior between 1961 and 1968, *Silent Spring* was 'an ecology primer for millions' and played an inestimable part in 'the ecological reawakening of America' (Payne, 1996: 137).

Thinking about the material discursivity of voice might help us conceptualise, trace and critically examine the ways in which publics form and reform around what Latour terms 'matters of concern' through the act of voicing, articulating and examining particular issues and events. In this context the authenticity and authority of voicing is less a matter of tracing origins and more a way of following the emergent possibilities of support, verification and trust within and between specific voicings. Such a perspective transfers focus to the ways in which specific formations or voicings create alliances, coalitions and responses. This encourages the tracing of accountability, trust and authority of voices and voicings as evolving contingent spatial formations. In this way for example, we might better understand how the final programme in the BBC TV series *Blue Planet II* has become seen as a pivotal moment in the environmental campaign against single use plastics in the UK. Public concern and action around this issue is not simply based on stating the scientific facts, but rather on shared eye witnessing of the effects of single use plastics told through the trusted testimony of Sir David Attenborough. Here authority is built through the long-term relationship Attenborough has developed with UK TV viewers and the popularity of the 'Blue Planet' brand, itself created through several highly popular series shown on prime-time TV. In turn, varied constituencies of journalists, bloggers, campaigners and indeed scientists have drawn on initial reactions to the broadcast and helped stimulate and shape reaction and debate in order to effect broader social changes in awareness, understandings, attitudes and behaviours. In this way the voicing of a specific environmental concern has come to have effects in diverse social, economic and political arenas.

Conclusion

This paper has focused on ideas of voice in the work of Bruno Latour. It has examined his concept of the spokesperson and has engaged with Dobson's critique to address the ways in which an expanded environmental politics problematises conventional ideas of voice. It has shown how voice might be rethought in order to address this critique by building a

conception based on ideas of agency. For nonhumans including fauna and flora, material and environmental processes, subjectivity and reflective self-expression cannot constitute a firm base on which to articulate a conception of voice. These concepts are deeply grounded in human sensibility and simply do not map on to the sensory registers by which nonhuman others express and pursue their modes of being. It has drawn on the twin formulations of phenomenology and semiotics developed by the American pragmatist philosopher Charles Sanders Peirce to outline a conception of voicing as semiotic ecology, as quasi-object or agental socio-material assemblage. This provides a conception of meaning making through voice, voices and voicings which is sensitive to the ways meaningful effects grounded in specific modes of being, move, translate and transform across the boundaries between different, semiotic regimes, life worlds and sensoria. In this context the paper has argued to retain the idea of voice with all the affective historical and cultural resonances that provide it with political and cultural authority. Taking a lead from Latour, it has shown how this revised conception of voice as quasi object relates to several key components in his version of an expanded politics. These are the idea of the spokesperson, the emergent politics of 'matters of concern' and the fluid and contingent nature of publics, polities, constituents and constituencies.

A revised conception of voice based on agency rather than rational human language provides an important step towards recognising the multiplicity of human and nonhuman interests integral to an expanded environmental politics. However, this is only a preparatory step and is no way sufficient to bring about an expanded politics. How such a revised conception of voice might shape or be incorporated into political debate, either formally or informally remains to be explored. Latour (2004) for example, has argued that many activities constituting what he calls a 'parliament of things' are already in existence, but are simply not recognised formally within politics, policy and environmental decision making as voicing the interests of nonhumans and silenced others. These include creative and arts-based environmental work, broadcast and digital media and the efforts of volunteers, enthusiasts and environmental groups. If nothing else, a conception of voice grounded in a Peircean semiotic ecology can shed light on some of the environmental voicings already circulating in ways which illuminate how they might intersect with and intervene in formal and informal politics. This in turn might require forms of deliberative democratic process and arts-science and social process-based arts-science public engagement to create the discursive spaces which can bring such unconventional voicings into dialogue with more formal knowledges and processes. Either way, voicing the environment in ways that might gain social and political recognition requires an understanding of how voices and voicings compose, cohere and move – a critical geography of voice can make a significant contribution to this process.

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