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Sonic geographies: Exploring phonographic methods

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Abstract
Research into the geographies of sound and music has developed over the last 20 years, yet such work largely remains reliant on conventional verbal-textual methods of data collection and dissemination. In this paper, we conduct a review of current approaches to sonic research, demonstrating that the erasure of audio media within geography silences a rich seam of empirical data. As a result, we propose that phonographic methods – including listening, audio recording and playback – need to be developed further. We consider a range of epistemological implications of phonographic methods, and possible future directions for their development in human geography.

Keywords
experimental geography, methodology, phonography, sonic epistemology, sonic geography

I Introduction

The last 20 years have seen a growing interest in sound among human geographers, and in related fields such as sociology and anthropology. Since Smith's (1997) call for geographers to pay more attention to sound, a steady stream of research has shown how sound, music and sonic media are involved in the construction and mediation of urban, rural, public and private environments, the production of identity and difference, and the exercise of power through space (e.g. Anderson et al., 2005; Bull, 2000; Connell and Gibson, 2004; Gallagher, 2011; Hudson, 2006; Matless, 2005). The growing attention paid to the senses in social and cultural research (e.g. Classen, 1997; Paterson, 2009) indicates a renewed awareness of the importance of hearing, listening and perceiving sound in everyday life. Furthermore, in keeping with the more general turn towards the non-representational, the more-than-representational and the performative (Lorimer, 2005, 2008; Thrift, 2000), there have been various engagements with the geographies of sonic practices and performances (e.g. Morton, 2005; Revill, 2004; Smith, 2000; Wood et al., 2007).

The majority of geographically aligned research on sound has, however, been methodologically conventional, using techniques such as interviews, ethnography, archival research and

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discourse analysis, and has been disseminated via traditional written publications. This reflects the current dominance of verbal-textual methods in qualitative geography (Crang, 2003). However, in this paper we argue that phonography, and the associated practices of listening, playback, performance and distribution, deserve much fuller use within geography.[1] Methods involving image-based media for qualitative research are now well established (Garrett, 2011; Pink, 2007; Rose, 2000), and we wish to advocate a parallel development of phonographic methodologies and methods. We argue that audio recording produces distinctive forms of data and modes of engaging with spaces, places and environments which can function in different (and complementary) ways to more commonly used media such as written text, numbers and images. This is not to claim that there are essential differences between audio and other types of media; however, we do wish to recognize the influence of the particular social, cultural and historical contexts in which the production and consumption of audio media takes place. These contexts mean that audio can tell different kinds of stories to other media, and we suggest that phonography is particularly useful for highlighting hidden or marginal aspects of places and their inhabitants.

Before expanding on these arguments, we wish to make three prefatory remarks. First, we do not believe that the sonic deserves any special priority over other sensory media, nor that phonographic methods are intrinsically superior to other ways of working. We agree with Matless (2005: 746) that 'to mark out the sonic is not to argue that it can be granted autonomy, or that it provides some privileged arena for social and cultural enquiry'. On the contrary, we see this paper as contributing to the growing interest in multi-sensory methods (e.g Adams et al., 2007; Mason and Davies, 2009; Pink, 2009). Nevertheless, we believe that phonographic methods do have a distinctive contribution to make to geographical inquiry, and as such deserve as much attention as any other approach.

Second, we wish to make clear the distinction between sound and phonographic media, to avoid the assumption that sonic geographies must necessarily involve recorded audio. Geographers can (and do) work with sound without needing to record it. For example, listening is a routine part of ethnography and interviews, and oral presentations clearly involve the making of sound. Nevertheless, our concern in this paper is to explore the possibilities afforded by phonography and associated practices for engaging with sound. Our conviction is that phonographic methods can help researchers get to grips with the sounding of what Lorimer (2005: 83) describes as 'our self-evidently more-than-human, more-than-textual, multisensual worlds', in ways that add considerably to what can be achieved using well-established research methods.

Finally, we wish to remain mindful that audio media are historically specific, embroiled in global capitalism, the development of military and information technologies, and associated relations of power. While we want to highlight the potential of phonographic methods for enriching research, it is important to acknowledge that such methods can equally be used for disciplinary surveillance and control (Levack Drever, 1999), from practices of eavesdropping and espionage (Zbikowski, 2002) to audio recording for CCTV (Smeaton and McHugh, 2006) and a whole host of other techniques of sonic warfare (Goodman, 2009). Accordingly, we wish to remain critical, exploring the possibilities afforded by phonography when used carefully and reflexively, while avoiding any naive celebration of audio technologies as somehow innately beneficent or benign.

Our argument proceeds through four sections. We begin by setting out a rationale for phonographic methods, explaining why we think these methods are worth developing, and what they might contribute to geographical research. We then review previous work in

sonic geographies and the methods that have been employed. This is followed by a discussion of how phonographic methods might be conceptualized in relation to geographical inquiry, providing starting points for thinking through some of the epistemological issues raised. Finally, we consider some possible future directions for the development of phonographic methods in geography. Throughout the paper, we draw on examples of phonographic work and relevant analysis from a wide range of disciplines and fields of practice, attempting to connect these with geographical concerns. Such an interdisciplinary approach is essential because, to date, geographers themselves have given very little explicit consideration to phonography, despite often using audio recording in their research.

II A rationale for phonographic methods in geography

The central argument of this paper is that audio media can play a valuable role in geographical research, and that important insights are being lost as a result of the routine erasure of sound in geography. Consequently, we suggest that methods associated with phonography – listening, recording, playback, editing, distribution, broadcast, performance, installation and so on – deserve more attention, development and critical discussion.

Sound recordings, as a form of empirical data, can provide insights into the audible features of people, places, spaces and environments, just as images (still or moving) can convey information about their visible aspects. In many areas of geographical research, audio media hold the potential to complement written text and images, adding supplementary information, an additional sensory dimension, and details about sonic features, such as accents, ambiences and acoustics. In some areas of geographical research, where sound is a particularly important aspect of the topic being studied, we would suggest audio media ought to play a more central role. The relationship would then be reversed, with text and images used in a supporting capacity, to contextualize, explain and analyse phonographic data. For example, it seems almost perverse that geographical studies of music – an area of culture in which sound is of fundamental importance – have largely been conducted through methods focused on the production, analysis and dissemination of written texts. We do not wish to deny that written texts may have a rich sonicity (Morris, 1997), but in most cases that sonicity centres on a particular set of frequencies, timbres and dynamics: those associated with language as it is vocalized by humans. Thus, sounds that lie outside the 'normal' range of human vocalization tend to be marginalized in conventional written accounts.

To take an example from our own work, one of the authors of this paper was recently part of a team carrying out research with residents of a Scottish coastal town. Multi-sensory ethnographic methods were used to explore these residents' relationships to the places in which they lived, and the implications for adaptation to climate change. A focus on sound was chosen as a way to access some of the more-than-representational aspects of their everyday experiences of place: the immaterial, invisible, taken-for-granted atmospheres and emotional resonances of their local area. The researchers produced audio recordings of sounds identified by participants as being important to them. For example, audio recordings of the local harbour were used to document the chug and clank of boats, the cries of nesting kittiwakes, waves crashing against the sea wall, and a band playing an outdoor concert – sonic features which contributed to the distinctive ambience of that particular place. In-depth interviews were also carried out in these places, exploring residents' connections to place in situ. Again, these were recorded in such a way that documented not only interviewer-participant narratives, but also the more-than-representational aspects of their voices – such as accent and timbre – and the

ambiences and acoustics of the places about which they were speaking: trickling water in a community woodland; the hubbub of the high street; background hum and chatter in a local museum.

The level of primary empirical detail, spectrum of frequencies, and dynamic range gathered through this form of audio documentation went well beyond what would have been possible using conventional field notes or transcriptions. Of course, this is not to say that textual accounts of sonic phenomena have no value. Descriptive, poetic and creative forms of writing about sound can provide insightful and evocative interpretations (see, for example, Lorimer and Wylie, 2010), and more prosaically written words can furnish contextual details about recording locations, sound sources, microphone positioning and so on. Audio recordings also miss out on the visual aspects of environments; in the research described above, photographs were also taken in the places identified by respondents, and these highlighted other aspects of the sites being studied. Different media can be complementary, and we want audio to be used as well as – rather than instead of – other types of data. As Thrift (2011: 22) argues, geographers need to experiment with different ways of writing the world, involving '[n]either words nor images but both of these and more besides'.

Indeed, as is evident from the etymology of the word, phonography is a form of writing – the inscription of sound (Gitelman, 1999) – just as photography is the inscription of light. Thus, written words, still and moving images (whether drawn or photographed) and audio recordings can all be understood as texts in the more general sense of the term. However, these different kinds of texts differ significantly in the ways that they are written and read, the mix of senses they activate, the cultural conventions governing their production and consumption, and consequently the kinds of functions to which they lend themselves. So what qualities distinguish audio recordings from these other media, and why are these qualities important for geographical research?

Following Sterne (2003), we wish to avoid sweeping, transhistorical claims about the nature of sound and audio media. However, we believe it is possible to make some provisional, historically specific suggestions about the functionality of audio media within the context of contemporary English-language human geography. Crucially, this is a context in which audio media have been, and continue to be, marginalized in comparison with written words and images. Traditionally, practices of listening and sound recording have, of course, played a vital role in qualitative data collection in human geography, through the eliciting and recording of oral accounts for subsequent transcription. Such methods are often framed as modes of 'listening', enabling the 'voices' of respondents to be 'heard'. Yet this process is rarely analysed in terms of aurality (Kanngieser, 2012). In practice, 'voice' usually ends up being reduced to verbally articulated meaning. The process of transcribing written words from phonographic data is generally seen as unproblematic, and has been subject to little scrutiny or critical reflection. This taken-for-granted privileging of verbalized meaning over sonic features of research encounters is particularly problematic for geographers, since it tends to silence geographical specificities: regional accents; the sexed, aged and gendered aspects of voice; and the acoustics, ambiences and resonances of the spaces in which research encounters take place.

In short, audio is largely erased in human geography. It tends to disappear, rarely finding its way into research outputs. It is not seen as a reliable witness: too uncertain to provide a source of valid knowledge, except perhaps when subsumed within video, where it is stabilized by the referential qualities of the image. The familiar argument about the ocularcentrism of western rationality seems overly simplistic here. Sound and audio media are routinely used and invoked in geography, and yet through the

practices of geography they are disavowed. This context shapes the functionality available to audio recordings for geographical research at the present moment. Bringing audio back into earshot, so to speak, calls attention to something that is ordinarily ignored. Thus we would argue that audio media lend themselves to empirical work on aspects of geography that are hidden, fleeting, beyond or at the periphery of everyday awareness. In our experience, phonography often highlights overlooked and intangible aspects of environments: turning up the gain, one may become aware of a distant rumble of traffic, the flitting of insects, wind whistling around objects; often one finds sounds whose source is obscure – low-frequency drones, creaks and crackles, strange resonances. This capacity for magnifying liminal features of places speaks to arguments in human geography concerning the non-representational and the more-than-representational. There have been calls for geographers to 'witness that which is otherwise imperceptible, and otherwise irrevocably lost … that which mystifies and surpasses meaning' (Dewsbury, 2003: 1908), but discussions of what might constitute more-than-representational methodologies have been somewhat less well developed (although see Dewsbury, 2009; Dirksmeier and Helbrecht, 2008). We believe that phonography has much to offer here. Transcription reduces sound recordings to communicated meaning, silencing everything that cannot be easily interpreted; sound recordings themselves, if used in a more-than-representational style, can allow much of the affective, precognitive, ephemeral aspects of research encounters to remain audible. Techniques developed by sound artists, such as phonographic walks and installations, provide ways to fold together both representational and performative research practices. We enlarge upon these arguments below in section IV.

Bearing all of this in mind, we wish to sketch out a few possible applications of phonographic methods in human geography.

In geographies of mobility and transport, phonographic methods could draw attention to the acoustic aspects of these topics: how sonic cues from vehicles are used to navigate urban space; designed sounds, such as automated announcement systems, alarms and car stereos; and 'noise' from road, rail and air traffic. For example, anthropologist Rupert Cox and sound artist Angus Carlyle have used audio and video recordings to research the sensory impacts of international air travel. Their ethnographic work has focused on an area of Japanese farmland where Narita international airport was built in the 1970s. Two farming families remain there, refusing to leave despite the intense noise and ongoing pressure from the authorities. Based on this research, Cox and Carlyle produced *Air Pressure*, a multi-channel audiovisual installation that performs a condensed version of the soundscape on one of the farms. The delicate vibrations of plants, insects and traditional cultivation practices are interrupted every few minutes by the roar of aircraft coming in to land. The success of this work derives in large part from the ability of amplified audio recordings to articulate the difference between quiet sounds, at the edge of audibility, and loud, physically palpable sounds, at the limit of human tolerance. Had the researchers taken a more traditional ethnographic approach using written field notes, the peculiar sonic geography of the site could not have been conveyed with such visceral, affective intensity.

Paying closer attention to the sonic aspects of organized spaces could enrich institutional geographies. For example, in *Transplant*, sound artist John Wynne made extensive recordings in a heart and lung transplant hospital, as part of a collaborative art project with a photographer (see http://www.bowarts.org/nunnery/t-r-n-s-p-l-n-t-tim-wainwright-john-wynne). The recorded voices of patients, presented variously through a gallery installation, DVD, BBC Radio programme and weblog (http://www.thetransplantlog.com), articulate a subtle mixture of

resilience, frailty, humour and unease. Wynne also asked for patients' reflections on the sonic environment of the hospital, and from this flowed extensive audio documentation of hospital machinery, alarms and buzzers, the clicking of artificial hearts and the squeak of door hinges and bin lids. Again, all of this powerfully conveys some of the less obvious sensory aspects of everyday life in the hospital.

As a last example, we feel that phonographic methods could contribute much to landscape research – particularly those projects that interrogate the relationships between place-making and landscape. For example, as part of his PhD research, one of the authors of this paper used field recordings as a primary source of empirical data, to understand how landscape architects and designers consciously sought to shape the sonic domain during a series of ecological restoration projects. The recordings documented how various sonic frequencies and timbres were 'designed in' (cascading water, wind through the trees), while others were 'designed out' of landscapes (primarily through the masking of industrial sounds). Phonographic methods were critical to an exploration of these design practices, which were conceptualized as sonic expressions of aesthetic values enmeshed within broader place-making strategies (Prior, 2012).

The argument for the greater use of audio might be less compelling if technologies for the recording, manipulation and representation of sound were not so widely available. Technologies for the creation and circulation of sound recordings are now relatively ubiquitous in post-industrial nations. Portable digital recorders are comparable to digital cameras in terms of size, price and quality, and, with the growth of multimedia platforms, audio recordings can be uploaded to the internet and disseminated freely via websites, podcasts and mobile devices. As these technologies become increasingly embedded into social worlds, it seems likely that the possibilities offered for geographers will continue to grow.

In summary, phonographic methods can make a distinctive contribution to geographical inquiry, and the means to develop these methods are close at hand. A more thorough exploration of the possibilities in this area is therefore overdue. With that in mind, we now turn our attention to outlining how phonographic methods have been used in geographical research up to the present time.

III Phonographic methods in geography and related disciplines

In examining geographically aligned research on sound, we identify two broad methodological strands: sonic ethnographies, which rely on both conventionally written and more-than-textual representations of sonic qualities; and soundscape studies, which encompasses a wider range of methods, including field recording, sound mapping and soundwalks.

As we have already noted, the most utilized methods in sonic geography research are cultural analyses and ethnographies that transcribe sonic qualities into written textual accounts. In so doing, this research necessarily silences much of its own audibility. Such research is also mostly focused on music. It includes: analyses of the relationship between song lyrics and identity-making at different geographical scales (Lehr, 1983; Yarwood and Charlton, 2009); accounts of the role of sound and music in place-based identities (Boland, 2010; Halfacree and Kitchin, 1996); research on how music and sound enact power and politics (Gallagher, 2011; Johnson, 2011; Morley and Somdahl-Sands, 2011; Pinkerton and Dodds, 2009); archival and interview-based research on the role of sound and music in the workplace, the city, the countryside and everyday life (Bull, 2000; Corbin, 1998; DeNora, 2000; Garrioch, 2003; Jones, 2005; Matless, 2005); archival work to reconstruct sonic histories (Coates, 2005; M. Smith, 2004), which is sometimes termed acoustic archaeology (B.R. Smith,

2004); and traditional ethnographic methods to locate the role of music in mediating memory (Anderson, 2004).

As a means to build upon visual ethnographic research methods, some sonic ethnographies have used audio recordings in ways that clearly overlap with ethnomusicology methods, which have a rich history in anthropology (see Feld and Brenneis, 2004). These have primarily involved an adaptation of photograph elicitation methods, wherein audio recordings have been used to capture the embodied 'practice and performance' of music and sound, rather than the resulting 'product' (Anderson et al., 2005). Audio diaries and subsequent interviews with research participants have been employed toward this end, so as to capture non-verbal components of performance (Baker, 2003; Duffy and Waitt, 2011; Morton, 2005; Smith, 2000; Wood et al., 2007). Nonetheless, in most instances audio recordings have been left out of research dissemination outputs, and the tendency to focus on human vocalization as the ultimate carrier of meaning remains.

A second strand of methodology – what we broadly define as 'soundscape studies' – goes some way to destabilize the assumed centrality of the human voice in the production of geographical meaning, and engages more fully with phonographic practices of listening, recording and dissemination. According to R. Murray Schafer's original definition of the term, the soundscape 'is any acoustic field of study. We may speak of a musical composition as a soundscape, or a radio programme as a soundscape or an acoustic environment as a soundscape' (Schafer, 1994: 7). In use, soundscape tends to connote approaches that deal with the totality of sounds occurring in a given environment, as distinct from the convention in music production and sound engineering to separate and control sounds from different sources. The concept has been the subject of various critiques (e.g. Ingold, 2007a; Kelman, 2010), but we continue to find it useful as a shorthand term to encompass a set of sonic methods that investigate the relationships between sound, setting and listener.

Field recording methods involve phonography outside those environments that have been specifically designed for audio recording, such as studios or concert halls. Historically, field recording has been used to record wildlife sounds, such as birdsong (Lorimer, 2007), in situ recordings of folk and 'world' music, and more generally to document the temporal and spatial properties of soundscapes. More recently, researchers using field recordings have started to investigate how sonic qualities can be mapped. While there is a danger that such an approach may be used uncritically to bolster the truth claims of cartographic practices, so too is there opportunity for sound recordings to be used in 'counter mapping' activities (Wood, 2010: 182), and to investigate qualitative spatialities: 'emotions can be mapped and explored with the use of sound in order to expand the meaning of the map beyond its primarily functionalist dimension' (Caquard et al., 2008: 1241). For example, in Peter Cusack's 'Favourite Sounds' project (http://favouritesounds.org), people are asked what is their favourite sound, and where they have heard it. These sounds are subsequently recorded and uploaded onto an online map at the location(s) to which they pertain. Other notable repositories of mapped phonographic data include the British Library's 'UK Sound Map' (http://sounds.bl.uk/Sound-Maps/UK-Soundmap), a year-long experiment in public participatory sound mapmaking, and the London Sound Survey (http://soundsurvey.org.uk), which consists of sound maps of London neighbourhoods covering an array of human and non-human themes and temporalities (for example, waterways, political speeches, wildlife, and night-time sounds).

The third method that we wish to mention, that of soundwalking, has notably piqued the interest of human geographers (Butler, 2006, 2007; Butler and Miller, 2005; Pinder, 2001).

Again, the term was first described by Schafer (1994: 213) to denote 'an exploration of a soundscape of a given area', and more recently by Westerkamp (2001: unpaginated) as 'any excursion whose main purpose is listening to the environment'. Soundwalks can take the form of live listening exercises known as 'listening walks' (Schafer, 1994: 212), wherein a person or a group of people walk quietly along a predefined route while listening intently to the acoustic environment as it is encountered. The term is also used to mean technologically mediated walks with a phonographic component: participants are either equipped with microphones and recording devices to record sounds encountered, or more commonly they use personal stereos, radios or MP3 players to play back prerecorded audio through headphones while walking. As Myers (2011) points out, rather than merely inserting audio recordings into landscapes, phonographic soundwalks juxtapose pre-recorded audio with the sounds of the environment being walked through, as the latter inevitably spill around the headphones and into the ears. The walking movement of the audience orchestrates these two elements; participants are thus enrolled as active co-creators.

Soundwalks have been used to different ends across various disciplines. Psychologists and architects have used them to make qualitative analyses of urban soundscapes to inform urban design practice (Berglund and Nilsson, 2006; Sémidor, 2006; Venot and Sémidor, 2006). In geography, Butler (2006, 2007) has created prerecorded oral history soundwalks for two routes along the River Thames, London (see http://www.memoryscape.org.uk). Similarly, Jennifer Rich has created an oral history soundwalk of Blackburn Meadows Power Station in Sheffield using audio recordings transmitted over short-range FM radio (see http://www.sheffieldelectricity.com). The potential of such phonographic soundwalks to preserve, present and modulate site-specific memories has obvious appeal for geographers interested in creative engagements with place (Butler and Miller, 2005; Pinder, 2001). Such methods also hold potential for geographical inquiry beyond a focus on history and memory. For example, one of the authors of this paper has been experimenting with phonographic soundwalks as a means of détournement (Debord, 1994), such as a soundwalk within the National Gallery of Scotland, offering playful or subversive reinterpretations of various artworks (see http://12gatestothecity.com/projects/audio-tours-soundwalks/scottish-national-gallery).

In summary, phonographic methods in human geographical research are to date still quite limited in scope, and in many cases remain reliant on the adaptation of more conventional text-based approaches. There are some signs that phonographic methods are becoming a cross-disciplinary concern, particularly through soundscape studies, and a few geographers have been involved in developing this area of research. However, if phonography is to play a more overt role in the production and dissemination of geographical knowledge, greater clarity about its epistemological and ethical implications will be needed. In the following section, we hope to stimulate some debate around these issues. The undeveloped nature of this area to date means that our account will inevitably be partial and speculative. Rather than attempting to provide a comprehensive theorization of phonographic geographies, our aim is to open up some starting points for further development.

IV Conceptualizing phonographic methods

In this section, we outline three ways in which audio recordings can be understood in relation to inquiry: as capture and reproduction; as representation; and as performance. We suggest that these might best be thought of as conceptual *filters*, borrowing that term from audio engineering and hence avoiding the more common image-orientated metaphors such as

'perspectives', 'framings' or 'theoretical lenses'. There is a temptation to think of our three filters as a sequence progressing from a simplistic understanding (reproduction) towards a more reflexive, more insightful conception of phonography (as performance), in line with the evolution of thinking in human geography and the social sciences more widely, with the current fashion for deconstructing representation via a focus on performativity. However, we suggest that all three conceptions are helpful for different purposes. Each helps to amplify certain aspects of phonography while attenuating others.

The first filter understands audio recording as the *capture* of sounds and playback as the *reproduction* of those sounds. This paradigm is dominant in audio engineering, where the aim of fidelity is commonly invoked: recordings ought to recreate the recorded sounds as faithfully and accurately as possible. Writing about the use of audio documentation for ethnography, Makagon and Neumann (2009) argue that:

> [t]o listen to the world as captured through a microphone and subsequently heard through headphones or stereo speakers is to grasp a sensory experience of a present. That is, recorded sounds – regardless of their temporality – preserve a sense of presence and immediacy that places the listener in a scene. (Makagon and Neumann, 2009: 12)

This suggests a listener who is able, through audio reproduction, to listen to sounds of 'the world' as though those sounds were immediately present. For research purposes, the discourse of capture and reproduction suggests that phonography is about reconstructing a given sonic environment with precision, and making that environment available for others to listen to; an exercise in virtual reality. Understood in this way, audio media might be thought to transmit objective knowledge, with bias minimized by using technologies that are as transparent and neutral as possible, ultimately creating an immersive audio field that sounds just like the real thing.

All of this is susceptible to critique from various directions. The notion of fidelity has been debunked by scholars who point out that audio recording inevitably deconstructs and reconstructs sound in particular ways, altering it in the service of certain aesthetic, social, cultural and economic purposes (Altman, 1992a, 1992b; Chion and Gorbman, 1994; Lastra, 1992; Sterne, 2003, 2006a, 2006b). Practices of microphone choice and placement, for example, will always be informed by the norms and values of the context in which recording takes place. The idea of capture also seems misleading. When phonographers go out into the field to 'capture' sounds, they do not bring the sounds back with them. When the process is over, the sounds will have dissipated into the world, leaving behind only a trace on the recording medium used.

While recognizing these problems, it also seems important to acknowledge the continuing purchase of capture, reproduction and fidelity. Many practising phonographers that we have met, ourselves included, tend to aspire towards producing 'realistic' recordings, and often value high-quality equipment. Older, 'noisier' systems may sometimes be preferred for their aesthetic qualities, but this is the exception rather than the rule. Such tendencies make more sense if we rethink audio reproduction as not so much the art of recreating a present, but the art of creating an *illusion* of presence (Altman, 1992b: 29). When field recordings are auditioned, the listeners are not usually fooled into believing that the time and space of the recording is actually present to them (Lastra, 1992). If nothing else, the unavoidable intrusion of audio technologies (headphones, speakers and so on) tends to undermine this impression. Instead, field recordings invite the listener to suspend disbelief – to *imagine* that they are in the place where the recording was made. The attraction of increasing fidelity in audio reproduction is that

it can help to increase the effectiveness with which this illusion of presence can be created.

The second conceptual filter is that of audio recordings acting as representations. Levack Drever (2002) argues that the acousmatic (or musique concrète) approach to phonography attempts to remove recorded sounds from their sources, whereas a soundscape-orientated approach to recording always attempts to render the sound source recognizable. As LaBelle (2006: 209) puts it, 'one strips context and the other emphasizes it'. Levack Drever's conclusion is that phonography, when used within the soundscape tradition, is best understood as a variant of ethnography. Sound recordings can be understood as ethnographic thick descriptions (Geertz, 1975), since the data produced are always already interpretative, even if they attempt to disavow this through conventions of realism and transparency. Processes of recording and playback can be seen as an interpretation of action, since sound is a form of movement-in-the-world, and the technologies and techniques used to record and re-enact it are informed by various conventions about which frequencies are meaningful and which are noise, what should be included and rejected (Altman, 1992a: 40).

If phonography is a form of ethnography, then, as Levack Drever (1999, 2002) argues, it ought to be subject to the ethnographic tradition of critical reflection on ethics, positionality, power and the politics of knowledge. Thinking of phonography as a form of geographical representation also raises the question of whether and how its representational functionality differs from that of other media, and if so what the consequences might be. There are some areas in which the issues may be similar: there is no reason why critical reflection should not follow similar lines whether the question is where a participant observer wrote her field notes, how a photographer framed a shot, or where a sound recordist placed microphones. However, in our experience one point of distinction that might be especially pertinent to geographers concerns spatiality. This issue could be discussed, for example, in relation to techniques such as multi-channel and surround sound, which may be experienced as representing space in a more immersive way than other representational techniques such as photography. However, for the purposes of this paper, we want to attend to the potential of audio media for producing intimate representations.

In recent work on the geographies of intimacy (Valentine, 2008; Valentine and Hughes, 2012), intimacy is defined as knowing, caring for and loving others, a form of relationship found in families, friendships and sexual relationships. But intimacy can also connote physical closeness in space, a geography of bodily proximity. One convention common to participant observation, documentary photography and ethnographic video is that the point of recording tends to be somewhat distant from the subject. In sound recording, however, it is quite common to place transducers very close to vibrating bodies: a vocal microphone might be placed 15 cm (6 in) from a person's mouth, lavalier microphones might be clipped to a person's chest, and contact microphones can be attached directly to objects. In such cases, microphones are placed much closer to the sound source than people would ordinarily place their ears. As Myers (2011) suggests, such methods can produce representations that create a strong and sometimes profound sense of closeness and intimacy, particularly when auditioned via headphones. This can have the effect of contracting or collapsing the space between subject and object. Of course, the converse is entirely possible – distant or 'ambient' sound recordings are often made, and intimate images of bodies can be produced using x-rays, endoscopes and microscopes – but the important point here is that it is *conventional* to use close proximity in audio production, particularly when recording voices, and conventional to use greater distance when producing images

or written words. Consequently, the practices, techniques and technologies of phonography lend themselves to the production of intimate representations.

Returning to an example cited earlier, in Wynne and Wainright's *Transplant* project, the photographic portraits taken of patients are undoubtedly intimate, depicting as they do people who are severely ill and normally screened from view by the walls of an institution. Nevertheless, there remains a kind of safe distance – from the eyes to the image, and from the lens to the person – that is absent from Wynne's recordings of patients' voices. For example, one recording is of the sound of a woman coughing, recorded in very high quality at very close range. Auditioned on headphones via the project website, the deep rattling clatter of mucus seems to bring life-threatening illness right into the listener's ear. This is a disturbing representation, troubling in its intimacy; too close for comfort. The cough is a sound that is normally shut away in a ward, but even if we were present in the room we would be unlikely to place our ears in such close proximity to the woman's mouth as Wynne placed his microphone. Where audio recording is used to create such intimate representations, contracting space, zooming in on a body, we would argue that the importance of ethical considerations is amplified. Wynne's work is instructive in this regard: it manages to represent disease with unflinching honesty, without airbrushing out the grim details, and yet the patients are always portrayed with dignity and sensitivity. Levack Drever notes that there is an imperialistic impulse in phonography, just as there is in the use of more traditional geographical media such as maps. He calls for 'sound artists to recognize a responsibility and sensitivity to the material they are dealing with' (Levack Drever, 1999: 28). In practice, this might involve careful choices in editing about what to include and what to leave out, avoiding voyeurism and refusing to reduce recordings to emotive sound bites.

Our third conceptual filter is that of performance, with sound recording understood as involving an ensemble of human and more-than-human actors: beings and objects vibrating in the world, air, microphones, cables, recording devices and media, gain controls, level meters, headphones, ears, eyes and hands. The orchestration of these elements involves practices of listening, microphone placement, adjusting recording levels and so on. Rather than 'capturing' sound, such performances inscribe detailed traces (Ingold, 2007b) in the recording medium. These traces can then be used as the score for further performances upon playback. Again, an ensemble cast is required. In the case of digital audio, the playback ensemble might include hard disks or memory cards, computers, digital-to-analogue converters, amplifiers, speakers, air and ears.

This conceptual filter connects with geographical thinking around the non-representational (Lorimer, 2005, 2008; Thrift, 2008), and the growing sense that performance and the arts may offer ways to engage with the intangible, imperceptible, ephemeral and affective dimensions of life (Dewsbury, 2003; Thrift, 2000, 2011). It is important to note that, as our arguments above make clear, there is nothing essentially more-than-representational about phonography. As Dewsbury argues, the issue is not which technologies are most helpful for exceeding the representational, but rather which styles of presentation will lend themselves to this function (Dewsbury, 2003: 1917). Phonography offers much in this regard, not because of any inherent qualities of the technologies involved, but rather because there are numerous well-established styles of phonographic practice which foreground the more-than-representational. These include various musical practices, such as musique concrète and acousmatic music, and forms of sound art that amplify the performativity of phonography, such as site-specific, location-based or immersive sound works. In recorded soundwalks and installations, for example, the embodied

movement of the audience tends to reveal the contingency and spontaneity of the interaction between listener, playback apparatus and environment (Myers, 2011). These methods ought to be of particular interest to geographers, owing to their potential to invite dynamic engagements with environments and landscapes.

As we noted earlier, recorded soundwalks have been used in some geographical research to embed research data within the places to which they pertain. The increased availability of mobile devices with GPS capabilities affords possibilities to extend such work through locative media. This provides another way for participants and audiences to perform research in situ, using geographical location to trigger audio playback. Location-based installations have also caught the interest of geographers (e.g. DeSilvey, 2010). To take one example, artist Louise K. Wilson has produced a number of site-specific sound works dealing with secret or hidden spaces. For 'A Record of Fear' (Wilson, 2006), Wilson engaged with the sounds of Orford Ness, a shingle spit off the coast of southern England. This site was used for military testing throughout the 20th century, particularly during the Cold War, and now contains derelict atomic weapons research labs and radar facilities. Wilson's phonographic activities included recordings made underwater with hydrophones, recordings of ultrasonic signals emitted by bats, and recordings of a centrifuge, once used to test atomic bomb casings on the Ness and now housed at Aldermaston on the mainland. These recordings were then played back in the various spaces of the ness, in some cases using multichannel sound systems, thereby re-animating and re-interpreting the landscape. Such practices suggest radically different ways of 'doing' geography: intervening in places, producing immersive experiences through which audiences can move; exposing hidden features of places or subverting accepted meanings; inviting ways of knowing places that are spontaneously performed rather than fixed in representation.

V Future directions

In this final section, we explore some potential future directions for sonic geographies. Rather than outlining new methods of audio data production, we will consider the wider issue of how phonographic methods can be better supported and integrated within geographical inquiry. We suggest that this will entail some renegotiation of existing research conventions, particularly in relation to disseminating and evaluating phonographic data.

At the most basic level, there are various practical and technical issues that need to be addressed if phonography is to become part of the methodological repertoire available to geographers. Geography departments need to invest in good-quality audio equipment, and to make sure computing support for audio software is available. There is also currently a lack of practical and technical training in this area for geographers – and for social scientists more generally. Rather than organizing conventional seminars and conference sessions, we would encourage geographers with an interest in phonography to set up practical workshops. Through what has become the Experimental Research Network, we have run various training events covering both recording and listening techniques in research. The model that we have used, and which has proven successful, has involved inviting practitioners from the sonic arts to share their skills with researchers through hands-on exercises: leading field recording trips, organizing soundwalks, building DIY equipment, or demonstrating particular techniques. At a less specialist level, basic phonographic skills could be taught as part of routine research methods training courses.

Barriers to the dissemination of phonographic data also need to be addressed. Geography and other social sciences have been relatively slow to embrace the possibilities afforded by the proliferation of multimedia in recent decades. Notable exceptions do exist

with both video (Evans and Jones, 2008; Garrett, 2010; Garrett et al., 2011) and hyperlinked audio (Attoh, 2011; Kanngieser, 2012). Indeed, the technological capability for hyperlinked multimedia in e-journals is well established, but is at present under-utilized. Journal editors could play a key role here by actively encouraging submissions that use audio recording in some capacity, providing support for reviewers where necessary, or choosing reviewers with the relevant knowledge, which is likely to involve looking beyond the discipline to scholars in sound studies or music. These considerations seem particularly pertinent for research about sound, music and sonic geographies. We would argue that any journal contemplating a special issue on such topics ought to ensure that phonographic contributions are solicited and supported.

While an expansion of the use of embedded or linked sound files within text-based publications is a necessary requirement for the propagation of phonographic geographies, we believe that it is not sufficient. When presented in this form, audio remains ancillary to textual information. We recognize that explanatory notes are often required to contextualize, discuss or analyse sonic material, although this may not be the case in all instances (see Butz, 2011). However, there is a danger that a data hierarchy (audio media forever trapped *within* written words) risks reinforcing phonography as inherently secondary to written language. In considering how geographers might make more fulsome, creative and performative disseminations of phonographic data, the emergence of experimental geography offers a potential source of inspiration (Thompson et al., 2008):

> Experimental geography means practices that take on the production of space in a self-reflexive way, practices that recognize that cultural production and the production of space cannot be separated from each another, and that cultural and intellectual production is a spatial practice. Moreover, experimental geography means not only seeing the production of space as an ontological condition, but actively experimenting with the production of space as an integral part of one's own practice. (Paglen, 2009: unpaginated)

Experimental geography is thus explicit in re-envisioning the geographer not merely as a (critical) bystander, but as an active and creative producer of space. Crucially for our current discussion, this shift toward experimental production has necessarily led to the dissemination of research outcomes through art gallery exhibitions, installations, land art, film, sound, and performance pieces, in addition to text-based approaches. Through further experiments in research practices wherein geographers are artists, artists are geographers (Romey, 1987), and geographers and artists work together (e.g. DeSilvey, 2010; Dwyer and Davies, 2010; Foster and Lorimer, 2007; Tolia-Kelly, 2012), new forms of dissemination will surely emerge. We do not wish to predict what these might be. We also wish to avoid painting phonographic methods into a corner through labelling them as fundamentally artistic practices – to reiterate, we see phonographic methods (and by extension the diffusion of their outcomes) as potentially relevant to all types of geographical research. Nevertheless, experimental geographies have much to offer, both for the further development of phonographic methods and, importantly, for thinking about how audio media can produce knowledge in conjunction with other experimental forms of practice.

All of this raises difficult questions about how such non-traditional research outputs are to be evaluated. At several recent events about new forms of empirical practice that we have attended, one recurring concern is the lack of criteria for how to assess the results of experimental methods, such as performances and audiovisual works. How do 'we' know whether these things are 'any good'? Are we to judge

based on personal emotional responses, technique, execution, aesthetics or something else? Though there is little agreement on criteria for judging 'traditional' qualitative research (Hammersley, 2009; Smith and Deemer, 2000), the topic is at least debated, and there is enough consensus to enable, for example, peer reviewers to produce informed, coherent critiques. We suspect that developing some (tentative, provisional) evaluative criteria might help to embed phonographic methods more fully in geography and other social sciences. Our earlier discussion of three possible ways of conceptualizing phonographic methods offers some suggestions as to what such criteria could be.

When research uses audio in a way that seeks to reproduce sonic qualities of place, the effectiveness of the illusion of presence created may be a useful criterion. Where audio recordings are deployed to represent particular sonic phenomena, then the considerations developed in relation to ethnography would seem useful. For example, we could question whether recordings facilitate reflexivity about the research process or not; whether the positionality of the recordist is explicit; and whether recorded subjects are presented respectfully, with dignity, and with due care surrounding their privacy. Finally, when audio recordings are conceived of as a performance, the affective qualities of the listening experience, the extent to which the phonography reveals and draws attention to its own performativity and undermines the illusion of reproduction, and the degree to which the performance engages with site and space would seem to be important factors. Of course, these criteria are not mutually exclusive, and in many cases it will make sense to combine them, depending on the objectives of a particular project.

VI Conclusion

In this paper, we have given an overview of ways of 'doing' geography that take greater account of the sonic than has traditionally been the case, through the use of sound recording and related practices of listening, editing and playback. Our interest in these phonographic methods does not hinge on their apparent novelty, nor on their ability to counteract the dominance of the visual. Neither should this paper be taken as an attack on 'conventional' text-dominated approaches to sonic geographies. It is, rather, borne of a sense that geography would benefit considerably from a fuller embrace of the more-than-textual sonic world, through phonographic research.

As we have suggested, there is scope here for a diversity of approaches: individuals learning skills such as field recording; research groups organizing soundwalks; geographers collaborating with sound artists; researchers using digital audio archives; and research being disseminated through embedding audio media into journal articles and presentations. Some of this is already happening, as we have shown, but our hope is to see (or rather hear) much more. Research institutions could provide training in phonographic methods, funders could recognize the potential of multimedia for enriching research, conferences could provide space for phonographic installations and performances, and journals could encourage papers using audio media. These are developments of which we hope to be a part in the coming years.

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Note

1. Phonography means, literally, 'sound-writing' – the inscription of sounds. The term 'phonographic methods' is used in this paper to denote the recording of

sounds using audio technologies, and the associated practices of listening, editing, playback, performance, distribution and broadcast (via radio, CDs, websites, weblogs, podcasts, audio maps, audio walks, mobile devices, installations and so on).

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