

**Trevor Pinch and Karin Bijsterveld. *The Oxford Sound Studies Handbook*. New York: Oxford University Press. 2012. 593 pages.**

In recent years there has been a concerted effort to establish sound as an object of interdisciplinary concern. Trevor Pinch and Karin Bijstervelds' (2012) 'Oxford Sound Studies Handbook' finds good company among other contemporary, and similarly weighty, edited collections on the study of sound (Bull and Back, 2003; Bull, 2013; Sterne, 2012) but is distinctive for its attempt to stake a place for STS within this expanding field. The handbook demonstrates some of the ways in which STS can be 'applied' in another interdisciplinary field of research and also offers some interesting provocations about how sound studies can expand and open new horizons for the social study of science and technology. At the heart of the new directions for STS research offered in the handbook is a renewed focus on the study of the senses, specifically the role of listening in processes of knowledge production and the social-technical mediation of auditory perception.

Pinch and Bijstervelds' handbook is incredibly diverse in scope, bringing together fields as broad as musicology, the history of the senses, film studies, the anthropology of medicine, engineering studies and media arts to name a few. The chapters of the book take readers on a journey through some of the variety in contemporary sound studies, showcasing very different kinds of socio-technical relations that are produced through sonic phenomena. Some of the handbook's stand out chapters include an aural history of industrialisation centred on US female

factory workers (Smith), an immersive anthropology of underwater music composition (Helmreich), a technical history of early scientific field recordings in ornithology (Bruyninckx), a cultural meeting between Kafka and Florence Nightingale in hospital sound design (Schwartz), and a discussion of sonification and media theory based on simulations of the 19<sup>th</sup> century phonograph writer (Sterne and Akiyama). More a celebration at the carnival of sound than a sober stock-taking exercise, Pinch and Bijstervelds' handbook is bold for the sheer range of disciplinary and theoretical interests, methodological approaches and analytical lenses it offers on the study of sound. The handbook demonstrates both the interdisciplinary promise of sound studies to traverse social worlds and bring together varied socio-technical concerns, while also making an important statement of intent for new directions in STS research.

In the handbook's introduction Pinch and Bijsterveld outline what they consider to be STS's original contribution to sound studies. In a fast-moving and somewhat panoptic account of the field, the authors propose that science, technology and medicine provide the "keys to unlock the worlds of sound". The distinctive contribution of STS to the field, the authors claim, lies in accounting for the material mediations of sound. Sound is not simply experienced sensorially, Pinch and Bijsterveld argue, but is also materially mediated by machines and, as such, appears increasingly "thinglike".

Demonstrating their case, the authors' open their introduction with a discussion of the Sound Ear: an ear-shaped device used in Swedish classrooms designed to maintain discipline by visualising noise levels. Attempting to expand the dominant orientation in sound studies on the sensory experience of sound, Pinch and Bijsterveld's discussion of the Sound Ear demonstrates the argument they pursue throughout this introduction that the 'sensing' of sound is mediated and technical. If we are serious about sensing sound, they suggest, we need to be attentive to the things that mediate our sonic perceptions and the sonic "skills" required by different fields of practice. The authors draw attention to what they describe as the increasingly technical character of sound capture, storage and reproduction. Innovations in science, technology and medicine, Pinch and Bijsterveld argue, both create new kinds of sound and dramatically transform the ways in which societies relate to sound. The contemporary study of sound, then, has to confront the machines, devices and technical infrastructures through which sound is mediated and for this reason, they suggest, STS is well placed to bring its resources to bear on the field of sound studies.

In Pinch and Bijstervelds' account, sound studies does not simply provide a new arena into which STS can expand. Rather, they suggest, sound studies also offers the prospect of developing new forms of attentiveness to the ways in which the relations between science, technology and culture are negotiated and produced. Pinch and Bijsterveld propose that sound offers STS researchers the opportunity to examine some of their "visual" biases; empirical science studies, they suggest, has often focused on the visual practices of science at the expense of auditory and other sensory practices. Where empirical science studies

have attempted to move beyond idealised notions of science, Pinch and Bijsterveld suggest that accounts of scientific practice that focus on modes of "representation", data visualisation, and in "inscription devices" have often unwittingly reproduced a visual-centric bias that is particular to Western culture. Through an engagement with sound studies, they argue, STS stands to gain an attentiveness to the multiple sensory modes of technical practice. A further theme of STS research that might be developed through sound studies, Pinch and Bijsterveld suggest, is its theories of materiality. By following the ways in which sound is "transduced" from one medium to another, STS has the potential to develop its accounts of the materiality of mediation. Being attentive to the often "unintentional" sounds of the technological developments in advanced industrial societies (Bijsterveld, 2008), STS can find new ways to approach the study of inventive practice and technological innovation. In the handbook, then, Pinch and Bijsterveld make the case for something of a mutual exchange between sound studies and STS in which the engagement of these two fields enhances and expands the outlooks of both.

In its stated ambitions to unsettle some of the concepts most often applied in the social study of science and technology, Pinch and Bijstervelds' handbook gestures beyond the conventions of a publication format which would typically introduce rather than invent. That said, STS readers are likely to find the authors' introductory claims, for instance that notions of "transduction" might fruitfully expand an STS repertoire, more as signposts for further exploration than decisive interventions. Nonetheless, such provocations make apparent that there is potentially a very large can of STS worms that Pinch and Bijsterveld's approach to the study of sound might open. Specifically, the authors'

decision to foreground sensory perception as the locus of engagement between sound studies and STS inevitably raises some of the latter's longstanding concerns, not least because the senses occupy a somewhat 'foundational' position in epistemological discourse. For the most part, the handbook largely sidesteps traditional philosophical treatments of the senses, and perhaps with good cause since dragging in such weighty baggage would somewhat narrow and dampen the wide-ranging scope of the volume. However, as some of the contributions (particularly Bruyninckx and Sterne and Akiyama's) suggest, such sidestepping also comes with some risks. First, the framing of the turn to sound through the critique of the dominance of the visual in Western culture, though popular in sound studies, can easily slide into a lazy form of sensory essentialism. As Tim Ingold (2000; see also Ihde, 2007; Sterne, 2003) persuasively demonstrates, the novelty of auditory studies has all too often been established by making a straw-man of 'the visual'; the study of sound, Ingold argues, has relied too heavily on contrasting a visual modality that "objectifies" and an auditory modality that "personifies"<sup>1</sup>. Second, and relatedly, foregrounding the senses treads a fine line between positioning sensation as the object of investigation in its distributed and socio-technical forms, and, conversely, slipping back into certain asymmetric human-centred approaches that STS research has long critiqued (Latour, 1993). However, such risks, Pinch and Bijstervelds' approach suggests, are not simply pitfalls to be avoided – the authors' careful discussion of the Sound Ear in Swedish classrooms is in this respect exemplary – but rather opportunities to explore the relations between sensory perception and technical mediation. The study of sound, the authors argue, holds the promise of reframing some of the longstanding problematics that have

occupied the social study of science and technology.

To this end, Pinch and Bijsterveld's handbook demonstrates why an STS engagement with sound studies has the potential to be highly productive. The handbook presents a wealth of frontiers in the study of sound that offer STS new empirical objects of study and from which STS might expand on its existing stock of theories and concepts. Bringing a fresh approach to the study of the senses, Pinch and Bijstervelds' book is both important and provocative for those researching the relations between science, technology and culture.

### Notes

- 1 As Ihde highlights, the turn to the auditory as a counterpoint to the visual is itself part of a long-standing tradition in Western culture rather than being antithetical to it.

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