

Research Statement
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Sounds, Audition, and Perception

Philosophical thinking about perception and consciousness has been shaped to a remarkable extent by attention to vision. The more or less implicit assumption has been that what we learn about perceiving by studying vision generalizes to the other sense modalities. My work is predicated on skepticism about this kind of claim. I do not share optimism that all we say about vision and its objects that is of philosophical interest extends neatly to audition, olfaction, taste, and the other sense modalities. I am convinced that to proceed as if it does is poor philosophical methodology. My work aims to discover what there is to learn about perception by thinking about other sense modalities and the natures of their objects. In short, I take the other senses seriously, theorize about how they are alike and how they differ, and articulate why this matters for an empirically-informed philosophical understanding of perception.

The main component of this work has focused upon audition and sounds. In *Sounds: A Philosophical Theory* (OUP, 2007), and in several articles, I confront the visuocentric focus in perceptual theorizing and suggest that the cases of sounds and audition challenge longstanding views about sensible qualities and about the organization of perceptual experience. In particular, I develop a theory of the nature of sounds, as objects of auditory experience, according to which sounds are neither secondary qualities, as traditional philosophical views since Locke have maintained, nor waves, as commonly accepted scientific accounts hold. Rather, I argue that sounds are events that take place in an environment when vibrating or interacting objects disturb a surrounding medium. Sounds, according to this *event theory*, are distally-located perceptible individuals which instantiate audible qualities and occur or unfold over time. This proposal aims to capture the sense in which sounds are essentially creatures of time.

My work on sounds and audition has led to two discoveries that challenge visuocentric components to our understanding of perception. First, it is commonly maintained that all perception involves awareness of ordinary material things and their attributes. In some sense, perceiving is about becoming aware of "medium-sized dry goods" and their various sensible features. Though intuitive for vision and touch, this claim fails when applied to audition and sounds. A sound is unlike a table or a chair, and sounds are not auditorily bound to ordinary objects as are colors, shapes, and textures. Sounds are audibly independent from ordinary objects and their features. Nonetheless, audition researchers increasingly speak of "auditory objects". In "Object Perception: Vision and Audition," I review the philosophical and empirical case that we perceive objects in vision, and argue that it translates to audition. I propose a notion of auditory objects that is stronger than just that of the intentional objects of audition. According to this account, audition's objects, like vision's objects, are mereologically complex individuals. But such audible individuals, unlike visible individuals, are individuated and identified in virtue of temporal characteristics and in virtue of pitch. Visible individuals, in contrast, are individuated and identified primarily in virtue of spatial characteristics, including boundedness, connectedness, and cohesion. An audible individual, for instance, may be heard to complete amodally behind a masking noise, in a way similar to how visible objects and surfaces appear to complete amodally behind occluders. Though there exists a sense in which at least vision, touch,

and audition are *about* perceptual objects, where such objects are mereologically complex individuals, the objects in question are not all ordinary material objects.

Next, attempting to provide an independently satisfying account of audition has revealed a more insidious form of visuocentrism: that of believing we can exhaustively characterize the sense modalities entirely in isolation from each other. Understanding what is most striking about perception -- its capacity to furnish awareness as of a world of things and happenings independent from experiences -- may require comprehending the relationships and interactions among sense modalities. In "Seeing What You Hear: Cross-Modal Illusions and Perception," I focus on a class of underappreciated perceptual phenomena, cross-modal illusions, in which processes associated with one sense modality impact experience ordinarily associated with another. For instance, flashing a single dot on a screen while playing two beeps leads perceivers to visually experience two dots flashing as a result of cross-modal interactions between audition and vision. Auditory processes restructure visual experience due to this *sound-induced flash illusion*. I argue that such illusions reveal an important flaw in a widespread conception of the senses and their role in perceptual experience according to which understanding perception is a matter of assembling independently viable stories about vision, audition, olfaction, and the rest. Comprehending the cross-modal illusions demonstrates that this leaves out what is perhaps most important to understanding perception's capacity to furnish awareness as of a complex, unified world revealed through the several modalities: the elaborate pattern of interactions, communication, biases, and adjustments that take place among the perceptual modalities. Such phenomena must be accommodated by any future philosophical theory of perception and perceptual experience.

Finally, though sense perception plays an important role in numerous areas of philosophy, synoptic discussion of the nature and role of the senses is rare. In *The Senses*, I provide the theoretical and philosophical framework for this discussion. I explain the importance of the senses to casting and resolving central philosophical problems in metaphysics and epistemology, and develop empirically-informed accounts of the philosophical issues surrounding vision, audition, the chemical senses, and the bodily senses. This book, in addition, investigates a number of exotic sensory phenomena, including synaesthesia, cross-modal illusions, and alien senses, and characterizes how each is relevant to traditional philosophical issues and puzzles concerning the mind. These case studies demonstrate how careful attention to the "other" senses yields fruitful new directions for philosophical inquiry. *The Senses* therefore serves as the basis for a penetrating theoretical understanding of the senses and their role in philosophy.

My work thus can be summarized as providing an empirically literate but squarely philosophical understanding of perception that is driven by thinking about non-visual modalities and the relationships among perceptual modalities.