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acoustemology

Acoustemology conjoins "acoustics" and "epistemology" to theorize sound as a way of knowing. In doing so it inquires into what is knowable, and how it becomes known, through sounding and listening. Acoustemology begins with acoustics to ask how the dynamism of sound's physical energy indexes its social immediacy. It asks how the physicality of sound is so instantly and forcefully present to experience and experiencers, to interpreters and interpretations. Answers to such questions do not necessarily engage acoustics on the formal scientific plane that investigates the physical components of sound's materiality (Kinsler et al. 1999). Rather, acoustemology engages acoustics at the plane of the audible—akoustos—to inquire into sounding as simultaneously social and material, an experiential nexus of sonic sensation.

Acoustemology joins acoustics to epistemology to investigate sounding and listening as a knowing-in-action: a knowing-with and knowing-through the audible. Acoustemology thus does not invoke epistemology in the formal sense of an inquiry into metaphysical or transcendental assumptions surrounding claims to "truth" ("epistemology with a capital E," in the phrasing of Richard Rorty, 1981). Rather it engages the relationality of knowledge production, as what John Dewey called contextual and experiential knowing (Dewey and Bentley 1949).

I coined the term "acoustemology" in 1992 to situate the social study of sound within a key question driving contemporary social theory. Namely, is the world constituted by multiple essences, by primal substances with post facto categorical names like "human," "animal," "plant," "material," or "technology?" Or is it constituted relationally, by the acknowledgment of conjunctions, disjunctions, and entanglements among all copresent and historically accumulated forms? It was the latter answer that compelled a theorization of sounding and listening aligned with relational

ontology; the conceptual term for the position that substantive existence never operates anterior to relationality.

Relational ontology can be traced across a number of discourses linking philosophy, sociology, and anthropology. Phrasings associated with both Ernst Cassirer (1957) and Alfred Schütz (1967) argue that "actors plus locations" are produced by "relations-in-action." Cassirer's formal antisubstantialism argued that being was never independent of relating. Schütz's lifeworld philosophy focused on the character of sharing time and space with consociates, compared to sharing or not sharing time with contemporaries and predecessors. Relationality as "inter-action" and "trans-action" appears in John Dewey's writings with the hyphen for emphasis on both across-ness and between-ness (Dewey 1960). Without the hyphen, these terms became sociological keywords anew in the 1960s and 1970s, always in the service of arguing against the reduction of agency to a set list of entities or essences (Goffman 1967; Emirbayer 1997).

British social anthropology, in its formative period, focused on the study of "relations of relations" (Kuper 1996). This idea echoed into new frontiers with the conjunction of the terms "social" and "ecology," "ecology" and "mind," and "cybernetic" and "epistemology" in the writings of Gregory Bateson (2000 [1972]). The notion that actors plus relationships shape networks both within and across species or materialities is part of how more contemporary theorists—such as Donna Haraway (2003), Marilyn Strathern (2005), and Bruno Latour (2005)—have schematized relationality's critical logic. These themes are likewise present in contemporary writings on interspecies and nature/culture relations by Philippe Descola (2013) and Eduardo Viveiros de Castro (2000), as well as in post-humanist theories refiguring human relational presence and action with all technological, animal, and environmental others (Wolfe 2009).

Acoustemology's logical point of connection to a relational ontology framework is here: existential relationality, a connectedness of being, is built on the between-ness of experience. Acoustemology, as relational ontology, thus takes sound and sounding as "situational" (Haraway 1988) among "related subjects" (Bird-David 1999); it explores the "mutual" (Buber 1923) and "ecological" (Bateson 1972) space of sonic knowing as "polyphonic," "dialogical," and "unfinalizable" (Bakhtin 1981, 1984). Knowing through relations insists that one does not simply "acquire" knowledge but, rather, that one knows through an ongoing cumulative and interactive

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process of participation and reflection. This is so whether knowledge is shaped by direct perception, memory, deduction, transmission, or problem solving. Perhaps this is why relational epistemology is also invoked regularly as a cornerstone of decolonized indigenous methodologies (Chilasa 2012).

Beyond an alignment with relational ontology, the acoustemology coinage was also meant to refine and expand what I had called, for the previous twenty years, the anthropology of sound. This approach had emerged in critical response to perceived limitations of the dominant anthropology of music paradigms of the 1960s and 1970s: Alan Merriam's theorization of "music in culture" (1964) and John Blacking's theorization of "humanly organized sound" (1973). The anthropology of sound idea advocated for an expanded terrain when engaging global musical diversity. That expansion acknowledged the critical importance of language, poetics, and voice; of species beyond the human; of acoustic environments; and of technological mediation and circulation.

While the idea of an anthropology of sound was meant to help decolonize ethnomusicology's disciplinary paradigms, the presence of "anthropology" still made it too human-centric; the prepositional "of" marked too much distance and separation, and the nominal "sound" seemingly made it more about propagation than perception, more about structure than process. It was a case of "the master's tools will never dismantle the master's house" (Lorde 1984). Other intellectual equipment was needed to address the sounding worlds of indigenous and emergent global geographies of difference across the divides of species and materials. For this reason, the relational ontology background shaped acoustemology as a way to inquire into knowing in and through sounding, with particular care to the reflexive feedback of sounding and listening. The kind of knowing that acoustemology tracks in and through sound and sounding is always experiential, contextual, fallible, changeable, contingent, emergent, opportune, subjective, constructed, selective.

Acoustemology writes with but against "acoustic ecology" (Schafer 1977). It is neither a measurement system for acoustic niche dynamics nor a study of sound as an "indicator" of how humans live in environments. R. Murray Schafer's World Soundscape Project associated acoustic ecology with activities like evaluating sound environments for their high or low fidelity according to volume or density, and cataloging place-based sounds and soundmaking objects through physical space and histori-

cal time. Acoustemological approaches, while equally concerned with place-based space-time dynamics, concentrate on relational listening histories—on methods of listening to histories of listening—always with an ear to agency and positionalities. Unlike acoustic ecology, acoustemology is about the experience and agency of listening histories, understood as relational and contingent, situated and reflexive.

Acoustemology likewise writes with but against "soundscape," the key legacy term associated with Schafer and particularly his debt to the theories of Marshall McLuhan (Kelman 2010). Against "soundscapes," acoustemology refuses to sonically analogize or appropriate "landscape," with all its physical distance from agency and perception. Likewise it refuses to replace visualist ocularcentrism with sonocentrism as any sort of determining force of essentialist sensory master plans. Acoustemology joins critiques and alternatives offered by Tim Ingold (2007) and Stefan Helmreich (2010) in recent essays deconstructing "soundscape." Along with their proposals, acoustemology favors inquiry that centralizes situated listening in engagements with place and space-time. Acoustemology prioritizes histories of listening and attunement through the relational practices of listening and sounding and their reflexive productions of feedback.

Acoustemology, then, is grounded in the basic assumption that life is shared with others-in-relation, with numerous sources of action (actant in Bruno Latour's terminology; 2005) that are variously human, nonhuman, living, nonliving, organic, or technological. This relationality is both a routine condition of dwelling and one that produces consciousness of modes of acoustic attending, of ways of listening for and resounding to presence. "Companion species rest on contingent foundations," Donna Haraway tells us (2003: 7). Making otherness into "significant" forms of otherness is key here. Acoustemology figures in stories of sounding as heterogeneous contingent relating; stories of sounding as cohabiting; stories where sound figures the ground of difference—radical or otherwise—and what it means to attend and attune; to live with listening to that.

Acoustemology did not arrive conceptually as a result of pure theory or from direct abstraction. Its emergence was deeply stimulated by my ethnographic studies of the sociality of sound in the Bosavi rainforest region of Papua New Guinea. Indeed, the relational linkage of "significant" to "otherness" was in many ways the key challenge when I went to Papua New Guinea for the first time in 1976 and set in motion the twenty-five years of research that recast an anthropology of sound into acoustemology.

I initially imagined that Bosavi songs were an acoustic adaptation to a rainforest environment. I had no idea that "adaptation" was an inadequate framework for understanding relationality in a forest of plurality. And I had no idea that I would need an equal amount of skill in ornithology and natural history to add to my training in music, sound recording, and linguistics. I had no idea that Bosavi songs would be vocalized mappings of the rainforest, that they were sung from a bird's point of view, and that I would have to understand poetics as flight paths through forest waterways; that is, from a bodily perspective rather different from perceiving with feet on the ground. And I had no idea that Bosavi women's funerary weeping turned into song and that men's ceremonial song turned into weeping: in other words, that apprehending Bosavi soundmaking would require a gendered psychology of emotion in addition to a dialogic approach to vocality.

So there were many surprises, and after more than fifteen years of them I felt that I had exhausted the conceptual repertoire of an anthropology of sound, particularly those approaches deriving from theoretical linguistics, semiotics, communications, and more formal theorizations in symbolic anthropology. This was when I realized the necessity to re-ground and revise all of my recording and writing work through a deeper engagement with the phenomenology of perception, body, place, and voice (Feld 2001, 2012 [1982]).

This realization became especially powerful for me in trying to develop the mental equipment to understand human/avian relationality in Bosavi, with all that implied about transformative interplays of nature/culture, and life/death. To Bosavi ears and eyes, birds are not just "birds" in the sense of totalized avian beings. They are *ane mama*, meaning "gone reflections" or "gone reverberations." Birds are absences turned into presence, and a presence that always makes absence audible and visible. Birds are what humans become by achieving death.

Given this transformative potency, it is not surprising that bird sounds are understood not just as audible communications that tell time, season, environmental conditions, forest height and depth but also as communications from dead to living, as materializations reflecting absence in and through reverberation. Bird sounds are the voice of memory and the resonance of ancestry. Bosavi people transform the acoustic materials of bird soundmaking—their intervals, sound shapes, timbres, and rhythms—into weeping and song. In the process, they create a poetry that imagines

how birds feel and speak as absented presences and present absences. They become like birds by sounding the emotion of absence into newborn presence. Human weeping turns into song, and song turns into crying because sound always becomes and embodies sentiment; sonic materiality is the transformed reverberation of emotional depth. To paraphrase Donna Haraway (riffing on Claude Lévi-Strauss), birds here are more than "good to think"; they are good to live with, as a companion species. For Bosavi people, birds are the other that one becomes, as one becomes another.

What can it mean that Bosavi ears and voices sensuously absorb and reverberate by vocalizing daily with, to, and about birds in the rain-soaked and sun-dried *longue durée* of rainforest cohabitation? This question led me to the idea that listening to the rainforest as a coinhabited world of plural sounding and knowing presences was, most deeply, a listening to histories of listening. And it shaped the dialogic methodology of recording and composing the CDs *Voices of the Rainforest* and *Rainforest Soundwalks* (Feld 2011a, b), which transformed an anthropology of sound into an anthropology in sound (Feld 1996).

After years of privileging symbolic and semiotic representations of modes of knowing (particularly ritual expression), acoustemology pushed me to think more through recording and playback, to conjoin practice with experiment. I returned to the basic questions that had intrigued me from my earliest times in Bosavi. How to hear through the trees? How to hear the relationship of forest height to depth? Where is sound located when you can't see more than three feet ahead? Why does looking up into the forest simply take one's senses into the impenetrable density of the canopy? How to inquire into the sounding-as and sounding-through knowing that shaped the mundane everyday world of rainforest emplacement: the everyday world that in turn shaped the poesis of song maps, and of vocalities linking local singers with the soundings of birds, insects, and water?

Passing by the village longhouse as I headed to the forest to listen and record, I'd invariably encounter groups of children who would join and guide my forest walks. We'd play a simple game. I'd attach a parabolic microphone to my recorder and enclose my ears in isolating headphones. Standing together in the forest, I'd point the parabola in the direction of unseeable forest birds. That would be the signal for the children to jump up, take my forearm, readjust its angle, and anchor it. Sure enough, as

they made their move, a bird was in all-of-a-sudden sharp acoustic focus in my headphones. Then the kids would burst out laughing, meaning it was time for me to come up with something more challenging.

This was a daily lesson in listening as habitus, a forceful demonstration of routinized, emplaced hearing as an embodied mastery of locality. It is only a matter of seconds before a twelve-year-old Bosavi kid can identify a bird by sound, describe its location in the forest density, and tell a good bit more about the location of its food, nests, and partners. How does this knowledge happen? The lesson was bodily, powerful, and gripping. Acoustically cohabiting the rainforest ecosystem, Bosavi life is relationally built through all-species listening as co-living, as intertwined presence. Could this be the acoustemological foundation of how and why Bosavi songs are machines for cohabitation, or, in today's more radical philosophical parlance, interspecies cosmopolitanism (Mendieta 2012)?

In addition to my younger teachers, some exceptional Bosavi adults also guided my introspection into such questions. One was Yubi (Feld 2012: 44–85). For years, every encounter with him made me wonder, why were Bosavi's most prolific composers also its most accomplished ornithologists? Yubi taught me to hear acoustic knowing as coaesthetic recognition. He taught me how each natural historical detail had symbolic value-added. He taught me how knowing the world through sound was inseparable from living in the world sonically and musically.

Ulahi was another guide to how songs sung in a bird's voice linked the living and dead, present and past, human and avian, ground and treetops, village and forest. She explained that songs don't sing the world as experienced by travel on foot but move through watercourses, following the flight paths of forest birds (Feld 1996). Ulahi taught me how water moves through land as voice moves through the body. She taught me how songs are the collective and connective flow of individual lives and community histories. Just one creek and its flow from her local home and to the gardens and land beyond mapped dozens of poeticized names of birds, plants, shrubs, trees, sounds, intersecting waters, and all of the activities that magnetize them to the biographies of lives and spirits in her local social world.

Over twenty-five years, with the help of Yubi, Ulahi, and many other singers, I recorded, transcribed, and translated about one thousand Bosavi bird-voiced forest path songs. They contain almost seven thousand

lexical descriptors, names of places, of flora, fauna, and topography as well as sensuous phonaesthetic evocations of light, wind, motion, and sound qualities. These songs constitute a poetic cartography of the forest, mapping the layered biographies of social relationships within and across communities. The chronotopic historicity of sounding these songs is thus inseparable from the environmental consciousness they have produced. This is why, as knowledge productions—as listenings to histories of listenings—Bosavi songs are an archive of ecological and aesthetic coevolution.

This realization takes me back to Maurice Merleau-Ponty's sensory phenomenology, which posits perception as the relationality of bodies dimensional to a milieu (1968). *Dabuu?* ("Did you hear that?") Could it be that when Bosavi people utter just this one word they are acknowledging audibility and perceptibility as simultaneously materializing past, present, and future social relations? Could they, in that sparse gesture, be theorizing that every sound is equally immediate to human experience and to the perceptual faculties of others, of perceivers who may even be absent, nonhuman, or dead?

For Donna Haraway, companion species tell "a story of co-habitation, co-evolution, and embodied cross-species sociality" (2003: 4–5). In the context of her work with dogs she asks: "how might an ethics and politics committed to the flourishing of significant otherness be learned from taking dog-human relationships seriously?" (3) Bosavi acoustemology likewise asks what's to be learned from taking seriously the sonic relationality of human voices to the sounding otherness of presences and subjectivities like water, birds, and insects. It asks what it means to acoustically participate in a rainforest world understood as plural (Brunois 2008). It asks if what are more typically theorized as subject-object relations are in fact more deeply known, experienced, imagined, enacted, and embodied as subject-subject relations. It asks how Bosavi life is a being-in-the-world-with numerous "wild" or "non-domesticated" others, others who may be sources of food, trouble, or danger, others whose soundings may readily announce caution or nervous copresence, as well as something like Haraway's "cross-species sociality."

This was where and how the conceptual term "acoustemology" was born: in years of listening to how sounding-as- and sounding-through-knowing is an audible archive of long-lived relational attunements and antagonisms that have come to be naturalized as place and voice.