In this text, the author brings together scientific interspecies communication experiments, artistic practice and feminist posthumanities to inquire into the transformative role of sound and listening. Departing from an archive with recordings of human-dolphin language experiments, this research attends to sound as evidence and listening as a situated knowledge practice, with ethico-political implications that trouble Western, visually oriented knowledge systems. By imploding interfaces into situations of shared surfaces, the author directs attention to the logics of the skin to bring forth matters of care and suggest how listening might contribute to more careful and attentive modes of knowing.

LISTENING IN THE ARCHIVES AND THE LAB

In Search of Evidence

Several years back, in a quiet room at the Special Collections and University Archives at Stanford University Libraries, I meticulously dug through box after box of the John C. Lilly Papers [1]. My encounter with this archive would provoke me to explore an understudied feature of Lilly’s scientific research: the transformative role of sound and listening, which in turn troubles Western knowledge systems in fruitful ways. Lilly was a respected North American neurophysiologist and considered a pioneer in his field in the 1940s and 1950s. Since then, he has been subject to praise and ridicule, and has inspired animal rights movements, new age circles, and sci-fi movies and books. Among his research materials, which include over 800 hours of sound recordings of speech training with dolphins conducted between 1961–1968, I was hoping to find recordings by Margaret Howe in 1965, when she lived with a dolphin, Peter, in a water-filled house for 75 days. In this experiment in interspecies communication, called the “wet live-in,” the temporary human-dolphin home functioned as a learning environment in which the cetacean attended English language lessons. My intention was to cut through the rumors surrounding Lilly and to visit through listening.

It was the remarkable size of the cetacean brain that first attracted Lilly’s attention in 1955. But brain mapping of the bottlenose dolphin would eventually lead to the study of interspecies communication and the establishment of the Communication Research Institute (CRI). The turning point came with the unexpected appearance of a “voice,” when a dolphin in the lab suddenly seemed to imitate the researchers and emit humanoid sounds [2]. There was no tongue, no vocal cords, no mouth to form the words, yet the dolphin had spoken through its blowhole. Lilly’s research team had hammered a 30-millimeter-long sleeve-guide into the dolphin’s skull and, through this, inserted an electrode. Was the mimicry a result of the unusual way that the dolphin’s brain was stimulated with electricity or evidence of a nonhuman intelligence?

Manipulations

Here, a bundle of interrelated questions concerning voice, anthropomorphism, intelligence and language emerges [3]. However, I will attend to what happened when an ocular-centric and cartographic mindset, through a shift in technology, confronted a world of sound. At CRI, Lilly replaced the invasive electrodes with sound recording equipment. But attempts to capture the phenomenon as sound data would soon force Lilly into uncharted territories. When the recordings of words uttered by dolphins were played back to other researchers, they did not hear what Lilly’s team had heard. To make the human-like sounds more audible, Lilly’s team started to manipulate the tapes, slowing them down and altering the pitch. Lilly did not seem to consider this dubious; in his report he focuses on extracting the signal from the noise [4]. As Lilly experimented further with sound, neither technology nor perception could be relied on; even the role of language in the act of communication became increasingly elusive. In one experiment with human voices, a sound
loop with the single word “cogitate” was repeated in extended listening sessions, from 15 minutes up to several hours, and the observers reported what they heard. It turned out that this single word could generate thousands of different interpretations, as if the signal started to produce noise: “One at first hears the word cogitate from the signals received. As one continues to listen, one begins to hear other words. . . . With three hundred expert observers, we found that there were 2,730 alternates, 350 of which were in a large dictionary; the rest are words that we do not use” [5]. What occurs in and through listening? How to listen and what to listen for?

What strikes me in Lilly’s efforts to find a way to document the imitative ability of dolphins, without being lured by his own perceptions, is something seemingly trivial yet significant. He discovers that words are sound. But the words-as-sound do not behave like written words, clearly fixed and visible. Encountering the eerie voices of the dolphins, Lilly is forced to treat language as an acoustic phenomenon, which, moreover, appears to play tricks on him. Lilly’s version of a decontextualized and “reduced listening” could be described as the opposite of his contemporary Pierre Schaeffer’s, who coined that term. Schaeffer wanted to liberate sound from the dominance of speech, from the interpretive zeal of semantics, and repetition was one way to achieve that. When I myself listen to the cogitate-loop, I can hear: cogitate, how to take, kartotek, cut the tape, crowd your tape, gravitate, architect, got to take, grab the tape, glad you take, proud to take, cut dictate, edit cut. After approximately 2.5 minutes, a rhythmic pattern occurs where the two last phrases alternate and create a clear stereo effect. Then, a short, ringing tone punctuates and adds to the composition. By this point I have stopped listening for words and begun to notice the rhythmic, evolving patterns. I perceive new patterns as the listening proceeds, thus new impressions are continually formed. Listening emerges as a generative process where the observer becomes part of a dynamic production.

The Wet Live-In

In the learning environment of their common home, Margaret Howe had been assigned the task of practicing a “human mother-child teaching-learning model” [6]. Howe had rebuilt a part of the laboratory and sealed it so that it could be filled with water. On 15 June 1965, the experiment began. The dolphin, Peter, was expected to listen and mimic in order to improve his pronunciation, but the language lessons only lasted for short periods due to Peter’s disobedience and inclination to play. After a while a crucial question emerged: Who was teaching whom? After six weeks, it dawned on Howe that the roles had been reversed. Peter had, through insisting on a ball game where the rules gradually shifted, taught her not to be afraid of his teeth and to interact through play. When she realized this, she allowed Peter to lead the way and their bodies communicated intensely. After ten weeks Howe concluded: “Peter has established mutual trust. Could I have devised such a plan?” [7]. Peter could be said to have set the stage and established contact with a nondolphin intelligence.

A Record of Loss

Through my encounter with Lilly, Howe and the dolphins, I have come to consider listening in and of itself as a kind of wet live-in, and thus a form of cohabitation in a fluid and dynamic environment. A captured sound is a record of loss, as is the archive. While the media might be fixed, listening is still fluid and dynamic. This loss urges me, as artist, listener and researcher, to story and restory entanglements, and I find it humbling to think of every recording as an act of erasure rather than as a document, or evidence. What I see in Lilly’s laboratories is a series of performative installations that afford, restrict, suggest, invite and discipline. A set of relations and positions are put into play, temporary communities are formed and ways of making common are initiated, by humans as well as nonhumans. Rather than the documentation of sonic facts, a material-discursive apparatus emerges that prepares the users (for certain ways of being and perceiving) just as much as they prepare it [8]. While Lilly held Howe in high regard for her ability to handle, observe and communicate with the dolphins, it is as if Howe’s how eluded him. Lilly speaks, influenced by early cybernetics, of human-dolphin communication only in terms of control. Simultaneously, he praises his female coworkers for their “motherly” skills since the dolphins’ ability to learn was facilitated by their “tender loving care” [9]. While Lilly, in his belief in a solitary, autonomous brain could accept nonhuman minds, it completely neglected bodies. That which fell outside of the knowledge system of science was lumped together and referred to in terms of “motherhood.” Similar gender stereotypes can be seen in the way Howe was, and still is, exploited in media [10].

To tease out how situated practices might perform and deliver attentive, more careful and diverse modes of knowing, I find it productive to cross-fertilize critical and creative modes of listening and feminist posthumanities. When Lilly’s cartographic ambition and Aristotelian logos were confronted with a new medium that demanded other sensibilities to come forth, the often-hidden workings and exclusions of the gendered and gendering knowledge practices that have dominated Western thought since the Enlightenment can be glimpsed. His apparatuses coproduce not only matters of fact but bring into light matters of concern as well as matters of care [11,12]. How to give and take meaning? How to make oneself vulnerable and response-able [13,14] to the situation and other beings? How to care, and for what? These, I suggest, are ethical considerations brought forth by a sonic sensibility. What kind of knowing, then, was excluded? Howe could be said to embody a sonorous modality of reason, which is relational, performative, situated, generative, multisensorial and impossible to quantify or reduce to basic components. Yet, Lilly tried to study and structure it according to a reductive and textually oriented logic.

THE LOGICS OF THE SKIN

Listening concerns not only the ear but the entire body. The sonorous involves touch and being touched; sound waves reverberate in space, in and through our bodies. Being-in-sound
Caught in the Tangle

I’m standing at the water’s edge. My intention was to follow the shoreline when I found myself caught by the sounds stemming from the slowly expanding intertidal zone. Listening, I stand, tangled up in kelp and cables from my recording gear, a plaything that amplifies a symphony of rhythms and temporalities. What can this shoreline convey about watery sonospheres? Resistance against linearity, maybe, or against certain measures. A coastline cannot be measured in definite terms. Its fractal dimension makes the line longer the smaller the units used to measure it. This is the coastline paradox, which occurs if you subject the coastline to cartographic generalizations. I do not know for how long I remain listening. Well, I do, the recorder tells me 33 minutes and 28 seconds. But time folds, defying linearity as it swells and thickens, despite the display on the recording device. We might call it the timeline paradox, which occurs if time is subjected to certain horographic generalizations. Industrialized clock time tends to overwrite the multiple pulses of species-specific rhythms—circadian, seasonal, solar, rhythms of growth and decay, darkness and light. Listening, I find, helps me resist the flattening force of an industrial time-regime. Approached as a strategy, listening provides opportunities for unlearning and attuning. The ecologies of this receptive gathering and mingling of world and body deny the agency of neither the nonhuman nor the more-than-human. I am reminded of a line by Peter Sloterdijk: “In the wall-less house of sounds, humans became the animal that comes together by listening. Whatever else they might be, they are sonospheric communards” [22]. We become members of this sonic commune not necessarily through speaking but through listening to the sounds of our environment as well as to the sounds we jointly make. Sound as shelter and dwelling. In sonorous space-time, I become part of a milieu, a resonance circle that engages situational and participatory sensibilities—not necessarily in interaction with other humans or as a subject-object-relation but in participation in, and as part of, the environment.

CONCLUSION: THE ETHICO-POLITICS OF SHARED SURFACES

The abyss is a place “of sensorial estrangement (for humans) where our visual modes of perception are compromised,” writes literature scholar Melody Jue [23]. Similarly, active listening offers modes of attending and knowing that disrupt ocularcentric and reductive forms of knowledge production and allow for situated knowledges to emerge. Jue proposes a milieu-specific philosophy, which takes medium, environment and materiality seriously. A “liquid intelligence” emerges, which I find significant in relation to both listening as a rather fluid experience (a wet live-in) and the mingled bodies of seaman/philosopher Serres. Jue adds that to “develop a more radical milieu-specificity of fluids, we need a vocabulary beyond ‘inscription’ in the sense of marking on objects, and we need to consider a more distributed sense of agency in communication, a kind of ambient, disseminative production of change and movement” [24]. Through a turn to the auditory, I seek to contribute to this aspiration.

LISTENING IN THE FIELD

Playthings

In Denise Herzing’s version of a wet live-in, it is the human who must adapt the most. Herzing and her team have since 1985 worked with the same pod of Atlantic spotted dolphins, spanning three generations, in their own natural habitat in the Bahamas. She stresses the importance of “strictly adhering to etiquette and respectful relationship at all times,” as she acknowledges that dolphins have cultural and social codes that must be learned and respected by humans [20]. The interaction is voluntary, and, rather than command-oriented experiments, Herzing has set up a system for two-way communication in an attempt to cocrate an artificial language with the dolphins. Through auditioning, a device called CHAT scales vibratory signals into human hearing range and enables a human to respond with prerecorded sounds while interacting underwater through the use of other playthings such as scarf, rope and seaweed [21]. In this milieu, it is neither possible nor pertinent to unravel who teaches (influences, or controls) whom.
I visited Lilly’s laboratories to gain distance from my own artistic work with sound and the cultural, technological, political and historical developments of which it is a product. In the process, the depths of the oceans, and water more generally, became an environment to think with, to gain a sense of what sound makes and unmakes. The dolphin became a figuration that implode[es] divisions between subject-object, nature-culture, human-animal and also seeing-hearing. Donna Haraway refers to a figuration as an interface that “require[s] one to be confused” about such divides [25]. What happens after confusion? I suggest that even the interface implodes into a situation of shared surfaces.

Listening, with the skin as global sense, allows me to attend to situations of shared surfaces, which are both generative and transformative. The ethico-politics of listening that I have arrived at here asks us to listen additively rather than reductively while staying with the matter at hand. In water, as in listening, I become acutely aware of the body-as-shared-surface. I have invoked the confluence and confusion of both Serres and Fiumara to offer articulations of how the sensible is distributed differently through the auditory than the visual, which, in turn, forms another kind of logic in the active sense of legein. Attentiveness to how things gather and are gathered shifts focus from interfaces and fixed devices to fluid situations of shared surfaces. This, I propose, is the dynamic logics of the skin. Listening is simultaneously an intention, an action and a mode of engagement. Listening thus asks interesting questions about participation beyond the merely human realm of social interaction and how to attend to these ever-shifting situations of multiple shared surfaces with response-ability and care.

References and Notes
1 Collection number M0786.
3 On these issues see Janna Holmstedt, Are You Ready for a Wet Live-In? Explorations into Listening (Umeå; Lund: Umeå University; Lund University, 2017).
5 See Ref. 4.
10 As late as 2014, Howe was sexualized in tabloid writing about the documentary film The Girl Who Talked to Dolphins by Christopher Riley; see Holmstedt [3] p. 107.
12 Maria Puig de la Bellacasa, Matters of Care: Speculative Ethics in More than Human Worlds (Minneapolis: University of Minnesota Press, 2017).
14 Donna Haraway, When Species Meet (Minneapolis: University of Minnesota Press, 2008).
19 Fiumara [17] pp. 7 and 40.
22 Peter Sloterdijk, Spheres Volume 1: Microsphereology (Cambridge, MA: Semiotext(e), 2011) p. 520.
24 Jue [23] p. 100.

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