

## Toward an Acoustemology of Sound Art: Dice Roll

“The rainforest is like a world of coordinated sound clocks, an intersection of millions of simultaneous cycles all refusing to ever start or stop at the same point...”There are no discrete sounds to be heard. Everything is mixed into an interlocking soundscape”

*-Steven Feld “Lift-Up Over Sounding*



*scene from the installation dice roll (2014)*

In some ways, Feld’s notion of an acoustemology was borne out of the Kaluli’s need to survive in an area that is dominated by sound. Given that to navigate or make use of the forest, one must understand/locate/interpret the sounds emanating from them, the “lift-up-over sounding” aesthetic seem to be mediated by an overarching necessity to survive. It is an understanding of sound that is grounded in the visceral physicality of their environment. As such the “lift-up over

sounding” term describes both the ascription of sound into the visual (the temporal to the spatial) and vice versa (It should be noted that this sort of acoustemology isn’t exclusive to non-western communities. For example, Murray Schaefer in “The Soundscape” tells of a small fishing village in southern France, Lesconil, who, as the winds shift throughout the course of a day, use the sounds from the water—boat horns, buoy sounds, seagulls—as a way to distinguish the times of day (Schaeffer 1977). Steven Feld has also shown how villages in Greece and throughout Europe use the sound of periodic church Bells to convey meaning)(Feld 2004). Implicit in the Kaluli acoustemology is the notion that sound is perpetually present, accepted as an audible backdrop occurring for all time, sourced from the surrounding forests. Similarly, this acoustemology emphasizes the additive nature of sound; composite timbre as comprised of individual sound objects or sounding elements—“the tuning of [their] world” as R. Murray Shafer would come to call it (Schafer 1977). This multiplicity of sound elements, and their additive sonic composition, is at the core of my own installation, *Dice Roll*.

*Dice Roll* is a sound installation I created that reveals a kinetic network of hundreds of simultaneously rolling dice. Each die is housed in a machine that sustains them in perpetual motion. Different motors control the rate at which they roll; sometimes they are softly rolled—dropped, idly released— while at their other sound extreme, they are louder and held in perpetual motion. The dice are perched atop different formations of wood, each containing different resonances so that as the dice strike the wood, different pitches and timbres are generated. An audience is free to explore the space that surrounds the machines as the motors churn out different speeds and strengths that result in various sounding dice textures.

Each machine (see picture) that houses the dice and the motors contain a unique phase that is determined in part by the speed of the motor and the offsets of the foam flaps that strike the dice's lines. An interesting perceptual effect of this orientation is that each machine finds a relative phase: it discovers new rhythmic patterns that are sustained for some time until they merge and dissipate into other rhythmic patterns (the foam flaps move over time thus shifting each set of dice's phase). In terms of both sound and symbol, the dice themselves are at once random and fixed, and their connotations as objects of probability, chance, and gambling allude to their cultural significations.

Feld describes the two components of the Kaluli "lift-up over sounding" aesthetic:

1) One is part-relations that are simultaneously in synchrony while out of phase. "In synchrony" means that the overall feeling is of togetherness, of consistently cohesive part coordination in sonic motion and participatory experience. Yet the parts are also "out of phase" that is at distinctly different and shifting points of the same cycle of phrase structure at any moment with each of the parts continually changing (even competing) in degree of displacement from a hypothetical unison.

2) "A second component concerns timbre, the building blocks of sound quality, and texture, the composite, realized experiential feel of the sound mass in motion. Timbre and texture are not mere ornaments; a stylistic core of "lift-up-over sounding" is found in nuances of textural densification — of attacks and final sounds; decays and fades, changes in intensity, depth and presence; voice coloration and grain; interaction of patterned and random sounds; playful accelerations, lengthenings, shortenings, and the fission and fusion of sound shapes and phrases (Feld 1997).

It would not be an overstatement to declare that the resultant sound and visual movement of the

dice are uniquely described by Feld's breakdown of the "lift-up-over sounding" aesthetic. Component 1 appropriately describes the out-of-phase—in-phase (synchronous phase) duality of the sounding dice rather well by linking the distinct sounds produced by the individual elements to the composite sound they invoke in tandem with one another. This is at the heart of what Feld describes when he relates the Kaluli notion of soundmaking as, "a constant textural densification constructed from a "lift-up-over sounding" that is simultaneously in synchrony yet out of phase."(Feld 1997). Even as individual sound elements 'lift up' over the environment's canopy of sound, their acoustic territory is still demarcated against a backdrop of continuous sounding textures. (It is interesting to note that even with the simultaneous soundings of hundreds of dice, you can still visually focus on one die and perceive its sound as it strikes the wood surface. Certainly from a phenomenological standpoint, the relationship between sound and visual cues is complex).

Feld's description above is concerned with the individual sounding elements—in my installation, this would be the way in which the individual dice are controlled and acoustically sounded. The dice are set in motion by a set routine (a programmatic loop coded into a digital circuit) that activate three motors at different speeds and strengths (the speed of the motors determines the relative strength of the dice roll). The soundscape that arises when the motors are at a slow speed is softer, delicate, quiet enough to make conversation. Conversely at the other extreme, as the motors activate the dice at top speed, the dice's sounds coalesce into a thick, overwhelming blanket of noise that is oppressive, visceral, perhaps even political in its disquieting prowess. With a range of 'textural densifications' on audio-visual display, the threshold between discrete sound (hearing individual dice roll, bounce and patternize) and composite texture (the rolling

dice merge to create the impression of a single, cacophonous texture) can be perceptually explored. In a way, it is a controllable “lift-up over sounding” instrument that plays with the walls of sound as they emerge from the topographical orientation of the resonant wood.

In presenting this work to an audience, I was thrilled to see how the machine—partially by design, partially by chance—was literally able to “lift-up” over the sounds of conversation that were initiated during quieter sections. The effective (and affective) presence of a medium-strength/volume dice roll was enough to make conversation nearly impossible. It was interesting to see the audience, as sound objects, “lift up” over the machine and in turn, for the machine to “lift up” over the audience almost taking the form of an unconscious conversation between man and machine as mediated through sound.

Dice Roll can be looked at as a microcosm for the “lift-up over sounding” aesthetic that the Kaluli incorporate into their epistemology (Feld 2009). However, the acoustemology of Dice Roll is such that it takes shape within a preexisting western ontology of art practice. It is still housed in a ‘gallery space’, still presented as an object (despite that that object is meant to be experienced and engaged with). The Kaluli were able to use their understanding of their sounding world in a way that overlapped with other aspects of their daily life—their costumes, language, and music for example. However, to what extent can museum situated art promote the broader implications of acoustemological embrace? Does sound art have the potential to promote the ideas of reflexivity, engagement and participation that are fundamental to a self-sustaining ecology. Sound, if presented in this way (and even in the context of a museum setting) can decenter its pre-existing ontology as some medium containing information, as a transmitted,

encodable message (whether that be in terms of physical sound—pressure waves moving through a space or in terms of any cultural signification—such as language or a “traditional melody”) and can be recast into a broader cosmology that emphasizes an acoustic ecology.

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