## FLOG - Hierarchy of Sound

## By Matthew Young

There's an interesting analog to the nested hierarchy of physical form. This nested hierarchy involves the conceptualization of physical scale by breaking down (in this case) a watershed into discretely modular units, each of which can then be further- deconstructed. This applies to many physical systems and is used often to describe the physical nature of existence in survey chemistry courses. What if nested hierarchy is applied to sound? More specifically, what if it is applied to the sounds of an evening spent on the Tuolumne River? For this to work, there must be an all-encompassing whole, a recognizable entirety of sound so to speak, from which each component can be dissected and discussed. What is this system's whole?

Poetry put to rhythm and meter, vibrations of mucus membrane and strings, all provided a backdrop to the intricacies of a dozen conversations; music; overheard snippets of conversation. The juxtaposition of spoken word and song combined to form a cacophony every bit as representative of humanity's presence as the dissonance of a hundred frogs is of theirs. This anthropogenic resonance mingled with the sporadic gurgle of nearby riffles, the roar of plunging water, the wind–driven movement of leaves in the forest's canopy, the insistent chirping of countless insects and amphibians.

Okay, so this presents some semblance of an entirety. As I lay on the sand, I wrestled with the idea of how to extract particular units. Rather than focusing on a physical scale, I resolved to approach it more temporally. The frequency in pauses in the sound dictated which would be most easily noticed and internalized.

Words which made no sense whatsoever when taken out of context, some of which were relevantly scientific, but most not. Behind the words of conversation there lay music. The underlying rhythm to the evening, music drove thought and social interaction. Lulls in the conversation were filled with chords and softly sung harmonies. Initially, breaks in music seemed to signal a coming silence, the implacable silence of an imminent storm on the darkest night.

Upon closer reflection, behind the mandolin, natural loomed. Frog vocalizations signaled their own desire for social interaction or territorial display, depending on the listener. The chirping of crickets and cicadas suggested an entire universe just beyond the realm of my perception. Just as there were lulls in conversation, and just as there were breaks in music, so there were pauses in this biological symphony. The resultant yawning silence was rare and hard to capture, but even then it wasn't true silence.

Leaves shook, many for fear of falling. Water flowed, itself constantly falling. The trees spent the night fighting entropy, while the river itself was entropy incarnate. Although a pause in the wind brought the leaves to silent attention, the river never slackened. The consistency of trillions of water molecules flowing down a mountain caused an uninterrupted backdrop. There was no break.

The river possesses a permanence not captured by ephemeral biological productions. This noise, or collection of noises to be more precise, has been present for millennia. The entire span of recorded human history has been of shorter duration then the roar of a river flowing through the Sierra Nevadan foothills.