

Meanings of Sound

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To determine what music means, we must first expand the standard palette of analyzed objects beyond the confines of 'music' (such as musical works or motifs), 'social referent' (music's function in a society), and 'culture' (music as cultural agent), to include both the microelements of sound itself and the aggregates of sounds heard during one's lifetime. Effectively dealing with this broader scope requires a different view of the very idea of meaning, shifting it from a singularity to its plural, meanings. Cognitive scientists, linguists, and systematic musicologists have provided many tools for conducting such research, the results of which could participate in a wide variety of interdisciplinary studies, ranging from physics (string theory, holography, complexity) to philosophy (ancient through current).

When I lived in a *Nekeni*-speaking village in Papua New Guinea, I discovered that the *Nekeni* word for 'god,' *kaapu*, was cognate with words for 'god' in many surrounding languages, even those from an entirely different language family. Looking outside the bounds of New Guinea, I found that people from around the world, speaking many languages and practicing many religions, frequently chose sounds similar to those making up the word *kaapu* to represent god. Specifically, those sounds are a syllable consisting of consonant-vowel-consonant. The word-initial consonant is k (or its substitutes g, or t), followed by vowel a or ā, and often ending with a front or dental consonant such as p, b, or d (Reigle 2001: 287).

Why did so many people, living separately from each other, choose a similar sound to represent their most important religious belief? This observation contradicted my Linguistics 101 teacher, who taught categorically that humans choose the sounds of language arbitrarily (an inherited assumption debugged in Hinton, Nichols, and Ohala, eds. 1995; Magnus 1999; etc.). Is it possible that humans extract meaning from syllables beyond that of semantics? What about the components of the syllables; does each phoneme refer to a pool of meanings in the listener? Can we expand the definition of a phoneme to include its parts as they change over the duration of the sound?

The answer to these questions, I believe, is yes. For example, in one of Ira Gershwin's songs the protagonists are on the verge of ending their love affair because they pronounce words differently. Please hear Ella Fitzgerald and Louis Armstrong performing *Let's Call the Whole Thing Off*.

Linguists have done a lot of work identifying sounds that have widespread semantic associations. For example, some have argued that words for 'mother' with word-initial m appear in many languages, perhaps because the lip movement to pro-

nounce m is similar to the action of suckling the breast. Recently, Åsa Abelin investigated the Swedish language and identified 1,000 lexemes, or fundamental words, as being sound symbolic (Abelin 1999). Lexemes are large sound objects, but a full spectrum, extending down to the micro-worlds of sound, is needed in order to begin to understand the formation of meaning. Nonetheless, such linguistic work can serve as a good model for musical analysis. Some scholars, particularly in the field of popular music studies and film music, have worked with the idea of musemes, or the smallest meaningful unit of music (Tagg 2005: 1-4). Their work, however, has typically focused on fairly large objects, such as a three-note motif.

Before moving on to musical meaning, however, it is necessary to discuss the meaning of meaning. I define meaning very simply as association. The following schema illustrates four basic associative processes:

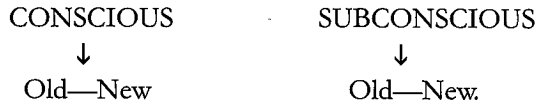


Figure 1: Associative Processes.

By ‘old’, I mean referring to past thoughts, feelings, emotions; ‘new’ means new associations being created for the first time. The raw material of these associative processes includes a number of items in a constantly changing web of interaction

A meaning is the sum total of all conscious and subconscious associations exist-

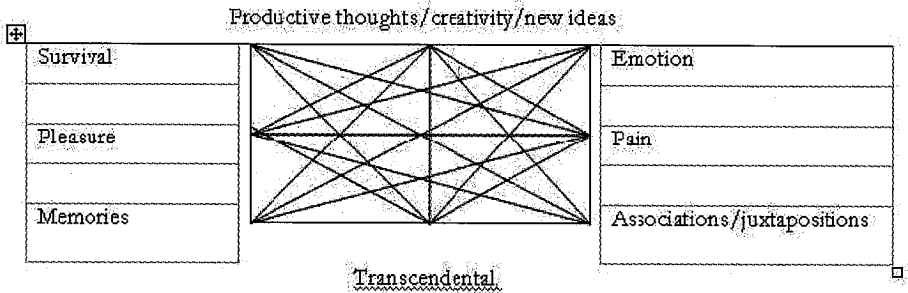


Figure 2: Web of Interaction

ting in a person at a given moment in time. Because different thoughts, feelings, and perceptions—all with their own sets of associations—arise and fall in our bodies at a very rapid pace, it is difficult to identify which particular configuration has significance.

Discussions of meaning in much of the ethnomusicology, anthropology, and musicology literature, typically get off on the wrong foot by construing meaning as a singularity. In other words, scholars often view meaning as a single event or object rather than a fluid activity. I suggest using the term ‘meanings’ for common parlance and reserving the singular ‘meaning,’ to signify a meaning created by a

person at a given moment in time; this usage implicitly acknowledges the ephemeral nature of a single meaning. Another problem stemming from unquestioned assumptions is what George Lakoff and Mark Johnson (2003: 195-209) call ‘the myth of objectivism’—the idea that meaning is objective and independent of a human being.

Musicological discussions of musical meaning, including those involving musemes, tend to focus on fairly large sound objects, such as motives, phrases, melodies, or complete works. Ethnomusicologists, on the other hand, have in the late twentieth century tended to shift away from sound as their object of study, focusing more on sound’s relationship to culture. Scholars from both disciplines might be able to gain a deeper understanding of meanings by considering the associations amongst the micro-components of sound made by listeners throughout the course of their lives.

For analyzing the meanings of a musical sound, the sounds heard during one’s lifetime may be categorized as follows:

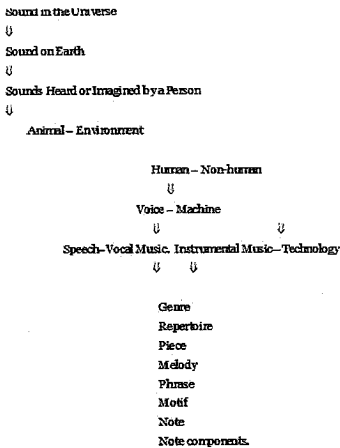


Figure 3: Sounds Heard During One’s Lifetime.

by strategizing it, we could identify shortcuts and determine which areas have the greatest potential for influencing meanings. To begin with, a continuum between macro sound events and micro sound events can help organize the many levels of associations under consideration. On the macro side are all of the time-based associations such as those concerning repetition, music listening, flow of thoughts, concentration, and formal structures. On the micro side are the sounds of short duration, single entities, and components of a note. Ideally, we should include subsonic and ultrasonic sounds, as we sense some of these as vibrations and others may affect the audible spectrum of a sound. Some of the most promising sounds

The note components include timbre, pitch, duration, amplitude, and temporal characteristics (such as envelope, vibrato, and macro- and micro-changes in the other components). These are also the components of sound in general, and the interaction between sounds heard in nature and specifically musical sounds constitutes one of the most fertile areas for the creation of musical meanings.

How would one compile a catalog of the sounds heard during a lifetime, and then decide which among them have relevance for the construction of a meaning?

Scientifically, this is an enormous task, yet

to begin cataloging include common musical gestures such as 4/4 meter, accents on beats two and four, tempos in the 60-120 beats per minute range, dominant-tonic cadences, sequential and simultaneous pitch intervals, and harmonic spectra of vowels, consonants, noises, and tones.

The fetus begins to hear sounds before it is born. Memories of those sounds, obviously, have a different quality from those of subsequent sounds. Throughout our lives, we dream, imagine, recall, and replay sounds in varying degrees of completeness. To begin with, a study could be limited to sounds propagated through the air. Let us choose a sound commonly found all around the world, the typical rock beat. If a person hears a rock beat with accents on two and four for approximately ten minutes each day, at a tempo averaging 120, by age 20 she or he would have heard that pattern 2.190.000 times. This is an extraordinarily large number, with profound implications for the meanings of sounds. Each of those hearings entails potential associations with all of the perceptions, thoughts, feelings, and experiences at that moment. The associations, in turn, are shaped by the interactions of acoustic characteristics such as amplitude, timbre, and density, with all of the other physical and mental processes occurring during that sound event.

The potential holographic nature of this rock-beat meaning is illustrated by considering three additional levels of association. In the pitch domain, the pattern is usually low-high-low-high, created by the snare accents on two and four. In the area of time, if we take beats one and two as sufficient for identifying the pattern, then the number of iterations doubles to 4.380.000. By moving in the opposite direction, taking a four-bar phrase as the salient unit, the number of hearings by age twenty drops to 547.500. In any case, the complete set of associations extends from the longest sound events, such as the entire sound heard during one's lifetime, down to the shortest meaningful component of a sound. The construction of a meaning, then, entails a process of ordering and selection involving a rapid sequence of hierarchizations that may come to a meaningful conclusion, or be interrupted during the process.

Now I would like to present an illustration of the ascent metaphor as used by Giacinto Scelsi and Taiwanese Bunun singers. Scelsi intended his fourth string quartet to provide the listener with an actual spiritual ascent. The catalog of associations generated in the listener might include associations with the specific pitches, timbres, attacks, and vibratos used in the piece, but most strikingly, with a line that ascends over the course of ten minutes.

Bunun aboriginal men of Taiwan sing a remarkable song that gradually ascends over its duration. The song concerns the germination, or ascent of their staple crop, millet. For the Bunun people, the associations would include the events surrounding

performance, as well as ideas of the well-being of the group, because it depends on the successful germination of the millet. The relationship between these two examples raises questions of spatial metaphors and of spiritual transcendence. Cataloging the sounds heard over a lifetime could help answer such questions.

To summarize, in this paper I present a hypothesis that a broader view of the constituents of the meanings of sound itself may lead to a deeper understanding of musical sound. This view should include some understanding of the aggregates of sounds heard during one's lifetime, on both the macro and micro levels. Research done by linguists can help us understand the micro-sound aggregates, and can provide models for parsing sounds and for determining associations between sounds and meanings. Although cataloging all of the sounds heard over a lifetime would be extremely difficult, carefully limited studies can provide the groundwork for more comprehensive analyses in the future.

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Discography

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