The Transformation of Music Education and Performance

inspired by a new definition of music

Abstract

The author presents a new definition of music together with the background justifying the definition. He then offers ways the definition may serve as an impetus to dramatically alter music education and arts education as well as serve as a guide for a pedagogic transformation of all other subjects.

Background

Music definitions of the past typically incorporated the elements of “rhythm, harmony and melody.” This is of course outdated in light of styles ranging from Rap to John Cage’s *4’33”* and the avant-garde movement, an approach that often intentionally strived to minimize or outright do away with those three elements. More recently we have definitions such as that from the Concise Oxford Dictionary that defines music as “the art of combining vocal or instrumental sounds (or both) to produce beauty of form, harmony, and expression of emotion.”[1] The dramatic failure of this and other current definitions is that they incorporate aesthetic aspects and consequently do not constitute fully objective definitions.

Additionally, much modern neurolinguistic research has established a significant linguistic aspect of music (and of other art forms) that can be incorporated into a purely objective definition. Ancient teachers, Aristotle from the West and Confucius in East Asia and others since observed without proof that music had linguistic properties; modern research has affirmed their assertions.

This article is the presentation of a modern state-of-the-art definition of music that is centered around this linguistic aspect and of the impact this new definition has on how music is taught, listened to, performed, and composed. It also briefly touches upon how it may impact the teaching of other art forms and even of other academic subjects.

The Challenge

Past attempts at defining music objectively have failed to be all-inclusive. In every musical genre and culture there are elements that do not quite fall in line with differing definitions that include aesthetic aspects. We know that aesthetically there is “good and bad” classical, rock, heavy metal, avant-garde, nationalistic and other genres, each of which may not fall within the details of a given definition. In a 1937 lecture John Cage equated all sounds with music[2], which for many years successfully watered down any useful semantic meaning of the term “music”. What Cage and his followers failed to

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1 The Concise Oxford Dictionary. Allen, R. E., ed. 1992. Clarendon Press. Oxford: 781.

2 Cage, John. "The Future of Music: Credo." In Silence: Lectures and Writings, 3–6. Middletown, CT: Wesleyan University Press, 1961.

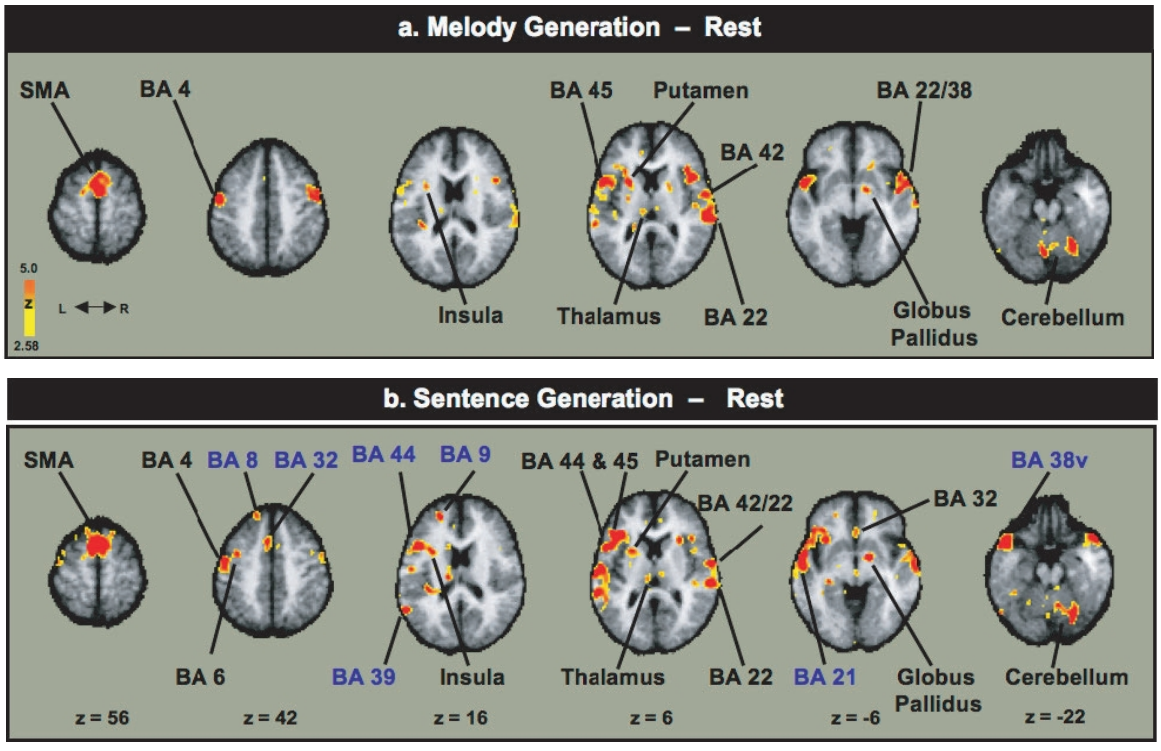
recognize was the distinction between the word's noun and adjective forms: a bird singing is not "music"; rather, it is "musical", having the qualities of music. However, when Respighi incorporated recordings of nightingales singing in his orchestral rendition of the *Pines of Rome*, the recorded singing became music.

What is the defining element distinguishing the two? It is an essential component of the new definition of music: human involvement, direct or indirect. The orchestra is a direct human involvement; the recording is an indirect involvement. This concept moves beyond any aesthetic judgment and is entirely objective; this will also be true for the subsequent components of the new definition.

Modern Music Cognition Research

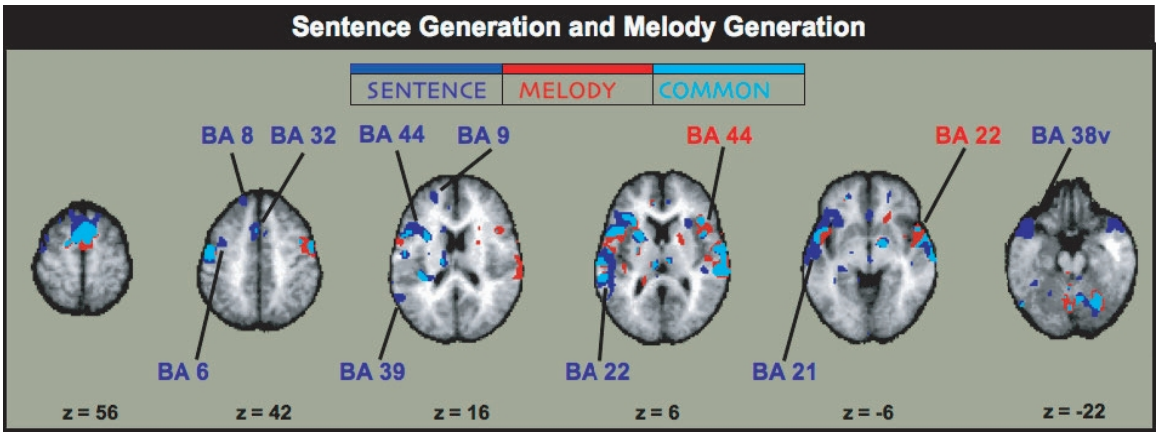
Aristotle in his *Poetics* spoke of music "imitating the soul" and reflecting different emotions; China's scholar Liu Xie (c.465–522) in his *Wén Xīn Diāo Lóng* ("sound produces literature") represented music as a means of language expression—a musicalized language; the idea of *leitmotivs*, musical phrases that help identify specific characters or ideas in music, dates back to Monteverdi, Gluck, Mozart, Weber, Liszt and most notably Wagner – all reflect the suspected linguistic characteristics of music, but lacked emperical evidence of a true linguistic connection.

The earliest direct evidence of music being processed in speech-related centers of the brain came from a 2001 study involving brain scans.[3] A second study vividly showed the relationship between music processing and spoken language processing in the brain:[4]



[3] Maess, B., Koelsch, S., Gunter, T. C., & Friederici, A. D. (2001). Musical syntax is processed in Broca's area: an MEG study. Nature Neuroscience, 4(5), 540–545.

[4] Brown, Martinez and Parsons. Music and language side by side in the brain: a PET study of the generation of melodies and sentences. European Journal of Neuroscience, Vol. 23, pp. 2791–2803, 2006



Activation specific to melody generation (in red), specific to sentence generation (in blue), and common to the two tasks (in cyan). Brodmann labels are colour-coded to highlight activations unique to the sentence generation (blue) or melody generation (red) tasks.

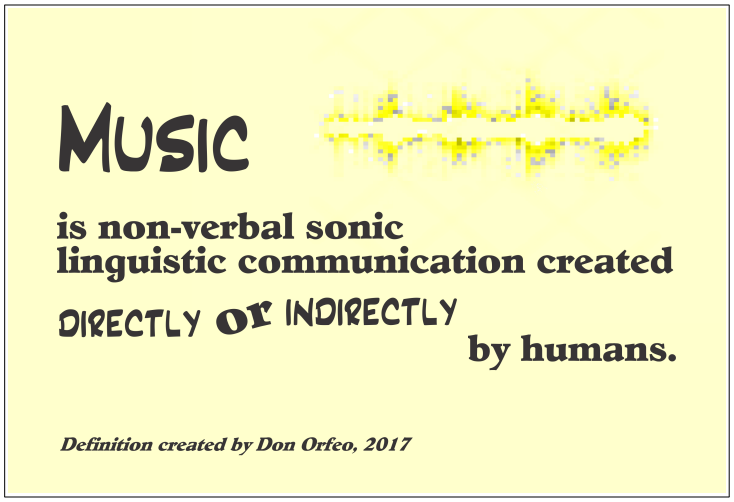
Subsequent research and numerous articles further substantiate the linguistic reality of music. However, it has also been established that musical processing invariably involve distinct regions of the brain that are not involved with speech. Although music cannot connote ("dog", "cat", "tree"), it can powerfully emote ("feelings the dog experiences when chasing a cat up a tree").

All this concludes as the next objective components of the definition of music: linguistic but non-verbal.

The Definition

When the objective components are combined – consisting of sound, linguistic but non-verbal characteristics of communication, and involving human activity – the following definition is derived:

Music is sonic non-verbal linguistic communication created directly or indirectly by humans.



It is again worth noting that there is a complete absence of aesthetic judgment built into this definition.

A number of existing modern definitions fail the objective test, and their weaknesses are indirectly addressed by this new definition. Thomas Clifton defined music as "...an ordered arrangement of sounds and silences whose meaning is presentative rather than denotative."[5] Musicologist Jean-Jacques Nattiez said "The border between music and noise is always culturally defined—which implies that, even within a single society, this border does not always pass through the same place; in short, there is rarely a consensus ... By all accounts there is no single and intercultural universal

[5] Clifton, Thomas. 1983. Music as Heard: A Study in Applied Phenomenology. New Haven and London: Yale University Press. ISBN 0-300-02091-0.

concept defining what music might be."[6] Again, we have a definition containing subjective interpretations that are effectively eliminated by the new definition.

The avant-garde composer Iannis Xenakis defines music via a set of steps:[7]

1. It is a sort of comportment necessary for whoever thinks it and makes it.
2. It is an individual pleroma, a realization.
3. It is a fixing in sound of imagined virtualities (cosmological, philosophical, ..., arguments)
4. It is normative, that is, unconsciously it is a model for being or for doing by sympathetic drive.
5. It is catalytic: its mere presence permits internal psychic or mental transformations in the same way as the crystal ball of the hypnotist.
6. It is the gratuitous play of a child.
7. It is a mystical (but atheistic) asceticism. Consequently, expressions of sadness, joy, love and dramatic situations are only very limited particular instances.

He clearly (Steps 5 and 7) acknowledges the aesthetic aspects of his definition that again are eliminated by the new definition. Interestingly, he alludes to the potential to (non-religious) spirituality within mathematical thought, an idea alluded to later in the following section on *The Transformation of Education* (Page 5).

Practical Applications of the New Definition

Languages have four established modes of communication: listening, speaking, reading and writing. The baby listens, and eventually solidifies its language learning by speaking. Many people may understand a language but cannot speak it; others may read but cannot write. Fluid writing and speaking cannot take place until the individual has sufficient mastery of understanding the language.

All this is also true of music: most enjoy listening to musical genres they have become familiar with, which is roughly equivalent to language mastery. Many can "speak" music – they sing, play instruments, clap rhythms. Not everyone who can speak music can read music; even fewer can write down or notate music. It is worth noting that anyone who has mastery of a language has the ability to create poems; that does not necessarily mean theirs would be good or bad poems. Surprisingly, anyone who has mastery of a musical language (genre) can create a music composition; that does not necessarily mean theirs would be good or bad compositions.

When languages are taught, the initial emphasis is on communication: "Hello." "How are you?" "What would you like to eat?" After some basic communication has been learned, the techniques of language that enhance the communication are introduced: grammar, syntax, inflection, etc.

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[6] Nattiez, Jean-Jacques. 1990. Music and Discourse: Toward a Semiology of Music, translated by Carolyn Abbate. Princeton: Princeton University Press. ISBN 0-691-09136-6.

[7] Xenakis, Iannis. 1971. Formalized Music: Thought and Mathematics in Composition. Bloomington and London: Indiana University Press.

Traditional instrumental music education begins with technique: how to hold the instrument, how to sit, how to breathe, how to move. Those are aspects of technique rather than of communication. If this approach was used for teaching a spoken language, the first things to be taught would be elements such as “subject-predicate-object” rather than the initial experience of the power of communication. This approach does not work for spoken languages; similarly, it is not the best approach for music instruction.

The linguistic aspect of music shifts the teaching paradigm. The classic approach to teaching music would be to have the student play C-D-E and then proceed to show them proper technique: how to angle the wrist, curve the fingers, hold the bow, etc. What if instead the student was immediately complemented on their performance of C-D-E and then questions are raised regarding their communication: did what you play say happy, sad, love, hate, fear, or anger? Did the music you played express what you were feeling when you played it? This approach introduces the student to the language, and at some point it can be suggested that you can communicate even more powerfully by angling your wrist this way, curving your fingers this way, holding the bow this way, etc. Thus as in teaching any language, the communication comes first, the technique (grammar) comes next.

The Transformation of Education

This shifted paradigm of music pedagogy can be applied to all arts: what were you expressing by the dance moves you just made? Is this pot happy or sad; does it express what you’re feeling? After the communication aspect is established, it is then time to introduce the techniques that improve the communication.

Note too that this shift impacts all four aspects of the language of music: speaking (the performer is cognizant of what feelings are being communicated), listening (the audience member appreciates the feelings being experienced), reading (interpreting the composer’s feelings being expressed), and writing (the composer creates with communicative intent).

Interestingly, this shift can be applied to other academic subjects as well. We know of the (previously alluded to) connection between music and math; why not teach math, history, science, and other courses first as a communication and second as a set of rules that help refine and improve that communication?

Perhaps the wisdom of the ancients that is being brought up to date by modern research can again become the foundation for a new transformation of education.

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