

**Interview**  
**with**  
**David Cope**

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**PdS: What is your concept of music?**

DC: With the understanding that you've not asked "What is \*good\* music," I feel that music (with due respects to Varése) is "organized sound and silence."

**What is \*good\* music made of?**

A balance of unity and variety.

**What do you want from music?**

Order amidst chaos.

**Does your musical thought accept and strive for beauty?**

No. Beauty means different things to different people; in fact, it means different things to the same person depending on circumstances. If I depended on a sense of

beauty in my work, I would never finish anything.

### **Can algorithms create expressive music?**

I don't know of a single piece of expressive music that wasn't composed, one way or another, by an algorithm.

### **What is *\*expressive\** music?**

According to my dictionary, one of the meanings of "expression" is "a showing of feeling or character." There's nothing said about intent or about a shared response to expression. Therefore, to me, expression is what I receive from music when I *\*feel\** something in response to it. What I feel need not be composer intended nor felt by anyone else. All the other meanings attributed to expression in my dictionary refer to words, which then don't apply directly to music.

**Since what one *\*feels\** in response to music has no obligatory direct correlation between what the composer intended to express nor to what others may have *\*felt\** from whatever was meant to be expressed is there a true musical *\*expression\** ?**

I think we're lost in semantics over the word "expression." I want the word to mean "expressive" as in the musical term "espressivo" where one is to be expressive with

the notes given. It's wonderfully vague. I suppose polemically, the only "true expression" according to my definition would be one that had no direct correlation with the intent (and therefore the only truly "false" expression would be one which accidentally matched the received expression with the intended one). Sorry for the word games, but simply put (with expression aside), I don't believe that music communicates anything or that when I am moved by a piece of music it means anything other than that I am moved by it (possibly in similar ways that I am moved now by the fog as it drifts in from the ocean - it doesn't intend to move me nor do I imagine for a second that others even like the fog - which many don't - no less be moved by it).

### **What is musical inventiveness?**

The ability to interlace melodies, harmonies, timbres, articulations, dynamics, rhythms, forms, and so on in ways which disguise their true origins and thus sound original.

### **What is musical coherence?**

I think my answer to that is the same as an earlier answer: A balance of unity and variety.

**Are you implying that \*good\* music can only be the output of coherent inventiveness?**

Well, I certainly think that contributes to good music. I can't imagine a good piece of music lacking a demonstration of coherent inventiveness.

**Is there a musical difference between coherent inventiveness to inventive coherence?**

Sure, and they're both wonderful!

**How should the modern composer be educated?**

The theory part would be:

(1) skills - singing, hearing, playing;

(2) music - the textbooks for the classes would be just music;

(3) algorithms - students and teacher would study and perform music to extract the algorithms that the composers used to create this music.

The composing part would be:

Use the skills, knowledge of music, and algorithms from the above to initially compose music in the styles and forms of known music and to slowly derive from this process their own style algorithms.

**Will a composer educated in a standard American university get what you've just suggested?**

Mostly, no. In general, American university music programs are too fragmented (i.e., not integrated) with one teacher in charge of sight-singing, another teaching ear-training, another teaching theory, another teaching keyboard. Often these segmented areas run at different paces and it's very hard for students to get any idea how they are related. Also, theory is most often taught as a series of generalized rules prohibiting things which composers actually did. The rules are often expressed as definite rather than approximate rules and students create academic and often useless results. Rarely are students asked or encouraged to relate what they're doing to actual literature, thus it often seems to them that these are math classes rather than music classes. While certainly some skills are learned, because they seem divorced from reality they are quickly forgotten. Rarely do young composers get a chance to model music after music from the past. Rarely is style discussed. The term algorithm is often considered scientific and ignored.

**You conclude your article *On Algorithmic Representations of Musical Style*, (Cope 1992), with the following statement: "Music may or may not be the universal language, but the evidence that it is a language seems substantial." Do you assume that, as modern linguistics proved with the concept of a generative grammar, there are similar biological constraints in our brain for the processing of music, of all**

**music, independently of cultural contours, that is, if tonal, atonal or any other?**

Note that I use the words "may or may not be" and "seems substantial" as cautious suggestions rather than statements of fact. Stating that "modern linguistics proved" on the other hand seems very bold. Given current psychological, genome, and brain revelations, I doubt very much that anyone has "proved" anything much at all regarding the brain. What I believe I assumed in my statement is that we "process" the pitches, loudness, rhythms, inflections, and articulations of music with many of the same "processors" that we do language. The mix of biological and experiential influences on our thinking is so complex and individual that we may never understand it fully. However, I hope that while there are vague inherited reactions to, say, consonance and dissonance, that we are not preprogrammed toward, say, tonal music over atonal music. Unfortunately, even the studies at major universities of child reactions to consonance and dissonance are hopelessly biased (I was particularly privy to a recent such study at Harvard, for example).

**At the core of EMI is the idea of recombancy. Does a composer compose or recompose?**

Music composition consists of a combination of what we hear and what formalisms we bring to bear. If I compose a work freely (i.e., without a prescription for voice-leading, allowable verticalities, etc.) then I will most likely integrate various ideas

that I've previously heard. If I compose a piece strictly using a mathematical formula, then I won't be re-composing music that I've heard but following strict rules. Most music consists of a combination of these two factors. The notion that humans have some kind of mystical connection with their soul or God, and so on, allowing them to produce wholly original ideas (not the result of recombination or formalisms) seems ridiculous to me.

**Has the term recombincancy an implicit genetic metaphor?**

The term recombincancy certainly has biological relevancy. However, I use recombincancy to mean two or more ideas which recombine to create a new idea.

**Do you think of music recombincancy as a biological constraint of the human mind?**

No.

**If I recombine by hand the most recent works of David Cope, who gets the copyrights, you or me?**

This would depend on the size and number of the recombinations. Reversing the order of two halves of one of my works would be plagiarizing. Composing a new work on the first four pitch classes of one of my compositions would not be

plagiarism. There are, of course, an almost infinite number of gradations between these two extremes and somewhere in the middle, things get very gray. These should be decided on a case-by-case basis.

**Part of the success of EMI is dependent on the selection and preparation of works for the database. If I prepare a database of Cope's music for EMI to recombine who's the author? You, EMI, me, or the three of us?**

Same answer as above. If the program's sample size is small, then the credit goes to you, if the sample size is so large that large segments of my work are quoted verbatim, then it's probably a bastardization of my work.

**In the process of recombining music materials does EMI ever plagiarize?**

I'll let the courts decide this. However, in general, the two factors we have been discussing - size and number of borrowed materials - represent the distinction. Note, however, that most composers plagiarize dozens if not hundreds of works in a single piece of music, and most do this subconsciously. This is creativity, or at least a part of creativity. The composer who borrows consciously from a single work is either plagiarizing or creating a set of variations (usually distinguished by the title of the work being composed).

How can we expect EMI to behave when working, for example, from a strict twelve-tone music input, let's say, a database of Webern works? Can the principle of recombancy be articulated with that of strict twelve-tone writing? Does a row survive recombancy?

No. As with fugues, certain formalisms do not work easily with recombancy and require additional code for analysis and composition.

Beyond recognizing the style of EMI compositions, why do you feel many listeners are moved by these works?

Every work of music, unless it has been composed entirely by a formalism, contains within it many pointers to the musical culture which helped to create it. These pointers, whether they be rules, allusions, signatures, earmarks, etc., help us to relate to that work, even as we're hearing it for the first time. These pointers also point to other styles and works which themselves have pointers providing us with a rich and deep history of the cultural evolution of the work being heard. The music of EMI, because of the manner in which this music is composed, also has pointers and belongs to the culture and traditions of the music of music in its database. This helps to explain, I believe, why many EMI works obtain an almost immediate sense of intimacy with those familiar with the inherited musical culture, even those who steadfastly resist feeling such intimacy.