What is Composition?

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I will present below a tool for composers to provoke their thoughts, to teach, apply criticism, and defend themselves against criticism. This description is a « Concept » (as I will define below) of such a tool. Since the description is concerned exclusively with the act of creation, it ignores purposefully the listener's perception and questions of aesthetics; only facts that can be verified in music are considered. No historical limitations are taken into account.

Can the composition of music, in general, be seized by formalizations in words? Composition deals with abstractions, even in the case of electronic music or musique concrete. Not only is abstract thinking always present, but quite often composers are obliged to manipulate abstractions of abstractions ... of abstractions. It should be possible to attempt a formalization, at the lowest level, of work done on abstractions.

Models, Concept, Realization

Three stages can be analyzed in the making of a composition or an improvisation (the latter, at its best, is a real-time composition):

- 1. the Models;
- 2. a Concept; and
- 3. the Realization.

We can find Models in remembering what has been told to us during the years of education, in observing our environment-the immediate one at home or experiences of travelling-everything that is met during research and study if

we keep eyes and ears open for discovery.

It is obvious that observed objects are-in their totality-often too complex to be the starting point of a new work of art. We reduce the observation to a

« usable » image, simplifying the recorded parameters to the scale of our artistic goal. The technical term for this process is data reduction. For example, if one examines an analysis of an instrumental or vocal sound sustained for approximately three seconds, one discovers that tens of thousands of parameter changes occur. To reconstruct (synthesize) the same sound in an acceptable way, one can reduce the analysis data to a few hundred

pertinent parameters (according to a communication by Jean-Claude Risset at the conference on Musique et Ordinateur, Universite Paris-Orsay, 1983). The question is then, which parameters are pertinent and for what purpose? A Concept is the result of an intellectual act that consists in defining abstractly something that may exist in reality. Let us assume that a work of art cannot be realized without a more or less elaborated Concept. Realization is commonly associated with professional skill. We should consider « realization » independently of the narrow standards established by music schools. Thus Realization is the act (accurate, professional, or not) of transforming a Concept into a communicable form. <insert Figure 1 here>

Models are elements or structures that exist in our environment or in our past; not the real objects as they exist(ed), but their image made by composers for their personal use, dimming some details that they consider as being of minor importance, emphasizing other ones. Figure 1 lists some examples of Models.

The Concept is the abstract representation (willfully conceived or unconsciously springing into thought, held in mental memory or developed on paper or other media) of what the Realization is going to be. Its elaboration, from the chosen Models aiming at the Realization, is the core of composing activity. Collegues who do not use computers for making music almost certainly would prefer the more poetic expression « vision » for this stage of composition.

There are three aspects of a Concept:

- A. Concept of a working process:
 - 1. Free improvisation
- 2. Organization according to the chosen means for realizing a sound event
- B. Concept of a musical form (see below)
- C. Both A + B

The Concept of a musical form could be (in reference to the Model):

- A chosen Model
- Negation of a chosen Model
- Emphasis of one chosen Model over another
- Contradiction or distortion of a chosen Model
- Combination of several chosen Models (in relationship to the Realization):
- Time constraints (such as performance date and time)
- Time limits (total duration and sections)
- Choice of instrument (acoustical, electronic, combination of both, others)
- Number and choice of performers (instrumentation)
- Parameters and their hierarchy
- Notation
- Choice of programming language
- Means of synchronization, if synchronization is wanted
- Organization of soundspace, if wanted etc. etc.

The Realization is a transcription (one of several possible) of the Concept to a means of communication. It is the final result of the composing process and takes the form of a performable score, a live performance, a recording to be presented in public, a recording for private audition, or a new not yet experienced music activity.

Chronologically, the Realization is not always the final stage in the evolution towards a music event. In many cases, especially if the Realization is communicated via a score, a performance, including the required rehearsals, adds other problems to the music making. But we can consider the ensemble of such problems as being part of one of the previous

stages. In fact, they might be part of a Model, and necessarily they have to be taken into account in the definition of the Concept and in the Realization.

Appreciation of a Composition

It is obvious that the selection of Models cannot be referred to in judging the quality of the realized composition. It might influence the degree of interest of the listener. Indeed it is hard to imagine how a composition based on an uninteresting Model could captivate an audiance, even if the Concept is clear and the Realization perfect. On the other hand, no matter how tempting the chosen Model, a sloppy elaboration of the Concept or the lack of accuracy in the Realization can only lead to a mediocre result. In many writings about music, even by some reputedly serious critics or historians, one encounters often the terms « inspiration » and «influence», the first implying a positive appreciation, the second a rather negative one.

This terminology refers to the choice of Models, but does not inform the reader about the most important criterion, how the Concept has been elaborated. In other words, it does not say anything about the composition.

Figure 1. Examples of Composition Models

Models in nature:

- Shapes of trees, leaves, flowers
- Crystals
- Nervous systems and neurons
- Coastlines
- Natural laws reveled by physics, chemistry, and biology Topography (maps of urban or natural sites) Solar systems, comets, constellations Acoustical data: (spectra, Fourier or other)
- Acoustical environment
- Models of culture(s):
- Music theory
- Ancient or contemporary treatises
- Habits of music performance
- Philosophical and/or political thoughts
- Structures of society
- Liturgical forms
- Folk singing and dancing
- Games and strategies
- Literature, including poetry, prose, and vocal sounds
- Rhetoric forms
- Numbers, progressions of numbers, or other mathematical proportions
- Logical constructions, algorithms
- Structure and technology of instruments or machines
- Dramatic performances, film, video
- Paintings and graphical work
- Architecture

- Schemes and/or exigencies of Industrial production
- and last but not least: Music
- Nil (absence of Models):

Since tradition and innovation are synergetic in forming culture, it is hard to imagine a work of art that does not refer to an existing model. Yet for the sake of completeness I include this case in the scheme; one never knows what will be discovered in the future.