

1. Recorded Objects and Scores

The commercial success of printed music in the early 16th century helped to define a standard for notation; it was in the composer's best interest to write a kind of music which was easy to read and play (for the buyer) and economical and easy to print (for the publisher). Composer, publisher, and performer together, then, collaborated in standardizing notation, and making sure that new developments in notation did not come about too quickly or numerously. Musicians, too, became increasingly more dependent on the printed score (and less on improvisational skills), and in so doing notation helped define a new class of musician as well.

Scores and Performance:

"Scores and performances must be so related that in every chain where each step is either from score to compliant performance or from performance to covering score or from one copy of a score to another correct copy of it, all performances belong to the same work and all copies of scores define the same class of performances".ⁱ

Until the invention of electric recording devices a person wishing to hear a sequence of musical sounds for the second time depended either on the performer's memory or their ability to "read" music notation. (This implies the composer is able to "write" such a notation accurately.) When several people are involved, either because the piece requires more than the composer for performance, or because the piece is to be played in two different places at the

same time, memorization will be less certain to produce "correct copies." (I am, of course, ignoring "non-scored" music, such as jazz and popular music) What's needed is a set of directions, accurate and precise enough to yield the 'same' piece each time it is followed. We imagine virtually all the great works in the western musical tradition (the tradition of notated music) as having been conceived by their composers more precisely than their notation would, and could, indicate. Despite the care a composer takes in preparing the score, and despite the diligence with which a performer performs it, there are simply too many aspects of a musical composition for which no feasible notation exists. Consequently, we know that no two performances from the same score, whether by the same or different performers, are ever "the same", not just because of the physical limitations of the performer(s), but because of the practical limitations of notation. The best we can say is that music notation yields performances similar enough that they are regarded as "the same piece". At the very least, written music serves as a kind of mnemonic, jogging the musician's memory.

Of course no single performance can ever hope to be more than an imperfect instance of the score. Only from the score can the "perfect" performance be imagined, though it can never be realized. This being implicitly understood, there is an acceptable range of deviation allowed -- desired even -- which we call "interpretation".

Anything which falls outside that range is called, and in many cases actually heard as, a mistake.ⁱⁱ In a certain sense this means that all performances are compared to the score, a physically static -- hence ideal -- representation of the music, to be studied or consulted at will, giving the impression that no detail can escape the trained musical ear and eye. The score stands for something, an ideal performance which must forever lie outside the bounds of any real-time performance.

Scores and Recordings

"... phonograph records ... often have serious and misleading deficiencies. It is possible to doubt that the usual commercial recording of a symphonic work can stand the test of comparison with the printed score ... Almost every recording produces some sounds that do not exist in the score, and fails to produce some of the notes printed therein, besides showing numerous other discrepancies..." (from Walter Piston's Orchestration)

Recordings of notated music are instantiations of the ideal performance, each recording documenting another attempt at perfection, where perfection is often viewed as "what the composer intended".ⁱⁱⁱ The composer's intention is therefore the axis on which the integrity of a performance depends. That the integrity of a performance can be called into question at all is a function of the limitations of our notational system. The discipline of performance practice has sprung up around this very issue.

Were it not for the very imprecision of musical notation, would there ever be room for more than one (which would be the) recording of, say, Beethoven's Seventh? The score's fuzzy nature (opportunities for interpretation) even extends into areas we don't normally think of as notatable. For example, Beethoven tells us he wants two flutes and four horns, but not how many violins or cellos. For that matter, he doesn't say what kind of flutes or horns, though he no doubt preferred the timbre of some manufacturers over others. He doesn't tell us anything about the kind of space the symphony should be played in either, though he must have certainly had some thoughts on the subject. Details such as these are every bit as musical as choosing "notatable" ones, like a particular pitch or attack point. (In one sense, they determine that pitch or attack point.) But these details are impractical -- even hostile -- to what a score is all about. A score can be used to generate many performances, simultaneously or consecutively, all of them different. The score's single, most important function is to make the music reproducible, and nothing can be introduced -- no matter how musical -- which interferes with that function. And yet one can imagine Beethoven hand-picking his instrumentalists and his concert hall, conducting each and every rehearsal, as the final (only) arbiter on how his music should sound, with all ambiguities -- tempo, dynamics, articulation, phrasing -- clarified.

That performance never existed, of course, one reason being that the notational system employed in the score wasn't up to the degree of specification necessary to insure such a performance. The score was good enough, close enough anyway, to give more than a general idea of how the music was supposed to sound; musicians worth their salt, i.e. trained in the western tradition of notation, were supposed to be able to fill in the missing details.

Commercial recordings capitalize on these ambiguities of notation, appealing to our profound awareness that no two performances can ever be identical. Consider this: orchestras these days (both amateur and professional) routinely tape record every performance of their concert season. Most of these will be listened to only by interested members of the orchestra; some will never be heard at all. Ostensibly, these recordings have an educational value (if not an aesthetic one); conductor and performers, on studying repeated playbacks, can hear things which normally would have escaped them during the moment of performance -- balance, phrasing, articulation, etc. But there is also the unique pleasure of knowing that what one has just done is not gone forever, that one's work can be appreciated by others at some later time, like a painting or photograph. The tapes are documents for posterity.

Recordings such as these (the 15,000 existing tape recordings, say, of Beethoven's Seventh), form a set, rules for inclusion being the existence of a unique score.

One assumes that same score behind each recording, a template onto which the recording can be mapped, note for note.^{iv}

Recordings which depart too far from the score become members of a different set; in this way no performance can ever corrupt the template. This is in clear contrast to recordings of music generally considered to be improvisational, that is, characterized by the absence of a physical template. In these cases the existence of the recorded object often stands in for the score, becoming the model by which future performances are measured.

Ironically, this produces a greater uniformity of performance than if the music were scored. Take, for example, the Columbia recording of Terry Riley's In C. The score could be characterized as minimally determinant, at the other end of the spectrum relative to a score of Beethoven. If the Beethoven score represents some still unattainable ideal, In C is postulated only on meeting a certain few conditions. A number of features will inhere from performance to performance (and it is by these features that we will recognize and identify other performances of the piece), but the score is intended to encourage a wide band of diversity; the composition's essentially protean nature would seem to resist being pinned down, examined, and, least of all, memorized. Ironically then, the documenting of this first performance

(with Riley playing and directing) unwittingly presented itself as 'definitive', providing the means by which future performances will be compared and, consequently, judged, including those by Riley.

Electronic Music Scores

In the case of electronic music, which is fully realized only when it is recorded, then one might properly ask what the necessity is for any other recording beyond the first, official one. Once the recording has been completed, what use is its representation on paper? In his Notation in New Music, Oskar Karkoschka lists three seemingly insurmountable problems in notating electronic music. The first is that there are many ways "in which material may be modified electronically" and which can not be shown clearly. Second, Karkoschka notes that the "proportion between the shortest and longest time-units may become so great that it can not be clearly quantified visually". And finally, the author states that the "broad field between noise and tone and between the noises themselves ... defeats any system based on visual representation." He continues that if, however, "we dispense with the adequate notation of elements which defy it, and content ourselves with the plastic presentation of elements which can be notated ... a few principles emerge". His half dozen principles are, in effect, suggestions for

the development of a new notation, one which will accurately depict compositions created electronically.

Who benefits from Karkoschka's notational improvements? If what we are after is an accurate notehand that will enable the composer to sketch out, design, and otherwise plan a composition without undue fuss, then we quite possibly might find such a notational system useful. But while such a system might constitute a notation, its deployment is not necessarily a score. Not unless this notation were meant to be interpreted by other performer/composers, a notion which is, and has heretofore been, antipathetic to electronic music.

A Mikrophonie I or Composition for Synthesizer, for example, realized per Stockhausen's or Babbitt's score by you or me would seem as pointless as our trying to construct another Kaufmann house ('Falling Water') from Frank Lloyd Wright's original plans. The pre-existent score here is really more like a blueprint -- dynamic and alive during execution of the project, becoming an historical (pedagogical) document after completion.

However, an electronic music score might be constructed after the fact, to provide a visual representation of the composition for the interested listener. Such a score allows a closer look at the elements and constructs of the piece -- a score for the analytically-minded. If, "to begin to compose electronically means to select one element from the

limitless range of possibilities of the electronically emancipated material and to realize it in a compositional manner"^v, then the composer must perforce choose which of those elements to notate. By so doing, he or she tells us something about is considered compositionally, and analytically, important. Is this score a score? or has the notion of score taken on a new meaning?

What is any score, electronic or acoustic, to the listener, especially the listener of recorded music? The recorded object is a mystery with respect to its production: how did the conductor deal with that passage? Was that sound made by one, two, or fifteen instruments? Or generated electronically? More important, how did the composer regard the components of that sound, i.e., was it constructed element by element, or was it the result of chance? Scores by Elliott Carter and John Cage can, for the listener unfamiliar with these two composers' work, illustrate their different musical positions much more dramatically than a hearing of their respective compositions. The score can be very useful in providing the listener with a point of reference -- a reference to the composer's musical suppositions and choices, a means by which to determine (rightly or wrongly) where a composition fits in the spectrum of musical thought. A score to a particular composition maintains its traditional function (of generating future performances) in more or less direct relation to its propensity for generating recorded documents. Conversely, the more a recording of a piece becomes an abstraction, the less its score is likely to

generate other performances, and the more useful the score will be as a reference to how the piece, and object, were made.

ⁱ Goodman, Nelson. Languages of Art, p. 129

ⁱⁱ My only concern here is what is called or heard as a mistake; this is different from Goodman's statement: "Since complete compliance with the score is the only requirement for a genuine instance of a work, the most miserable performance without actual mistakes does count as such an instance, while the most brilliant performance with a single wrong note does not." (Goodman, p. 186) Goodman is forcing a definition of what, exactly, constitutes a "mistake" or a "wrong note", and implies that the parameters of any single note are quantifiable.

ⁱⁱⁱ This is what separates the notated tradition from unnotated ones (like folk music or jazz). The composer is at the top of a hierarchy which includes conductors, performers, impresarios, and listeners; having had the first word on the matter (the composition), the composer is also presumed to have the last. (Much of this is tied to our western notions of property and ownership. The composer owns the manuscript and, by extension, the music.)

^{iv} I say "assumes" because the score possesses greater authority than any single instantiation (recording). On the other hand, even where a template exists a recording will reference other recordings in the same way that a performance references other performances. In some cases the recording can suggest what the score can not, specifically modes of articulation, phrasing, shaping. Most interesting along these lines is the recording by the composer, either as performer or conductor. If the score can tell us what to play, here we look to the composer to show us how to play them.

^v Eimert, Herbert, "What Is Electronic Music?", die Reihe, vol. 1, p. 5, 1955.