A Working Terminology for Minimal Music

by

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Minimal music has come of age: it is now nearly a quarter of a century since Terry Riley assembled an ad hoc group of friends to perform what on paper looked a modest little composition entitled "In C," and some twenty years have passed since the Reich and Glass ensembles played to single-figure audiences of artists in draughty New York lofts. By what seems to have been a shrewd marketing strategy, Philip Glass has now succeeded in capturing the attention, prestige, and wealth of the operatic community on both sides of the Atlantic (and is being closely followed it seems by John Adams), while Steve Reich has been rediscovering and redefining the potential of the symphony orchestra. Add to this the enormous demand for recordings of minimal music (thanks in no small part to the efforts of prominent 1970s rock musicians like Eno and Bowie in demonstrating its "crossover potential"), and it is easy to see why the more reticent "uptown" community of academics and old-style avant-garde composers have tended to view this music with mild disdain (tinged with a little jealousy?) bordering on polite contempt.

For their part, the minimalists have shown little interest in wooing this more exclusive market--unlike as was the case with the Darmstadt avant-garde, the emergence of minimal music was not accompanied by a flood of polemical rhetoric--and the academics

have accordingly given them little analytical attention. With the possible exception of Reich's "Writings,"[1] and specifically "Music as a Gradual Process" (which is more philosophical credo than music theory anyway), there were only sporadic attempts to introduce the new techniques of minimalism to an educated musical public prior to Michael Nyman's chapter on the subject in "Experimental Music: Cage and Beyond."[2] Quite simply, there would have been no point--it was a characteristic of early minimal compositions that their overall form and moment-to-moment content were one and the same thing: the process. Only with the introduction of established harmonic procedures (chord sequences, cadential progressions) in the mid-1970s did it become possible to make such distinctions once more. By that time, though, Glass had already signed with Virgin Records to record "Music in Twelve Parts," and the ever-voracious rock press had "discovered" minimal music. The handful of academics who had shown interest beat a hasty retreat--paradoxically, at the moment it became more open to conventional analysis, the more the music was ignored.

Recently, however, there has been a resurgence of interest in the subject, which seems to be the result of a number of factors. Firstly, minimal music has become more openly conventional, i.e., it has actively sought to reclaim harmonic and contrapuntal procedures more commonly associated with Western music. To this end, it seems to have attracted composers as diverse in aesthetic as Ligeti, Andriessen, Part and Tavener, who have each brought more "classical" (or classically avant-garde) concepts of organization into

[1] "*Writings About Music*" (London: Universal Edition, 1975): 9-11.

[2] "*Experimental Music: Cage and Beyond*" (London: Studio Vista, 1974).

the minimalist field. Secondly, the kind of analysis of mainstream twentieth-century music that was fashionable some ten or so years ago now seems rather primitive in the light of the formalized refinement and somewhat forbidding elegance of recent set theory. Accordingly, some students may have turned to minimal music thinking that it presents less of a problem in terms of terminology--this however is *not* the case. The aim of this paper is to explain the confusion that has arisen within the vocabulary of minimal music, and hopefully to dispel it by presenting a more precise terminology suitable to the analytical requirements of future students. Before embarking on this, however, certain questions have to be asked regarding the nature of their proposed analyses.

Music analysis, especially in America, where Schenkerian and set-theoretical disciplines have become integral components of university curricula, is generally predicated on the concept that a composition can be analyzed to reveal various hierarchical levels of structure, and that events on the surface of the music can be deemed to be more or less *valuable* in terms of their relationships to the structural hierarchy. To this end, a Schenker graph and a Forte K/Kh lattice diagram serve the same purpose (admittedly this is a drastic oversimplification of the issues involved), both providing an *out-of-time* representational model of the music's structure. With minimalism, such an approach is of little value, as it fails to take into account the *in-time* listening experience, i.e., the specific location of events and the durations of sections in relation to the musical material they contain, or to the proportions of the work as a whole. This is not to say that an analysis of a minimalist composition should resemble a recipe book (ingredients and cooking times) but rather

that the process by which events are taken from the musical surface and presented out of context should be less oriented towards an underlying deep structure and more concerned with how the selected material unfolds during the course of a performance. With Schenkerian or set theory it is quite possible--though hardly desirable, one would think--to produce a successful analysis of a work *without having heard it*; in an analysis of a minimalist composition, events are deemed to be significant because they are *heard* to be significant, and *not the other way around*. Given a music as consciously "self-explanatory" as minimalism, it is up to the student to determine to what extent his/her observations will remain merely descriptions--it is hoped that the following will be of use and will be adapted to their particular demands. Reference is made in the text to the author's article on Steve Reich's "Sextet,"[3] and musical examples are taken from that work with the kind permission of the composer.

As a composer and writer working in this general area one is constantly frustrated at having to preface the term "minimalism" with "so-called"--it seems to be a name-tag that has no existence outside of quotation marks, and all minimalist composers are acutely conscious of its potentially misleading and even pejorative implications.[4] Minimal music (for the time being we shall continue

[3]To be published to coincide with the eventual appearance of the engraved score (no details at time of going to press).

[4]Apart from the many published interviews with these composers, my personal encounters with four minimalists confirm their unease with the label. Michael Nyman continues to use the "so-called"; Louis Andriessen described his "Hoketus" (1977) most emphatically as "MAXIMAL music--I am a maximalist!"; Glass was uneasy at the mention of the word after "Akhnaten" received its world premiere in 1984; Reich's own comment appears in the text above.

to use the term as fearlessly as possible) has been variously described as "trance music,"[5] "systems music,"[6] "process music," "solid state music,"[7] "repetitive music" and "structuralist music."[8] Before discussing more systematic and specific terms, these generic labels need to be dealt with. Both "systems music" and "process music" are generally quite useful as descriptions; we propose to differentiate between the two, preferring the "process" term as being more applicable to the early works of the genre, where the compositions are structurally nothing more than single processes. Terry Riley described "In C" as a "people process,"[9] and in terms of the general definitions proposed by Reich in his "Music as a Gradual Process,"[10] both his (Reich's) and Glass's works of the late 1960s and early 1970s are justifiably described as processes in their own right. (The list also includes the works of Frederic Rzewski from about this time: "Les Moutons de Panurge"; "Attica"; and "Coming Together.") "Systems music" we take to encompass more than one single linear process, and under this label we propose to include

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[5]This is still popular in Europe, though more recently records of minimal music are also appearing in "New Age" bins in major record stores.

[6]Originally used in connection with Nyman's music, this is currently in vogue with the British rock press.

[7]This seems to appear first in the "Village Voice" shortly after the U.S. premiere run of "Einstein on the Beach."

[8]Nyman has collaborated extensively with self-styled "structuralist filmmaker" Peter Greenaway; the term appears with reference to minimal music after the widespread success of "The Draughtsman's Contract" in 1983.

[9]Riley, as cited by Nyman in "*Experimental Music*" (note 2, above).

[10]"I do not mean the process of composition, but rather pieces of music that are, literally, processes. "The distinctive thing about musical processes is that they determine all the note-to-note (sound-to-sound) details and the overall form simultaneously. (Think of a round or infinite canon.)" From "Music as a Gradual Process" (1968), in "*Writings*" (see note 1, above).

Reich's works from 1973 on, Glass's *oeuvre* after "Music in Twelve Parts," most of the recent music of John Adams, and the work of the European minimalists including Michael Nyman, Wim Mertens and Diderik Wagenaar, to name a few. The distinguishing feature about these pieces as opposed to the earlier process works is their concern with *multiple* process: the rigid polemic laid down by Reich in 1968 is no longer applicable.[11]

As a further clarification (hopefully), we propose to use the term "solid state music" to refer to works whose surface activity and texture is repetitive in nature *when considered in self-contained blocks*, but whose overall form no longer presents a definable progression from one point to another. For example, under this definition, "Spaceship" from Glass's "Einstein on the Beach" is systemic but not solid state, while for "Trial/Prison" from the same opera the converse is true.

As for the three other terms, they are either redundant or misleading, or both. "Repetitive music" is clearly as facile as it is vague--it imparts as much information as describing all post-War serialism as "twelve-tone music." "Structuralist music" suffers from the same problems as "minimalism" (which we shall discuss in due course): to imply a connection between the European intellectual movement (itself exemplified by such diverse figures as Claude Lévi-Strauss, Roland Barthes, Jacques Lacan and Jacques Derrida) and minimal music is superficially attractive (as in the case of Nyman's soundtracks for Peter Greenaway's movies), but the term "structuralist" could apply equally well to the music of such resolute anti-minimalists as Babbitt, Berio and Stockhausen. Finally, "trance

[11] Ibid.

music" is a downright harmful description for the majority of minimalists. True, Riley said that the ultimate goal of music is "to get far out," but for composers in the field as diverse in orientation as Glass and Andriessen the prospect of the audience just switching off--not actively concentrating--is quite abhorrent. The fact that even the most rigorous process pieces are often worshipped by those who have ascended to a higher state of (chemically-induced?) consciousness is a problematic aspect of the genre, which has been ably if not totally convincingly addressed by Mertens.[12]

And so to "minimalism" itself: despite persistent attempts to find out, it is still unclear who first coined the term. A BBC interview with Nyman[13] proudly proclaimed him as the originator, though he has since refused to commit himself on the matter (understandably not wishing to be the target of the pent-up wrath of many of his fellow composers). If Nyman did first use the term, it was probably during his time as music critic of "The Spectator," prior to the publication of "Experimental Music" in 1974. Perhaps we shall never find out who was responsible--already the history books are being rewritten in the mouths of the composers, Reich and Glass included--but insofar as there was much direct contact between these composers and the minimalist/conceptualist artists in New York City in the early 1970s (including Serra, Flavin and LeWitt), there is some historical value in the term. However, its possible pejorative implications are immediately apparent--hence Milton

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[12]"*American Minimal Music*" (New York: Alexander Broude, 1983). The ideological observations are found in Part Three.

[13]From an interview with Nyman on BBC Radio Three's "Music in Our Time" series, recorded in the autumn of 1983.

Babbitt's description of himself as a "maximalist"[14]--and hence Reich's opinion of the name-tag: "It's unfortunate--but it's better than 'trance music'. . . ."[15] Therefore we shall continue to use it as an all-purpose umbrella term, in the hope that we shall not be misunderstood.

Wim Mertens, in "American Minimal Music"[16] offers an analysis of trends in minimalism posited on developments in earlier twentieth-century music and philosophy--taking Adorno as a starting point he discusses the crisis of the concept of "work" in Schoenberg and Webern, the embracing of aleatoric procedures in both the European and American post-War avant-gardes, the problem of temporal perception in Stockhausen's "moment form," finally arriving at a somewhat ambiguous moral stance supported by extracts from the modern French philosophers Deleuze and Lyotard. The problem with Mertens's analysis, assuming one concurs with the philosophers, is that it occupies itself with a music governed by the aesthetic position of Reich in the "*Writings*," that is, a music where form and content[17] are inseparable--the process at one and the same time is both the form and the content. In doing so, Mertens's analysis seems to ignore the critical change that minimal music underwent about 1973, when for the first time it began to be occupied with definable chord sequences as a means of structural articulation. Glass's "Another Look at Harmony" is a major

[14]From the composer's sleeve notes to Robert Taub's recording of the piano music.

[15]Reich speaking at the Eastman School of Music, Rochester, New York, in 1985.

[16]Mertens, op.cit., pp. 95-109.

[17]By content Mertens is referring to what Reich described as "note-to-note" details; it is another example of Mertens's somewhat loose use of terminology.

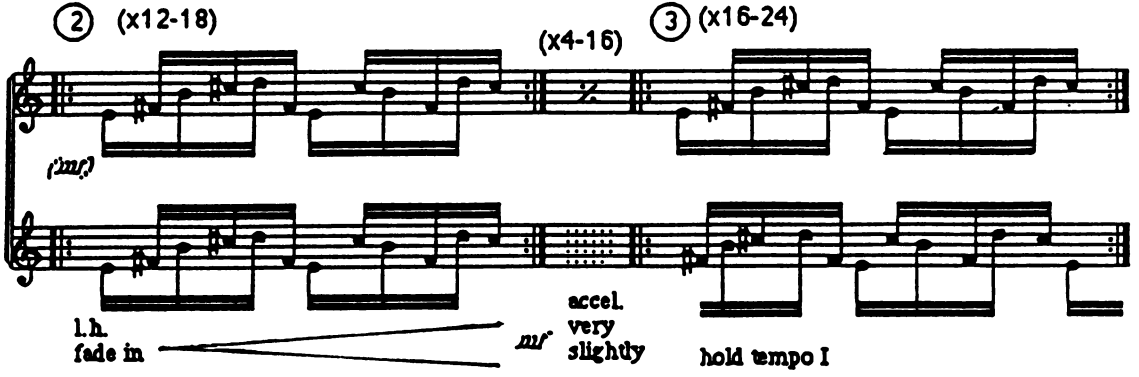
landmark in this repect--in choosing to use standard cadential progressions towards a recognizable tonal center, Glass at once subverts the concept of a linear, out-of-time listening experience. The listener is immediately aware of a work consisting of larger units defined by chord sequences, in a manner similar to the way a jazz or rock track is heard as a certain number of "choruses." This mode of listening is now nothing less than a standard feature of our modern Western ear, where the vast majority of music we hear on a daily basis is determined precisely by these structural concerns, and no doubt explains to some extent the crossover phenomenon of minimalism into popular markets, while at the same time casting doubt on Mertens's rather cloistered philosophical musings.

Taking a chord sequence as a defining unit then prompts us to re-evaluate the question of structure. Clearly Glass is no longer accurate when he says "there is no structure at all--the structure defines itself from moment to moment," for it is precisely the expectation that something different will happen "next time around" that motivates our perception of the music. Indeed, one is struck by the sheer predictability of Glass's recent music, hence again its appeal to audiences who have grown up with music which follows similar conventional and inevitable structural guidelines (rock, pop and jazz). Reich, on the other hand, uses chord sequences more flexibly, usually presenting the whole sequence at the outset of the work ("Music for 18 Musicians," "Sextet," "Desert Music") and then basing subsequent sections of the piece on each member chord. Mertens, who in his book surveys the music of Young and Riley as well as that of Reich and Glass, does not take advantage of the opportunity to present a clear terminology to describe the

techniques used by these composers. Accordingly, we propose to use the following terms, not only with reference to compositional (theoretical) details, but also to the (musicological) development of minimalism as a whole.

Phasing in its most rigorous manifestation is found in Reich's music from "It's Gonna Rain" up to and including "Drumming"--two identical patterns, *x* and *y* for our purposes (speech fragments in the tape pieces, melodic or rhythmic units in the instrumental works), start together *but with one at a fractionally faster tempo*, moving increments of a beat ahead until, over the course of a composition or part of a composition, the two are in synchronization once more. In the tape compositions "It's Gonna Rain" (1965), "Come Out" (1966) and "Melodica" (1966) this can happen at a very slow and regular rate of change (a pure phasing, where the tempo of pattern *y* (tempo *Y*) is consistently slightly faster than that of *x*); in the live instrumental phase pieces "Piano Phase," "Reed Phase," "Violin Phase," "Phase Patterns" and "Drumming" the process is more stepped, reaching sections of temporary rhythmic stability as each rhythmic unison is attained. Thus in live instrumental phasing, tempo *Y* does not remain constant. In Ex. 1, the first phase shift occurs over a period of between four and sixteen times the duration of the original unit (i.e. over a duration of between 48 and 192 sixteenth-notes in the original tempo, *X*). If we assume for the sake of convenience an original tempo *X* of dotted quarter-note = 60 (each sixteenth-note lasting therefore one sixth of a second), we can calculate tempo *Y*, the tempo at which *y* drifts out of phase, as being somewhere between dotted quarter-note = 61.25 (for the faster phase shift where *y* plays 49 sixteenth-notes in the

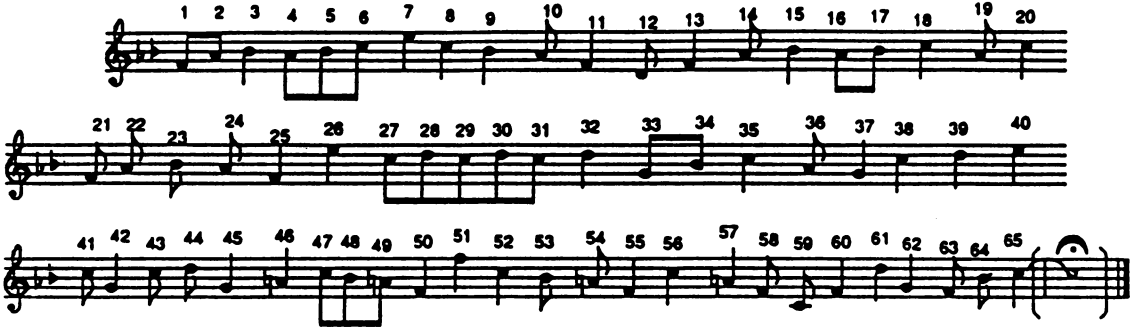
Example 1. Reich "Piano Phase" (extract)



time of *x*'s 48) and dotted quarter-note = 60.31 (for the more gradual phase shift--as preferred by the composer--where *y* plays 193 sixteenth-notes in the time of *x*'s 192).

While Reich was exploring the possibilities of both pure and live phasing, Philip Glass's first minimalist works were preoccupied with another technique that became a standard feature of minimalism, that of **linear additive process**. Example 2, "Les Moutons de Panurge," an experimental composition for variable forces by Frederic Rzewki, explains the technique in detail (and its logical counterpart, linear subtractive process). Though the instructions for Rzewski's score make allowances for the performers' mistakes ("if you get lost, stay lost"), it is perhaps worth noting that in recent years Rzewski has preferred using a completely notated version of the piece to prevent this from happening. In Glass's music, linear additive process is somewhat more flexible: only rarely in his works do the melodic units grow by the addition of only one note at a time. Moreover, unlike in the Rzewski example, after each addition is made the new unit is repeated a certain number of times before the additive process continues (one could therefore speak of "pure" or continuous as opposed to "gradual" or stepped additive process if a distinction needed to be made). The distinctive feature of Glass's compositions of this period ("Two Pages," "Music in Fifths," "Music in Similar Motion," "Music in Contrary Motion") is their preoccupation with regular running eighth-notes which eschew any possibility of being heard as measures written in a regular time signature. It soon becomes impossible for the listener to remember exactly where he/she is in the linear additive process (barlines function only to coordinate performers).

Example 2. Rzewski "Les Moutons de Panurge"



All in strict unison; octave doubling allowed if at least two instruments are in each octave. Read from left to right, playing the notes as follows: 1, 1-2, 1-2-3, 1-2-3-4, etc. When you have reached note 65, play the whole melody once again and then begin subtracting notes from the beginning: 2-3-4,...65, 3-4-5...65, 4-5-6...65, ... , 62-63-64-65, 63-64-65, 64-65, 65. Hold that note until everybody has reached it, then begin an improvisation using any instruments. In the melody above, never stop or falter, always play loud. Stay together as long as you can, but if you get lost, stay lost. Do not try to find your way back into the fold. Continue to follow the rules strictly.

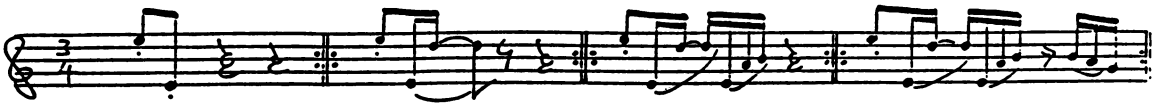
By contrast, **block additive process** (which Reich refers to as "replacing rests by beats") consists of the gradual assembly of a unit within a predetermined and unchanging time frame (a measure of 4/4 or 3/4, for example). (See Example 3.) Block additive process features prominently in the music of Reich from 1973 to the present day, and is usually used in conjunction with canon--repeating units, once assembled, are a certain number of beats out of phase with each other. (See Example 4.) The end product (Fig. 23 in Example 4) is similar then to those sections of the live instrumental phase pieces which occur between phase shifts (where the tempo X is constant for both performers) and the pattern is heard as displaced against itself. In "Clapping Music" Reich dispenses with the phase shifts altogether, and the work consists of a basic rhythm (lasting a measure of 6/4) heard against the eleven possible displaced (by eighth-notes) variants of itself (see Examples 6 and 7).

Because the time signature remains constant and is heard to do so (unlike as was the case with linear additive process), it is possible to notate the process numerically, assuming that each measure be divided into x small regular units (eighth-notes here for our purposes), numbered from 0 to x-1 (this is analogous to the concept of pitch-class notation where C is represented by O and B by 11 (Y or B)): thus a measure of 6/4 can represent twelve beat-classes (bcs). (See Example 5.)

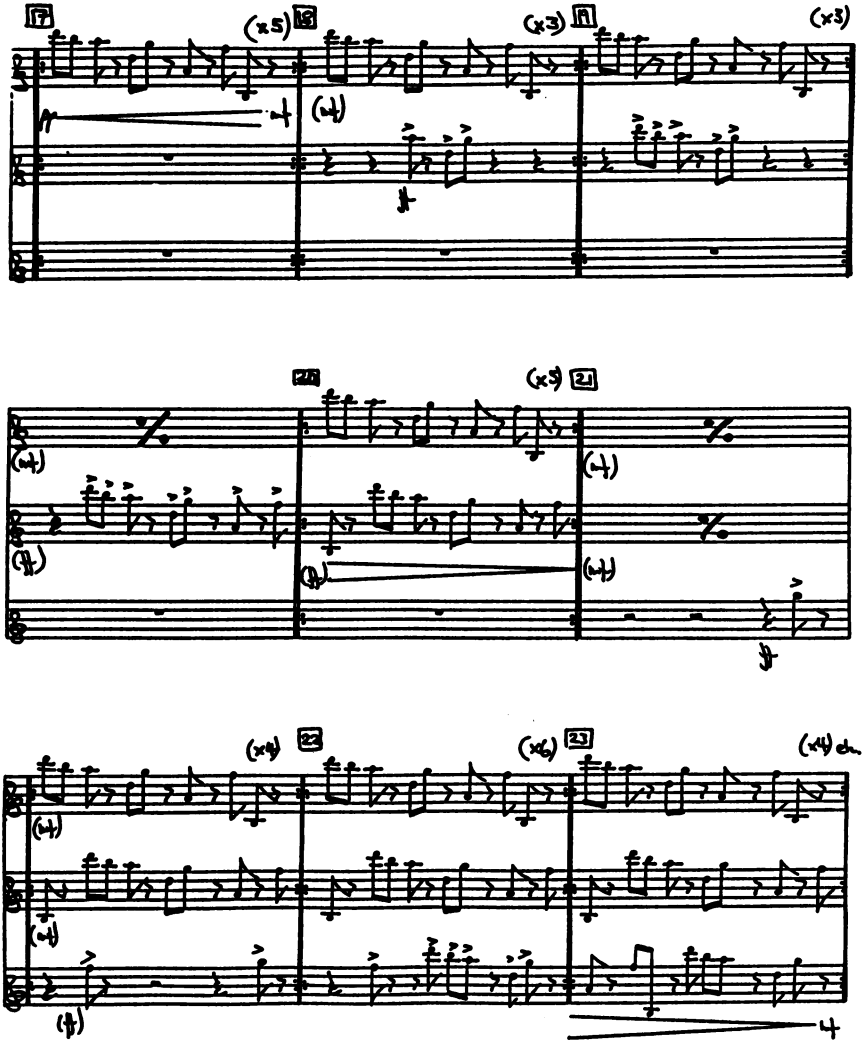
A rhythmic displacement "*d*" ("transposition") of a pattern "*A*" by x eighth-notes can be unambiguously represented by positive integers, where x is a positive integer. Thus the opening of "Clapping Music" can be shown as in Example 6, and the whole work can be easily represented, as shown in Example 7. The rhythmic

Example 3. Warburton "Riff Work" (extract)

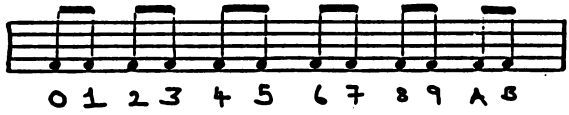
(alto sax)



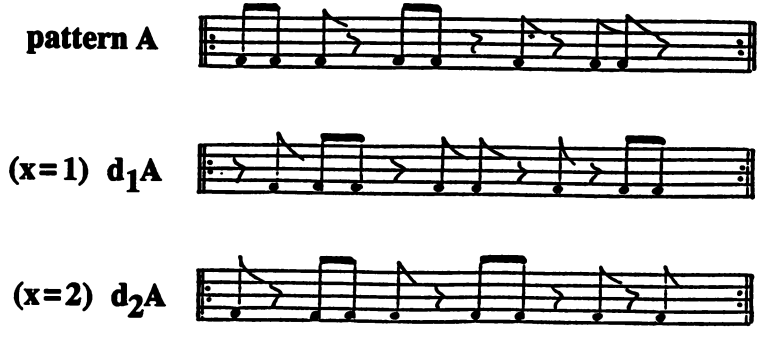
Example 4. Reich "Sextet" first movement, extract
(marimbas)



Example 5. Beat-class representation



Example 6. Reich "Clapping Music" (opening)



Example 7. Reich "Clapping Music," reduction

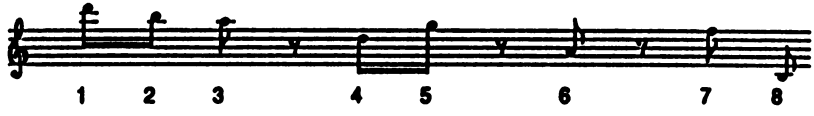
player 1	: A :	: A :	: A :	: etc. :	: A :	: A :
player 2	: A :	: d_1A :	: d_2A :	: etc. :	: d_BA :	: A :

(number of repeats determined by players)

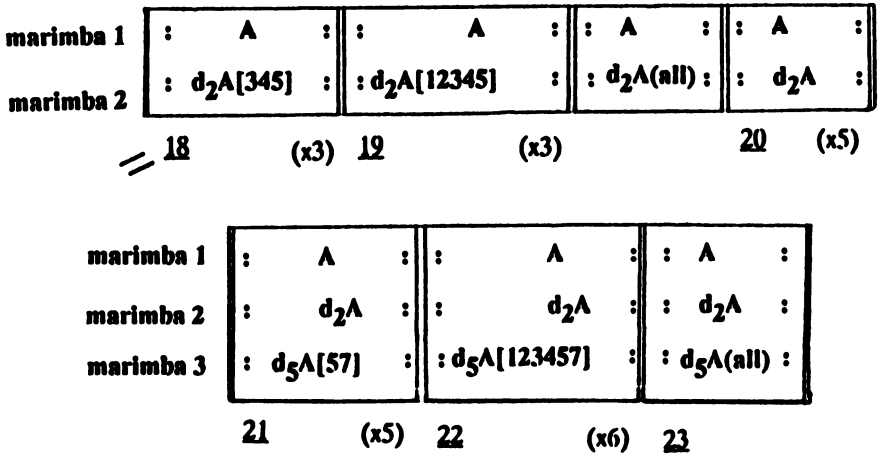
pattern of "Clapping Music" is in fact the same as in our earlier example from the "Sextet" (Ex. 4), but in the latter the displaced forms are assembled by block additive process, not necessarily beginning with the first note of each unit. Accordingly we must number the notes of the melodic unit before we can chart its introduction through block additive process. (See Example 8.) Thus "d_2A[345]" denotes only notes three, four and five of the pattern displaced by two eighth-notes (see Ex. 4 fig. 18). The musical development of the passage in Example 4 can be represented by Example 9. Because displaced patterns will overlap barlines, the analyst should state clearly in the case of the above that the number of repeats is specified in terms of repetitions of the original pattern *A* (and is the actual number of measures as shown in the score). In the "Sextet," as opposed to Reich's earlier work, the number of repeats is precisely specified and is therefore of structural importance and should not be ignored. A method such as the above reveals at a glance many striking formal cross-connections between the work's five movements.

A survey of the music of Terry Riley in the 1960s and 1970s would require the use of the term **overlapping pattern work** to denote its fluctuating and intermediary position between the rhythmic regularity of block additive and the more expansive linear additive processes; Riley's work, arising to a certain extent out of his own performance practice, uses the simultaneous layering of musical ideas of different lengths over each other or over a basic pattern or pulse (e.g. "In C," "A Rainbow in Curved Air," "Dorian Reeds" and "Persian Surgery Dervishes"). As much of it is at least partially improvised, it can present some problems of transcription, and as a

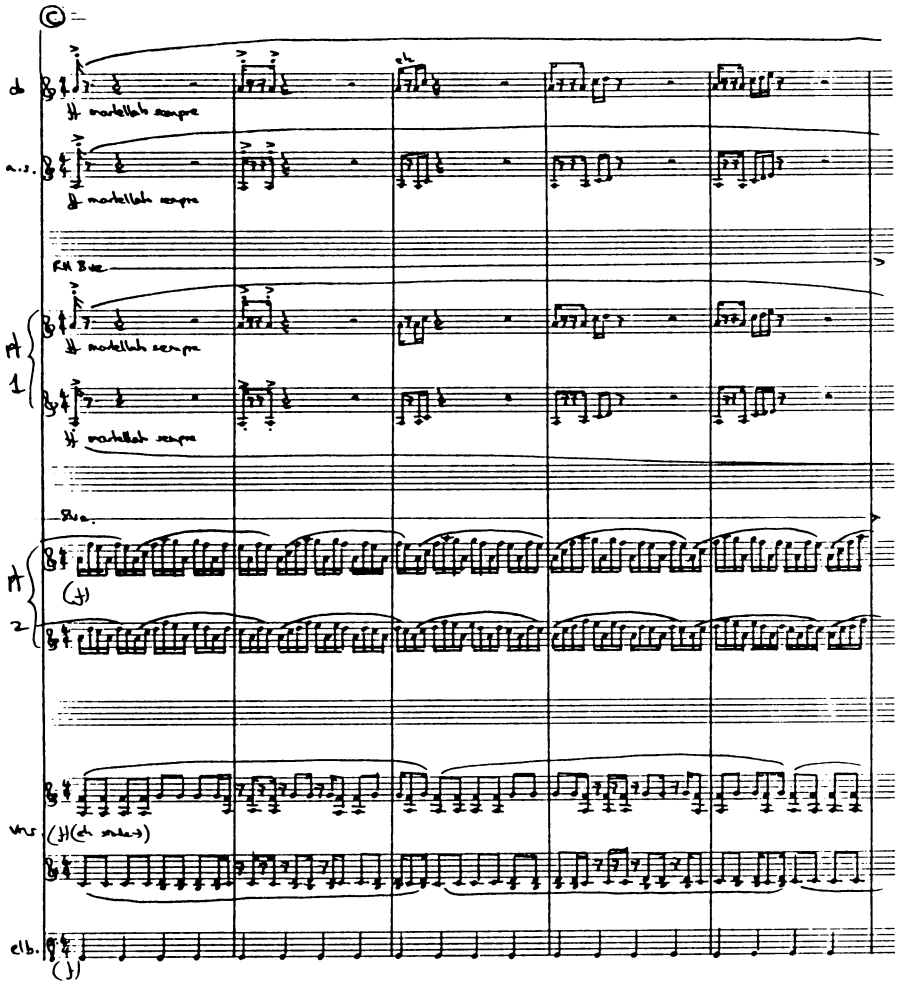
Example 8. Melodic unit from "Sextet"

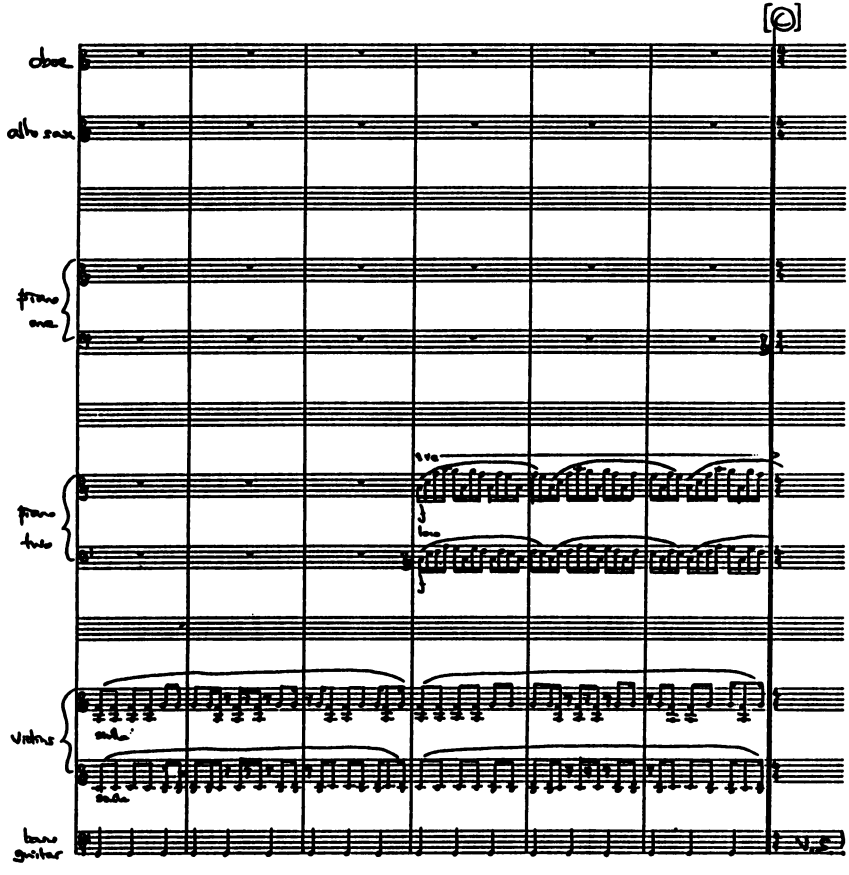


Example 9. Reich "Sextet," reduction of Ex. 4



Example 10. Warburton "Riff Work" (extract)




[6]
oboe
alto sax
piano
one
piano
two
8va
violins
solo
solo
bass
guitar

result may not lend itself as readily to the detailed approach outlined above.[18] Example 10, however, presents a notated version of the technique.

As defined above, systems music involves not one but a number of such processes. These do not necessarily occur simultaneously; in the music of Michael Nyman ("M-Work," "Think Slow, Act Fast"), one process may abruptly switch to another, as if two independent pieces had been cut up and spliced together. Example 11 is taken not from Nyman, but from the author's composition "Manhattan Systematic" (1986).

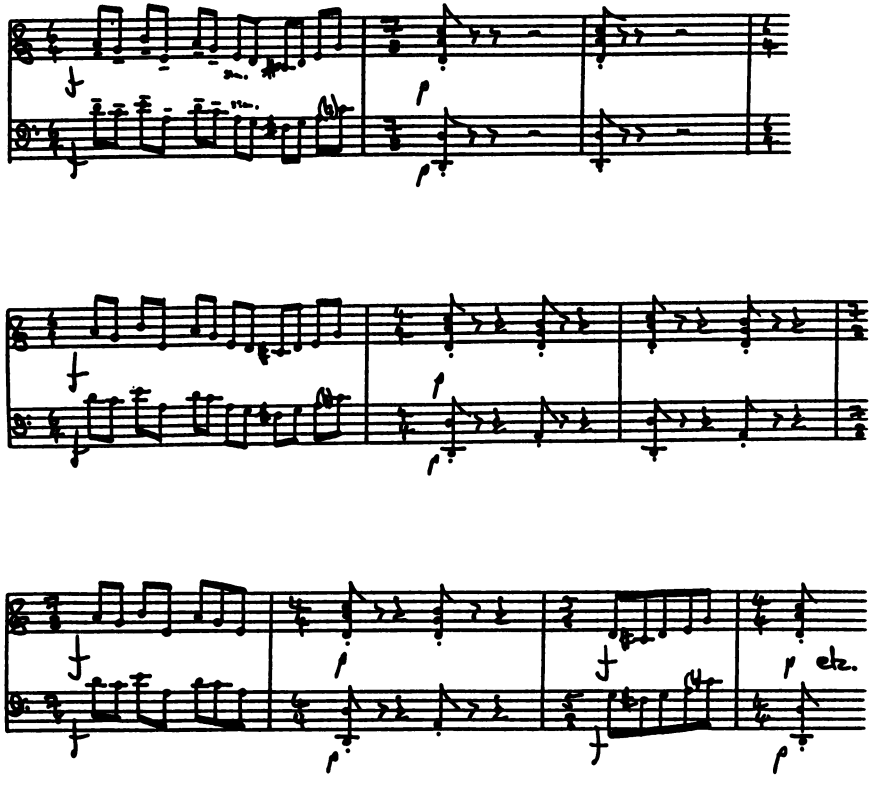
In contrast to the **splicing** technique, a smooth transition between processes can be effected by **dovetailing** the end of one into the beginning of the next. This features prominently in the music of Reich written in the 1970s ("Six Pianos," "Music for 18 Musicians," "Octet") and is usually achieved by dropping the lower voices of the texture to have them return with new material underneath the upper voices of the old texture, as shown in Example 12.

Example 12 also provides us with an illustration of **textural additive process**, which is quite simply the bringing in of one voice at a time until the whole texture is complete. It is found in much minimal music, from Reich ("Drumming," "Music for Pieces of Wood" and all subsequent works) to Glass (the music from "North Star" onwards) and especially in the music of Michael Nyman, whose soundtrack for Peter Greenaway's "The Draughtsman's Contract" emphasizes the connection between the technique and earlier

[18] Overlapping also features in the work of rock guitarist Robert Fripp, and examples can be found on his "Exposure" album of 1977, as well as on the King Crimson albums "Discipline" (1981), "Beat" (1982) and "Three of a Perfect Pair" (1984).

Example 11. Warburton "Manhattan Systematic" (opening)

(brass quintet)



polyphonic models (in this case, the chaconnes of Purcell). Textural additive process is therefore ideally suited to systems music in which different processes are superimposed on each other (especially overlapping patterns--see Example 10).

Having presented the above, it is obviously for the individual to decide to what extent it can be used effectively in a theoretical or musicological context. Inevitably an analysis of a minimalist composition to a certain extent must involve simply describing what happens; it should be stressed though that this alone does not constitute analysis--although minimalist composers may be generally skeptical of the pre-compositional artifice of their uptown cousins, the terminology outlined here can and should be used to reveal not, as is commonly assumed, the paucity of their imagination, but rather the enormous sophistication and elegance of their music. The advantages of such an approach would be mutual--not only would minimal music be assimilated into the canon of Western art music (a goal to which it undoubtedly aspires, if the recent statements of Reich and Glass are to be believed), but the comparatively recent descriptions of pitch-class and time-point theory would be seen to be relevant, if not indefensible, to a meaningful analysis of a composition written in a style not usually associated with it. In light of these remarks, it is hoped that the forthcoming study of Reich's "Sextet" will satisfy many of the conditions outlined above.

Example 12. Dovetailing

(section I)