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Source: *Perspectives of New Music*, Vol. 20, No. 1/2 (Autumn, 1981 - Summer, 1982), pp. 225-286

Published by: Perspectives of New Music

Stable URL: <https://www.jstor.org/stable/942414>

Accessed: 03-10-2018 20:45 UTC

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**STEVE REICH: MUSIC AS A  
GRADUAL PROCESS  
PART II**

**K. Robert Schwarz**

In 1968, Steve Reich codified his compositional aesthetic in the single most important essay he has ever written, "Music as a Gradual Process." This article, which has been reprinted several times,<sup>38</sup> must be examined in detail, as it is here that Reich clarifies all the trends that have been developing in his music since 1965, and sets the direction for the future.

The terse, inexpressive wording of "Music as a Gradual Process" serves to reinforce four important points in the concisest of manners. First of all, Reich is concerned with clarity of structure, which he feels can only be achieved by creating compositions in which structure ("process") and musical content are identical. He has no use for hidden constructive devices that serve to obscure a musical process. Secondly, musical processes, once set into motion, have a life of their own, and need no further meddling from the composer to progress; they are impersonal and objective procedures. Thirdly, improvisation can play no part in a musical process; on the contrary, one must subvert one's own feelings and allow the inexorable forward thrust of the process to take charge. Lastly, no matter how objective the process, unexpected events will still occur: these are the resulting patterns.

To appreciate these concepts in Reich's own distinctive wording, excerpts from "Music as a Gradual Process" are quoted below. One should realize, however, that Reich has since disavowed many of these viewpoints, at least for his own recent compositions. Nevertheless, this essay provides a framework for our understanding of Reich's music through 1971.

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 the note-to-note . . . details and the overall form simultaneously. (Think of a round or infinite canon). . . . One can't improvise in a musical process—the concepts are mutually exclusive. . . .

I am interested in perceptible processes. I want to be able to hear the processes happening throughout the sounding music. To facilitate closely detailed listening, a musical process should happen extremely gradually. . . so slowly and gradually that listening to it resembles watching the minute hand on a watch—you can perceive it moving after you stay with it a little while. . . . Though I may have the pleasure of discovering musical processes and composing the musical material to run through them, once the process is set up and loaded, it runs by itself. . . .

What I'm interested in is a compositional process and a sounding music that are one and the same thing. . . . The use of hidden structural devices never appealed to me. Even when all the cards are on the table and everyone hears what is gradually happening in

a musical process, there are still enough mysteries to satisfy all. These mysteries are the impersonal, unintended, psycho-acoustic by-products of the intended process. These might include sub-melodies heard within repeated melodic patterns, stereophonic effects due to listener location, slight irregularities in performance, harmonics, difference tones, etc. . . .

While performing and listening to gradual musical process one can participate in a particularly liberating and impersonal kind of ritual. Focusing in on the musical process makes possible that shift of attention away from *he* and *she* and *you* and *me* outwards (or inwards) towards *it*.

The years 1968-9 saw a short-lived revival of Reich's interest in employing electronics to perform the phasing process. *Pendulum Music*, completed in August of 1968, involves allowing four suspended microphones to swing freely over four upturned loudspeakers. The result is a series of loosely phased feedback pulses, which gain in intensity as the microphones swing closer to their respective loudspeakers. As the precise phasing of the pulses produced by the swaying microphones is largely uncontrollable, this work has strong overtones of random elements—chance—making it atypical of Reich's output as a whole, surrounded as it is by rigorously structured musical process compositions.<sup>39</sup>

At the same time that Reich was working on *Pendulum Music*, he began to become fascinated with the idea of developing and constructing an electronic device that would be designed specifically to carry out the phasing process, a device that could be "played" in a performance situation to simulate a particular variety of phasing activity. The phasing process desired here was not the earlier type which had involved changing the rhythmic relationship between two identical melodic patterns. Instead, Reich was now interested in starting with a chord, and then very gradually shifting individual tones from within the sonority out of phase one at a time, so that what began as a vertical harmonic entity would eventually end up as a series of infinitely changing horizontal melodic patterns (Example 5). Between February 1968 and early 1969, with the assistance of electronic engineers from New Jersey Bell Laboratories, Reich constructed a device that would be capable of such a musical process. The finished product, grandly called "The Phase Shifting Pulse Gate", is described in great detail by Reich,<sup>40</sup> and will not be discussed from a technical viewpoint here. Reich unveiled his new invention on May 27, 1969 when, as part of an artistic and musical exhibition entitled *Anti-Illusion*, he performed using the "Pulse Gate" at New York's Whitney Museum. Despite a year and a half of devoting all his energies to working with



electronics, Reich returned home from the Whitney Museum sorely disappointed by the results. He stated then:

The “perfection” of rhythmic execution of the Gate . . . was stiff and unmusical. In any music which depends on a steady pulse, as my music does, it is actually tiny micro-variations of that pulse created by human beings, playing instruments or singing, that gives life to the music.<sup>41</sup>

Reich’s conclusion was: “I felt very clearly then that I did not wish to have any involvement with electronic music again.”<sup>42</sup> However, as was noted earlier, Reich has continued to have ambivalent feelings towards electronic techniques. Nevertheless, it was not until 1980 that Reich overcame his old resolve and again turned to electronic music; the result was a work in progress, *My Name Is: Ensemble Portrait* (q.v.). It is most significant, though, that Reich chose to return to a verbally based tape piece with *My Name Is*—not to electronically produced musical sounds. One can state that it is unlikely that music based on electronically generated sonorities will ever interest him again.

Though he probably did not realize it in 1969, the energy invested in the “Phase Shifting Pulse Gate” had not been wasted. A concept derived from the “Gate” soon inspired Reich to return to live instrumental composition, and the resulting work, *Four Organs*, was completed in January 1970. In Reich’s “Pulse Gate” compositions, individual notes had been phased out of an opening simultaneity to produce melodic patterns. *Four Organs*, however, would capitalize on the “variable pulse-width aspect of the Gate”,<sup>43</sup> which had not been employed in any of his electronic compositions (i.e., the aspect of the Gate that controlled the *duration* of individual pulses), and apply it to live performance. The new work would open with a single chord; one beat at a time from within the sonority would grow gradually longer and longer in duration, producing a “sort of slow-motion music . . . The tones would simply begin in unison in a pulsing chord, and then gradually extend out like a sort of horizontal bar graph in time.”<sup>44</sup> Therefore, *Four Organs*, like *Piano* and *Violin Phase* several years earlier, is an instrumental piece derived from ideas that originated in the electronic studio. Reich states: “This feedback of ideas from electro-mechanical devices and processes to instrumental music has brought me to think of electronic music as a kind of interlude filled with new ideas for the ongoing history of instrumental and vocal music.”<sup>45</sup>

*Four Organs* is a gradual process piece, yet of all the works Reich composed between 1965 and 1971, it is the only one which is not a phase piece. The composition consists entirely of the gradual augmentation of individual tones from within the short, repeated dominant eleventh chord that

is stated at the outset (see Example 6a). It is perhaps Reich's ultimate minimalist work: in the entire twenty-five minute composition there are no changes of pitch, texture, timbre, or dynamics. All alterations consist of gradually increasing the rhythmic durations, accomplished by holding down one, and eventually several, of the notes of the chord beyond the sounding length of the sonority itself. To enable the performers, playing small electric organs, to count up to two hundred beats on any one series of sustained tones (the length to which the augmentation has progressed by the time the work ends, see Example 6b), another performer maintains a steady eighth-note pulse with maracas throughout the entire composition.

This simplistic concept results, surprisingly enough, in a work of compelling force and even drama. The expectations of any listener who is aware of the process involved are constantly drawn toward anticipating the next step in the augmentation procedure, producing a sense of directionality that none of the early phase pieces possess. *Four Organs* is one of the clearest statements of Reich's compositional aesthetic as defined in "Music as a Gradual Process"; it is also one of his last truly minimalist works.

Almost immediately after *Four Organs* was completed in 1970, Reich composed another work for four electric organs, this time without maracas. The new composition, entitled *Phase Patterns*, utilized an innovative style of keyboard writing that Reich describes as "drumming on the keyboard";<sup>46</sup> (Example 7). In *Phase Patterns*, the paradiddle stroke of Western drumming (consisting here of the alternation of the left and right hands of each player in the sequence L-R-L-L-R-L-R-R) becomes the single unchanging rhythmic basis of the entire composition. Reich claims that the application of such percussive techniques to the keyboard arose from his own limitations as a pianist: "I had to come up with a way of playing that is very particular to me but which is, by the by, extremely interesting. I guess I'm a better percussion player than a piano player. . . ."<sup>47</sup> This new type of keyboard writing had important implications for Reich's later compositions, especially *Six Pianos* (q.v.) of 1973, and led the composer to view all keyboard instruments as "extraordinary sets of tuned drums."<sup>48</sup>

In June of 1970, one of the great turning points of Reich's career occurred. The composer flew to Ghana to study African drumming at the Institute for African Studies, University of Ghana at Accra. According to Reich: "I went to Ghana to learn African musical structures by playing them, and to experience drumming as a serious music."<sup>47</sup> Once in Ghana, Reich received daily instruction from Gideon Alorworye, the Master drummer of the Ewe tribe who was in residence at the University. Reich became especially fascinated with the polyrhythmic structures which form the basis of so much African music.<sup>50</sup> He realized that African rhythmic procedure consisted of

①  $\text{♩} = \text{ca. } 200$

ORGAN 1

ORGAN 2

ORGAN 3

ORGAN 4

Example 6a. Steve Reich, *Four Organs* (1970), mm. 1-4.  
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1  $24 + 20 + 16 + 14 + 12 + 10 + 9 + 8 + 9 + 10 + 7 + 8 + 9 + 18 + 9 + 9 + 10 + 12 + (8 + 14) + (6 + 16) + 20$

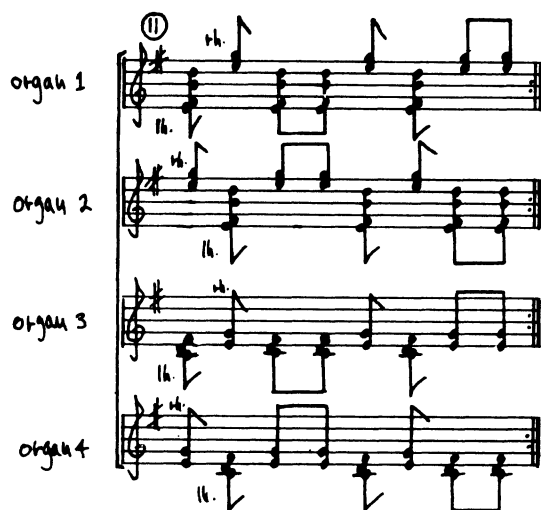
2  $24 + 20 + 16 + 14 + 12 + 10 + 9 + 8 + 9 + 10 + 7 + 8 + 9 + 18 + 9 + 9 + 10 + 12 + (5 + 14) + (6 + 16) + 20$

3  $24 + 20 + 16 + 14 + 12 + 10 + 9 + 8 + 9 + 10 + 7 + 8 + 9 + 18 + 9 + 9 + 10 + 12 + (5 + 14) + (6 + 16) + 20$

4  $24 + 20 + 16 + 14 + 12 + 10 + 9 + 8 + 9 + 10 + 7 + 8 + 9 + 18 + 9 + 9 + 10 + 12 + (5 + 14) + (6 + 16) + 20$

Example 6b. Steve Reich, *Four Organs*, m. 42.  
Copyright 1970 by Steve Reich. Used by permission.





Example 7. Steve Reich, *Phase Patterns* (1970), last measure.  
 Copyright 1970 by Steve Reich. Used by permission.

“several repeating patterns of the same or related lengths and each with its own separate downbeat”<sup>51</sup>—in essence, a polyrhythmic structure not very different from Reich’s own.

Reich was also intrigued by the African method of organizing the percussion ensemble in performance. In ensembles consisting of drums of varying sizes and pitches, the Master drummer is in constant control of the group, indicating to the other performers when it is time to change from one rhythmic pattern to the next. A particular figure of the Master drummer elicits an appropriate response from the remainder of the ensemble; when he Master drummer switches to a new pattern, the other drummers change to a different appropriate response figure. This structure of statement-response continues throughout a work, lending a unity to a performance that makes it possible to play complex rhythmic structures without the conductor of Western music.<sup>52</sup>

Lastly, Reich was encouraged by the presence in Africa of musical structures that are rigorously organized in advance, involving little or no improvisation on the part of the performers. All members of the African percussion ensemble must subject their personal expression to the higher goal of a precise rendition of repetitive, interlocking rhythmic patterns within the framework of a live group performance. In addition, the patterns themselves, modally based and relying on steady pulse to give them life, served to endorse Reich’s perceptions of his own music.

Immediately upon returning from Africa, Reich began to work on his magnum opus, a ninety-minute composition entitled *Drumming* (Fall 1970–Fall 1971). According to Reich, the African visit’s primary influence on *Drumming* was that of “confirmation”. “It confirmed my intuition that acoustic instruments could be used to produce music that was genuinely richer in sound than that produced by electronic instruments, as well as confirming my natural inclination towards percussion.”<sup>53</sup>

Before analyzing *Drumming*, it would be wise to deal with the difficult problem of how non-Western music in general has influenced Reich’s style. To attempt to answer this question, we must discuss not only his African visit of 1970, but also his study of Balinese gamelan. The latter took place at Seattle and Berkeley in the summers of 1973 and 1974, under the auspices of the American Society for Eastern Arts. Already after his African visit, and again during his Balinese studies, Reich began struggling with the thorny problem of how he, a Western composer brought up in a very different culture than that of Ghana or Bali, could honestly employ non-Western techniques. In 1973, Reich saw several alternatives available to a composer who wished to absorb non-Western idioms. One could give up composition and become either an ethnomusicologist or a performer of non-Western music—both

worthy efforts, but neither involving composition. Alternatively, one might continue composing and attempt to absorb one's newfound knowledge; yet, if one chose this path, in what way would the composer assimilate foreign influences? Reich dealt with this question at length in an article published in *The New York Times* as well as in his own *Writings About Music*.<sup>54</sup> He came to the following conclusions:

The least interesting form of influence, to my mind, is that of imitating the *sound* of some non-Western music. This can be done by using non-Western instruments in one's own music (sitars in the rock band), or in using one's own instruments to sound like non-Western ones (singing Indian style melodies over electronic drones). . . Imitating the sound of non-Western music leads to exotic music; what used to be called "Chinoiserie".

Alternately, one can create a music with one's own sound that is constructed in light of one's knowledge of non-Western *structures*. . . One can study the rhythmic structure of non-Western music and let that study lead one where it will while continuing to use the instruments, scales and any other sound one has grown up with. This brings about the interesting situation of the non-Western influence being there in thinking, but not in sound. This is a more genuine and interesting form of influence because while listening one is not necessarily aware of some non-Western music being imitated. Instead of imitation, the influence of non-Western musical structures on the thinking of a Western composer is likely to produce something genuinely new.

Beginning with *Drumming*, and extending through *Music for Mallet Instruments, Voices and Organ* (1973) and *Music for Eighteen Musicians* (1976), a myriad of non-Western influences can be noted in Reich's music, yet all of these are incorporated, using traditional western materials, within the composer's own personal style. Many of these non-Western techniques had been employed by Reich, either consciously or subconsciously, before the African trip; the journey itself served to a great extent as a confirmation of paths already laid out. As a matter of fact, most of the following "non-Western" techniques may derive as much from Reich's youthful jazz studies as from his African journey; it is often difficult to decide where popular influence ends and non-Western influence begins. Rhythmically, one might mention the use of a constant unvarying pulse throughout a work, combined with Reich's preference for polyrhythmic structures in which several rhythmic patterns of the same or related material have different downbeats. Tonally, one might point to Reich's static non-modulatory structures. The idea of stasis itself, of a music expanding over lengthy periods without pronounced contrast, may well

be related to non-Western attitudes towards time. In his choice of instruments and timbral combinations, and in his predilection for percussion (including, besides drums, the mallet instruments and metallophones so typical of the Balinese), Reich shows his affinity to non-Western instrumentation. Lastly, his devotion to live ensemble playing, his discarding of electronics in favor of acoustical performance, and his rejection of improvisation with a consequent turn towards composer-organized processes, were all encouraged by the virtuoso group performances he observed in African as well as Balinese music.

*Drumming* makes use of most of the above techniques and, as a result of its almost ritualistic repetition of drumming patterns, it appears to be Reich's most overtly non-Western influenced work. *Drumming* is the last work of Reich's to employ the phasing process extensively, though here it is no longer the principal structural device that it was in earlier pieces. Within the context of Reich's entire compositional output, *Drumming* is of tremendous importance; it is a pivotal, transitional work, standing between the early, austere minimal gradual process pieces, and the later, less rigorously structured, almost luxuriant instrumental tapestries.

*Drumming* utilizes three new techniques, each of which becomes of great importance for Reich's later compositional development. Firstly, *Drumming* introduces "the process of gradually substituting beats for rests (or rests for beats) within a constantly repeating rhythmic cycle."<sup>55</sup> Reich calls these two opposite procedures, respectively, "rhythmic construction" and "rhythmic reduction"; they are the means by which the process of phasing is introduced, almost as a substructure, into *Drumming*. By rhythmic construction, Reich refers to a process in which a pattern will slowly be formed, one beat at a time, from what may begin as a single beat within a cycle of rests (see Example 8). Rhythmic reduction indicates the reverse process: here, rests are substituted, one at a time, for beats, and the pattern is dismantled step by step in a mirror image of the way it was constructed. Once the process of rhythmic construction has taken place in several voices, one of the performers may begin the familiar phasing process.

The second innovation of *Drumming* involves new experiments with timbre and texture. One must realize that all of Reich's music prior to *Drumming* was written for ensembles of two or more identical instruments. This was necessary, says Reich, as "the phasing process is only clearly audible when two or more voices moving against each other are identical in timbre, and therefore combine to form one complete resulting pattern in the ear."<sup>56</sup> However, the last of the four parts of *Drumming* is the first composition by Reich in which instruments of different timbres are combined simultaneously. Here we have clear evidence of Reich's new willingness to compromise structural clarity—and the listener's immediate comprehension of the process

① HARD STICKS  
TWO, THREE, OR FOUR DRUMMERS

②

③

④

⑤

⑥

⑦

⑧

The performance begins with two, three, or four drummers (usually two), playing in unison at measure ①. When one drummer moves to the second measure and adds the second drum beat the other drummer(s) may either join him immediately or remain at bar ① for several repeats. This process of gradually substituting beats for rests within the pattern is continued with at least 6 or 8 repeats of each measure until all drummers have reached the fully constructed pattern at measure ⑧.

Example 8. Steve Reich, *Drumming* (1971), mm. 1-8.

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—in favor of a new richness of sonority. The method of introducing new timbres is also innovative: instrumentation is gradually changed while rhythm and pitch remain constant. Instruments enter doubling the existing pitches and rhythms of the previous performers and, as the former players fade out, the latter gain in prominence, providing a seamless “timbral modulation.”<sup>57</sup>

The third and final innovation of *Drumming* involves “the use of the human voice to become part of the musical ensemble by imitating the exact sound of the instruments,”<sup>58</sup> a technique Reich returned to in *Music for Mallet Instruments, Voices and Organ* (1973), *Music for Eighteen Musicians* (1976), and *Music for a Large Ensemble* (1978). The voices do not employ any text; instead, they are used to double and underscore the various resulting patterns that arise out of the phasing process, just as the live violinist in *Violin Phase* emphasized the resulting patterns which arose from the three taped channels. Reich’s challenge was to discover what types of voices would blend most closely with the timbres of the various instrumental families employed in *Drumming*. Part One of *Drumming* is scored for four pairs of tuned bongo drums; Reich found that here a male voice singing syllables such as “tuk, tok, duk” would blend most effectively. Likewise, Part Two, scored for three marimbas, uses female voices singing such syllables as “bou and dou”. Part Three, written for three glockenspiels, requires different vocal usages, as no human voice could merge effectively with the high range of these instruments. Here, Reich employs whistling to blend with the glockenspiel’s lower range, and piccolo with its upper range. The final Part Four, previously mentioned due to its innovative mixture of all the instrumental forces used in the other three sections of the work, also combines all the above vocal techniques, each paired with the activity of its respective instrumental group.<sup>59</sup>

The four sections of *Drumming* are not separated by any change of key, as would be traditional in Western music, but instead by complete and highly contrasting changes of timbre. Pitch and tonality are both static parameters in *Drumming*, with each performer keeping “to the narrow modal gamut he begins with, which is just one contribution to the tonal static harmonic unit.”<sup>60</sup>

The process of rhythmic construction can be seen most clearly at the beginning of *Drumming*’s Part One (Example 8). The work opens with a single drum beat and eleven beats of rests, within a cycle of twelve-beat measures. Starting with this solitary beat, the drummers gradually, one beat at a time, construct the twelve-beat pattern which serves as the rhythmic basis for the entire ninety-minute composition. Once the pattern has been completely formed, the phasing process begins in one of the instruments. There is an unusual amount of performer choice involved in *Drumming*—during the opening process of rhythmic construction not all the drummers must move

forward to the next stage in pattern formation (i.e., the addition of a new beat) at the same time. And throughout the work, the number of repeats to which a given pattern is subjected is decided by the performers.

Within any one of the four sections of *Drumming*, contrasts in texture may be introduced by adding performers, by rhythmic reduction (resulting in a simultaneous reduction in the instrumental forces) and a subsequent repetition of the rhythmic construction process, and by the employment of the human voice. The voices (or voice in Part One) blend almost unnoticed into the ensemble, doubling resulting patterns arising out of the phasing process.

The previously described “timbral modulation” links the four sections of *Drumming* together. It is the last section of *Drumming*, however, that is the truly progressive portion of the work in terms of Reich’s later output, for here Reich freely intermingles the various tone colors provided by the three instrumental families. A kaleidoscope of sound is the result—rich, animated, and hardly ever seeming repetitive, even though the listener by now has been hearing the same rhythmic pattern for over an hour. In Part Four, significantly, the phasing process becomes nearly impossible to follow, due to the luxuriant timbral blend. Here, we have the first occurrence of a turn away from the clarity of structure and audibility of procedure, as demanded in “Music as a Gradual Process.” Reich’s earlier aesthetic is now compromised in favor of a full sonorous texture, with beauty of sound more important than structural perceptibility. With this single innovation, more than any other, *Drumming* charts the path that Reich was to follow in subsequent compositions.

*Six Pianos* (1973), Reich’s next significant composition, at first glance seems to be a reversion from the textural and timbral variety heralded by Part Four of *Drumming*. Again, as in earlier works, an ensemble of identical instruments is employed. According to the composer, *Six Pianos* was the result of an idea of “composing a piece for all the pianos in a piano store.”<sup>61</sup> Six upright spinet pianos were chosen rather than grands, as the small instruments allowed the performers to play rapid, rhythmically complex music without the intrusive resonance of grand pianos, while at the same time the pianists could sit physically close to one another and be able to perceive the musical process accurately.

If *Six Pianos* is not a timbral advance over *Drumming*, it does however utilize some of *Drumming*’s structural innovations. *Six Pianos* marked the decisive rejection of phasing as a structural technique; it is based entirely upon the process of rhythmic construction (the formation of a pattern by substituting beats for rests) that was employed in *Drumming*.<sup>62</sup> However, the method in which this process is used here differs from the earlier work. In *Drumming*, the performers constructed a pattern, one beat at a time, from what began as a single beat and eleven rests within a twelve-beat cycle. As there was no

underlying accompaniment of any kind during the drummer's construction process, the pattern was literally formed out of complete silence. In *Six Pianos*, the rhythmic construction takes place against several other performers already playing the identical rhythmic pattern in another metric position (see Example 9). The constructed rhythmic figure, built up one beat at a time by two of the pianos, is two eighth notes apart from the existing four-piano pattern. Once the construction is complete, the effect is that of an identical pattern being played against itself, but two beats "out of synch." Superficially, this may appear to be the same as the familiar phasing process, but here the means of arriving at the result are entirely different: "instead of slow shifts of phase, there is a percussive build up of beats in place of rests."<sup>63</sup> This new method of achieving the effect of having constructed a canon (phased) is much less perceptible to the listener, however, and is another sign of Reich's recent willingness to compromise his aesthetic of structural clarity.

*Six Pianos*' chief advance over *Drumming* is in its harmonic framework. The composition is divided into three sections, each of which is delimited by a change of key and mode (Part One is in D Major, Part Two is in E Dorian, Part Three is in B natural minor).<sup>64</sup> This new use of tonality to structurally define sections of a composition is indicative of a turn back towards more traditional means of sustaining a lengthy work; the employment of contrasting keys is certainly more typical of Western music than the prolonged "monotonal" state of *Drumming*. Yet there is no modulation in *Six Pianos*: tonality is established by repetition alone without any semblance of functional harmonic progression, the new key simply being juxtaposed alongside the previous one.

The keyboard technique of *Six Pianos* does not break new ground; it is merely a refinement of the method of "drumming on the keyboard" that Reich employed in *Phase Patterns*. Again, the pianos are regarded as sets of "tuned drums", and the musical material, with its division of the basic rhythmic pattern between alternating left and right hands, reflects this conception. In spite of its timbral limitations, *Six Pianos* remains an important part of Reich's output, due to its consistent application of the principle of rhythmic construction, and its new use of tonality as a structural device.

It is difficult, no matter who the composer, to describe style change within one person's output. It is even harder to parcel off a composer's work into neat style periods with clearly defined changes in style occurring at one precise moment; there often seem to be more transitional works than there are compositions assigned to the style periods on either side. Yet it seems clear that Reich was, between 1971 and 1974, moving towards a distinct change of style, one made manifestly clear by *Music for Eighteen Musicians* (1976, q.v.). We have already noted elements of this new style, however, as long ago as Part Four of *Drumming*. An interest in beauty of sound as an end in itself, a



The image displays a musical score for Steve Reich's *Six Pianos*, measures 1 through 8. The score is organized into two systems, each containing six staves. The first system (measures 1-4) features the initial entry of the six pianos. The notation includes various dynamics such as *mf*, *ff*, and *sf*, along with complex rhythmic patterns and accidentals. The second system (measures 5-8) continues the piece with similar complexity, including dynamic markings like *sf* and *f*. The score is written in treble and bass clefs with various time signatures and accidentals.

Example 9. Steve Reich, *Six Pianos* (1973), mm. 1-8.

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lessening of concern in the surface clarity and audibility of the musical process, a richness of texture and sonority, an expansion of the vocal and instrumental resources, and a new use of harmony as a structural element, all reflect Reich's shift away from his dogmatic, austere minimal earlier aesthetic. *Drumming's* Part Four and *Six Pianos* gave evidence of many of these trends, and *Music for Mallet Instruments, Voices and Organ* (1973) continues them, further enriching the texture and musical resources employed and providing the first complete demonstration of the composer's coloristic imagination. Depending on one's point of view, *Music for Mallet Instruments, Voices and Organ* (hereafter referred to as *Mallet*) may be considered as the last of the transitional works, standing between the phase pieces and the richly conceived later compositions—or as the first example of the new style.

*Mallet* has been described as a breakthrough piece, combining for the first time the rhythmic intricacies of works such as *Drumming* and *Six Pianos* (both of which primarily had employed notes of short time values) with the augmentation technique utilized in *Four Organs*.<sup>65</sup> *Mallet*, scored for four marimbas, two glockenspiels, a metallophone (vibraphone without motor), voices, and electric organ, therefore merges two simultaneous interrelated rhythmic processes. The first process is the familiar one of rhythmic construction as used in *Six Pianos*, namely "that of constructing, beat by beat, a duplicate of a pre-existing pattern, with the second one or more beats out of phase with the first."<sup>66</sup> This process is employed exclusively by the marimbas and glockenspiels and is immediately apparent at the opening of the work: one glockenspiel and three marimbas begin by playing their fully constructed rhythmic pattern (as did the four pianos at the beginning of *Six Pianos*), while the remaining glockenspiel and marimba commence a gradual process of constructing the identical pattern in a different metrical position (see Example 10). Meanwhile, an independent second process takes place in the voices, metallophone and organ. This process consists of the gradual augmentation of a brief two-chord "cadential" progression,<sup>67</sup> a procedure perhaps inspired by *Four Organs* but here, rather than prolonging one note at a time as in the earlier work, elongating the entire "cadential" pattern over progressively more and more measures.

The most interesting factor about these two processes is how the composer interrelates them. The rhythmic construction of the first process, which naturally involves increasingly animated rhythmic activity in the mallet instruments as the various phase positions are formed, acts as a triggering mechanism, inspiring further gradual elongation in the voices, metallophone, and organ. These two processes therefore on one level take place independently, while on another level also signal each other to proceed to the next stage in the structure.



Example 10. Steve Reich, *Music for Mallet Instruments, Voices, and Organ* (1973), mm. 1-2. Copyright 1973 by Steve Reich. Used by permission.

By the middle of each of the four sections of *Mallet*, the various rhythmic constructions in the mallet instruments have been entirely formed, causing these instruments to reach their point of maximum rhythmic activity. At the same time, the voices, due to the triggering mechanism described above, have been continuing their augmentation process; by the middle of each section they have elongated to maximum length (based on the “longest length of continuous tone a single breath can sustain.”<sup>68</sup>) At the midpoint of each of *Mallet*’s four sections—the point of maximum activity in the mallet instruments and maximum prolongation of the voices’ “cadential” progression—the lower mallet instruments abruptly move out of their variously constructed phase positions and into phase unison, thus triggering a sympathetic reaction in the female voices, organ and metallophone: just as the rhythmic construction in the mallet parts at the opening of the work had triggered the voices to begin the slow process of augmentation, here the sudden shift to rhythmic unison in the mallet instruments triggers the voices to begin a slow process of diminution. In essence, the second half of each of the four sections of *Mallet* is in many ways a mirror image of the first half. A step by step compression of the two-chord “cadential” progression takes place in the voices, organ, and metallophone, until these parts have returned to the opening length of their chordal pattern. Beneath this process, the mallet instruments maintain their pattern in rhythmic unison. “This paired process of rhythmic construction/augmentation (first half of each section) followed by rhythmic unison/diminution (second half of each section) occurs four times, in sections marked off by changes of key and meter.” Section One of *Mallet* is in F dorian (3/4), Section two is in A dorian (2/4), Section Three is in B natural minor (3/4), and Section Four is on an A dominant eleventh chord (3/4).<sup>69</sup>

Despite the seeming complexity of this lengthy description, *Mallet*’s overall structure, that of construction/augmentation vs. unison/diminution, is readily apparent to the listener. But the sub-structure, namely the mallet instruments’ construction of identical out-of-phase patterns, gets obscured by the work’s luxuriant timbral blend. As in *Six Pianos* and Part Four of *Drumming*, Reich is obviously less concerned now that all the elements of a musical process clearly be perceptible. The fact that *Mallet* is still conceived of as a gradual process work is not to be denied, yet the complexity of the texture conceals the procedure.

*Mallet* enlarges upon the timbral device we observed in *Drumming*; namely, “using the voice to exactly imitate the sound of an instrument playing short, repeating melodic patterns.” This concept, employed in both works in the form of voices highlighting instrumentally created resulting patterns, is “extended in *Music for Mallet Instruments, Voices and Organ* to a constant vocal-instrumental blend as one of the basic timbres of the entire piece.”<sup>70</sup> The

move towards sustaining multiple layers of timbre throughout a composition serves to obscure the musical process; it also foreshadows the complex textures of works such as *Music for Eighteen Musicians*. In addition, *Mallet* continues a trend we first observed in *Six Pianos*, that of structurally defining sections by clear changes of key and/or meter. Again as in *Six Pianos*, the tonalities are juxtaposed in abrupt non-functional relationships. Lastly, the concept we noted in *Mallet*—that of one musical process triggering an appropriate response pattern in another instrumental group—is closely related to Reich’s non-Western studies; it is especially similar to the African technique of statement/response he observed in Ghanaian music.

From 1974 to 1976, Reich concentrated all his creative efforts upon one work, *Music for Eighteen Musicians*. This composition clearly delineates the beginning of a new style period within Reich’s output; it is also the work that was most influential in establishing Reich’s name before a mass public.<sup>71</sup> *Music for Eighteen Musicians* marked such a radical departure from the strict principles that Reich had stated in “Music as a Gradual Process” that one might have asked whether the composer’s compositional aesthetic had entirely changed. This question and others were discussed with Reich in an important interview conducted by critic Michael Nyman.<sup>72</sup> In speaking with Nyman, Reich reflects on the “didactic quality” of his earlier works, noting the many ways in which his attitude towards composition has changed. No longer must a work be based on a single, gradual process that is clearly audible to the listener at all stages of its progression. No longer must a structure be immediately apparent, nor are structure/process and musical content one and the same, as they were in 1968. No longer is the process of composition impersonal; on the contrary, it is now filled with composer and performer choice. Reich’s new style aims at a richness of texture and sonority, an expansion of the vocal and instrumental resources employed, and a subsequently greater freedom of musical structure. The following paragraphs are excerpted from the Nyman interview:

At the time of writing “Music as a Gradual Process” in 1968 the stress in music was on individual expression and free improvisation, and I was trying to divorce myself from that and to show that one could work in a more impersonal way. . . . It’s true that the thrust of the article and very terse wording of it was to drive home an idea of impersonality which I thought was important at that time. And now it’s eight years later and I don’t feel like making that point any more, because it’s so well understood and I have changed musically quite a bit.

There was a great difference between chance and choice and what I was trying to do was to eliminate personal choices. In

*Music for Eighteen Musicians* I have made a great deal more personal choices, but there isn't one iota more of chance in my music, and I don't believe that will ever change... Chance is something I've found is a very unhealthy influence, and it has produced very poor music... But the idea of choice is something quite different and that is something from which I have shifted position.

... In a sense, I'm not as concerned that one hears *how* the music was made as I was in the past. If some people hear exactly what's going on, good for them, and if other people don't, but they still like the piece, then that's OK too.

What I was really concerned with in *Music for Eighteen Musicians* was making beautiful music above everything else... I wasn't as concerned with filling the structure as I was ten years ago. On the other hand, although the overall sound of my music has been getting richer, it has done so without abandoning the idea that it has to have structure...

I agree, as the texture gets more filled up, as it gets richer, it becomes less possible and less necessary to follow the process. There was a didactic quality to the early pieces, and looking back I'd say that, when you discover a new idea, it's very important to present that idea in a very forceful and clear and pared-down way... But once you've done that, what do you do? Just sit there cranking out one perfect phase piece after another? Personally, as a human being, I feel the need to move on, not to sell out or cop out, but just to move on.

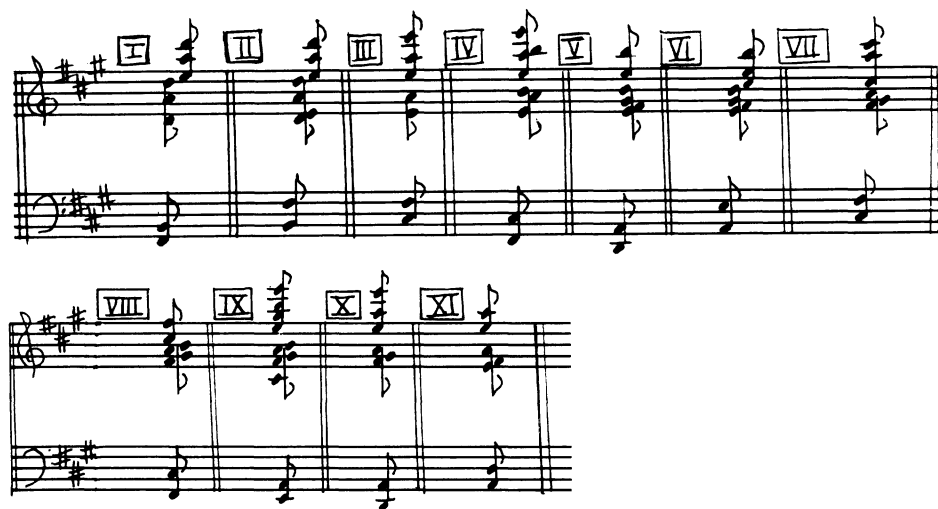
The old austerity, the need for the bare bones of a composition to be apparent at first glance, the deliberate restriction of available resources—in short, much of what earlier in this article was described as being characteristic of “minimalism”—have disappeared. To someone not acquainted with Reich's total output, the comparison of a work such as *Four Organs* (1970) with *Music for Eighteen Musicians* might lead one to conclude that the composer had bowed before the temptation of reaching a larger public. However, it is apparent that this is no sudden style change, no gross gesture for popular consumption. Rather, it is the result of a gradual stylistic shift we noted beginning with Part Four of *Drumming*, and extending through *Six Pianos* and *Mallet*. *Music for Eighteen Musicians* merely brings to fruition various trends which were already well established in Reich's earlier compositions.

*Music for Eighteen Musicians* (hereafter referred to as *Eighteen*) is scored for violin, cello, two B-flat clarinets/bass clarinets, four women's voices, four pianos, three marimbas, two xylophones, and a metallophone. Though most are amplified via microphones, all the instruments employed are

acoustical; there are not even the electric organs which were still present in *Mallet*. Rhythmically, there are several different levels of time occurring simultaneously in *Eighteen*. The first of these is the clearly stated, steady rhythmic pulse which is immediately apparent at the opening of the work in the pianos and marimbas, and which is maintained unceasingly, in one instrumental family or another, throughout the entire composition. The second type of rhythm, new in Reich's music, is the employment of human breath as a measure of duration. The entire opening introduction and closing epilogue of *Eighteen*, as well as the middle portions of each of the eleven central sections of the work, utilize pulses played by the voices and the winds. These performers, using the length of their breath as a guide to how long they should sound, either sing or play pulses on their assigned pitches "for as long as their breath will comfortably sustain them." Reich conceives of these pulses, which due to the nature of human breath are emitted in a rising and falling (< >) pattern, as "gradually washing up like waves against the constant rhythm of the pianos and mallet instruments."<sup>73</sup>

The harmonic structure of *Eighteen* is, for the first time in a Reich work, as important as the rhythmic structure. Reich himself states: "There is more harmonic movement in the first five minutes of *Music for Eighteen Musicians* than in any other complete work of mine to date."<sup>74</sup> *Eighteen* is constructed around a sequence of eleven chords which is played at the beginning of the work as an introduction and which returns once more at the end as a sort of epilogue. All the instruments and voices play their assigned pulsing pitches within each of the eleven chords; instruments which do not breathe likewise follow the breath patterns (< >) of the wind players. Each of the eleven chords is held for the duration of two breaths, at which time the next chord in the sequence is introduced. The chord progression itself is by no means far-reaching; many of the eleven chords are merely inversions or revoicings of the previous sonority, and there is no modulation (See Example 11a).

What follows is indicative of the new importance Reich assigns to harmonic movement in this work. Once the cycle of eleven chords is completed, the ensemble returns to the first sonority, which is sustained by pianos and marimbas. As these rhythm instruments prolong that single chord, a small piece of about five minutes in length is built upon the sonority. At the end of the first section, the rhythm instruments switch to the second chord in the original sequence, and an independent little piece is constructed over that sonority. This process is repeated over each of the original cycle of eleven chords, resulting in a composition that contains eleven central sections, plus the opening introduction and concluding epilogue (these latter two being the only parts of the work in which the chordal structure is stated explicitly).



Example 11a. Steve Reich, *Music for Eighteen Musicians* (1976). Introductory chordal sequence.





Example 11b. Steve Reich, *Music for Eighteen Musicians* (1976). Chord V as it is altered in section V of the work.

Reich views this type of harmonic organization as being reminiscent of medieval cantus firmus technique: "Each chord that might have taken fifteen or twenty seconds to play in the opening (introductory) section is then stretched out as the basic pulsing harmony for a five minute piece, very much as a single note in a cantus firmus or chant melody of twelfth century Organum by Perotinus might be stretched out for several minutes as the harmonic center of a section of Organum."<sup>75</sup>

But Reich's use of the chordal cycle differs from most traditional cantus firmus or variation procedure. In *Eighteen*, the bass line of the chordal cycle is no more than decorative; it is the middle and/or upper registers which remain constant when the pulsing chords return during the course of the work. Yet the middle and upper registers, lacking their bass underpinning, are deliberately modal and therefore ambiguous as to tonality. Thus, once the pulses recur as the subjects for their respective eleven sections, Reich gains the latitude for modulation as well as re-harmonization of the melodic material: he merely alters the bass beneath the pulsing middle-register sonorities. Comparing Example 11a to Example 11b demonstrates how, in the fifth section of the work, Reich is able to modulate to C-sharp minor by maintaining an approximation of the middle and upper registers but changing the bass pitches. The composer apparently likes the tonal/modal ambiguity derived from such a harmonic procedure, as he returned to this type of technique once more in 1979 as the basis for his *Variations for Winds, Strings and Keyboards*.

This general, overall structure of *Eighteen* is clearly audible even to a fairly casual listener. Within the eleven individual sections, however, the lush blend of instrumental and vocal timbres almost entirely obscures the structural techniques employed. It is the sub-structures of these separate pieces that serve almost as a summation of Reich's work from 1965 to 1976, a vast reunion of techniques and procedures utilized in previous compositions. Many of the small pieces employ rhythmic construction, that of gradually substituting beats for rests; others use rhythmic construction in connection with a quasi-phasing process, in which the constructed rhythmic patterns have different downbeats. A process of augmentation of brief two-chord "cadential" progressions is often involved (here usually given to the strings), reminiscent of the elongation procedures employed by the vocal parts in *Mallet*. In the middle of each of the eleven sections, the rising and falling chordal pulse (whose duration is determined by the length of a human breath) returns in the voices and winds; this gives the effect of a constant reminiscence of the texture and mood of the introductory chordal cycle of the composition. Lastly, voices are used to add timbral variety by doubling the rhythmically constructed melodic patterns. Yet all of these sub-structures disappear as the listener becomes dazzled by the surface beauty of the work, a sparkling melange of shifting

timbres and textures, a masterpiece of sheer aural magnificence. Who would have suspected that a tapestry of such sonic variety could have come from the pen of a previously austere minimalist?

Reich employs a cueing system in *Eighteen* that is clearly reminiscent of non-Western techniques, specifically of the Balinese gamelan. The signal to change from one section to the next, as well as internal changes within individual pieces, "are cued by the metallophone. . . whose patterns are played once only to call for movement to the next bar, much as in a Balinese gamelan a drummer will audibly call for changes of pattern, or as the master drummer will call for changes of pattern in West African music."<sup>76</sup> This cueing system allows the progression from one piece to the next to be accomplished as gradually and smoothly as possible; the intention in fact is for one section to blend almost unnoticed into the following.

One last structural technique remains to be discussed in relation to *Eighteen*. Reich frequently employs, within individual pieces, a changing relationship between harmony and melody. "Specifically, a melodic pattern may be repeated over and over again, but by introducing a two- or four-chord cadence underneath, first beginning on one beat of the pattern, and then beginning on a different beat, a sense of changing accent in the melody will be heard."<sup>77</sup> Reich accomplishes this technique by utilizing the two-chord augmenting "cadential" progression, just described above as being similar to the elongation process of *Mallet*, as the chordal underpinning for a melodic line. If the melody itself consists of a repetitive rhythmic pattern, and beneath it a two-chord "cadential" figure is repeated at irregular intervals with the "cadential" progression itself gradually elongating in length, a whole variety of shifting harmonic accents will be superimposed upon the unvarying melodic line. Thus, we can now return to a comment made at the opening of our discussion of *Eighteen*; namely that there are several different layers of rhythmic activity simultaneously occurring in this composition. We are now in a position to chart at least four separate levels of musical time in *Eighteen*: the steady rhythmic pulse maintained in the mallet instruments, the process of rhythmic construction occurring within individual pieces, the pulsing tones of the winds which rise and fall as a human breath, and the shifting, augmenting "cadential" progressions which accompany the constructed melodies.

After *Music for Eighteen Musicians* became generally known, Reich's career began to gain momentum as never before. He received three important commissions which resulted in three splendid works that will be described in a moment, *Music for a Large Ensemble* (commissioned by the Holland Festival, completed December 1978), *Octet* (commissioned by Radio Frankfurt, completed April 1979), and *Variations for Winds, Strings, and Keyboards* (commissioned by the San Francisco Symphony Orchestra and completed late

in 1979). But such recognition did not deter Reich from continuing to learn more of world music and culture, from absorbing new influences into his personal style. Consequently, in 1976, upon realizing that he knew comparatively little about his own Jewish heritage, he began an intensive study of Hebrew, the Torah, and scriptural cantillation techniques, culminating in two years spent learning traditional cantillation systems and their notation (New York and Jerusalem, 1976 and 1977).<sup>78</sup> We shall soon see how Reich's study of his Jewish heritage had a profound effect on his musical style.

*Music for a Large Ensemble* (1978) is in many ways a hybrid, consisting of techniques borrowed from *Music for Eighteen Musicians* and *Music for Mallet Instruments, Voices and Organ*. It is scored for a core of eleven percussionists who create and maintain the rhythmic activity of the work (marimbas, xylophones, vibraphone, pianos); they are harmonized and timbrally enriched by two female voices, two violas, two cellos, two basses, clarinets, flutes, soprano saxophones, and four trumpets. Though all instruments are acoustical, the strings, winds, voices and pianos are amplified. Timbrally, the size and richness of the ensemble has increased to such an extent that, even more than in *Eighteen*, the structural backbone of the work is difficult to discern on the surface.

*Music for a Large Ensemble* (hereafter referred to as *Large*) is constructed in four sections, each defined by abrupt changes of key and/or meter, as was the case in *Mallet*. *Large* employs an even more important technique of *Mallet's*, however: this is the utilization of brief two-chord "cadential" progressions which gradually augment until the middle of each of the four sections and, once having reached maximum elongation, return by a process of diminution to their original length, at which point a new section begins. The use to which these lengthening and shortening chords are put, however, is closer to *Eighteen* than to *Mallet*. Reich employs this augmentation/diminution process in such a manner as to lend a constantly shifting harmonic accent to the rhythmic/melodic figures which are superimposed above it. Harmonically, *Large* is much simpler than *Eighteen*, being closer in its conception to *Mallet*; the ascending or descending (and also augmenting or diminishing) "cadential" progressions provide the sole harmonic movement within each of the four sections. The effect produced is that of a constant swaying between semi-functional sonorities within each of the four juxtaposed key areas.<sup>79</sup>

All four sections of *Large* employ the process of rhythmic construction in the mallet instruments (i.e., substituting beats for rests in order to form identical patterns which are metrically several beats apart), as was the case in both *Mallet* and *Eighteen*. Also like *Eighteen*, *Large* employs vibraphone cues to coordinate the ensemble. The most significant application from *Eighteen*, however, is the use of the human breath as a measure of duration. It is the sole

function of the trumpets to enter at the middle of each of the four sections and to play four sustained chords; these chords rise and fall with the breath patterns, but do not pulsate as they did in *Eighteen*. Thus, we have in *Large*, as in *Eighteen*, four distinct levels of rhythmic activity occurring simultaneously: the process of augmentation/diminution of the “cadential” progression, the constant pulse maintained in the mallet instruments, the gradual process of rhythmic construction likewise in the mallet instruments, and the sustained trumpet chords which enter at the midpoint of each of the four sections of the work.

There is, however, one important innovation added in *Large*. Towards the middle of each of the four sections, as maximum elongation of the chord progression approaches and rhythmic construction in the mallet instruments is complete, there are longer melodic lines stated in the violins and clarinets. These lengthier melodies are constructed in typical Reichian fashion; they are “composed of smaller melodic patterns combined to create a somewhat ornate melodic line.”<sup>80</sup> But the sheer existence of them is an extremely significant development in Reich’s style, one that will have an impact on *Octet* and *Variations*, as the melodies themselves, while initially constructed from separate repetitive units, are of greater length and more sustained musical interest than have ever been found in Reich before. Reich’s readoption of the traditional concept of melody is but another example of his abandonment of the minimalist aesthetic in favor of a greater abundance of resources. The composer attributes his newly found method of melodic construction directly to his studies of Hebrew scriptural cantillation, “the technique of which is the putting together of small motives to make long melodic lines that make sense of the sacred text.”<sup>81</sup>

Reich’s next composition, *Octet*, is viewed by the composer as a “reaction to constantly working bigger and bigger, and a reaffirmation of the fact that small pieces are as important as large ones.”<sup>82</sup> The work is scored for two pianos, string quartet, and two woodwind performers; the latter are expected to play a variety of instruments (clarinets, bass clarinets, flutes, piccolo) but there are never more than a total of eight musical lines occurring at one time among all the performers.

One is immediately struck by the virtuosity of the two-piano writing of *Octet*; surely this is the most challenging piano technique that Reich has ever demanded.<sup>83</sup> Reich views the piano style of this work as “the result of years of writing for those mallet percussion instruments is transferred to the keyboard, so that there is some rather complex rhythmic interlocking going on between the two pianos which generates the rhythm for the entire *Octet*.”<sup>84</sup> These interlocking, canonically constructed piano patterns, which comprise the incessant, dense rhythmic backbone of the piece, begin immediately at the opening of the

composition and continue unabated through the end of the work.

Structurally, *Octet* is divided into five sections, some of which are delineated by clear changes of key and/or texture, while others are elided in such a way as to obscure the exact moment of transition from one portion to the next. Structural elision is apparently a prime goal in *Octet*; the musical processes of some of the instrumental parts are often not completed by the point of section-change, and therefore overlapping of these voices and their respective processes into the ensuing portion is inevitable. We have noted previously, in discussing *Mallet*, *Eighteen*, and *Large*, that while the musical processes and sub-structures of individual sections may be obscured, the overall structure of the work and the boundaries between its constituent parts are still clearly audible. In *Octet*, for the first time in a Reich composition, neither the larger structure nor the individual sub-structures of the five sections are immediately apparent. Despite the reduction of available timbral blends due to the use of only eight musical lines (a far cry from the coloristic luxuriance of *Eighteen* and *Large*), *Octet* is a work in which the composer seems no longer concerned that the listener comprehend the constructive basis and musical processes involved.

Most significant in *Octet* is the extension of a technique we first observed in *Large*, that of forming lengthy melodic lines by joining together smaller melodic fragments. In *Octet*, it becomes apparent that this technique of melodic construction derives as much from Reich's own earlier interest in resulting patterns as it does from his study of scriptural cantillation. For the lengthy ornate melodies of *Octet*, found primarily in the flutes and piccolo, are constructed by the composer selecting resulting patterns that have arisen out of the canonic rhythmic processes in the piano, and then connecting these patterns together to form full-fledged melodic lines. The melodies found in the flute and/or piccolo in Sections One, Three and Five of *Octet*, however, begin to assert their independence from the mere doubling of resulting patterns; it is in these sections of the work, where the lengthiest melodic lines occur, that one can begin to speak of the composer conceiving of a melody as an entity unto itself, apart from any dependence on figures which have arisen in other voices (see Example 12).

All five sections of *Octet* begin with rhythmic construction of a canonic relationship between Pianos One and Two. The basic rhythmic pattern is already fully formed in Piano One at the opening of each section; it is Piano Two that must involve itself in the process of rhythmic construction, with the end result being the formation of a pattern identical to that of Piano One, but in a different metrical position. This rhythmic construction procedure in Piano Two is highlighted by the wind instruments, most commonly clarinets and/or bass clarinets (though this varies from section to section). However,



Example 12. Steve Reich, *Octet* (1979), Section I, 3C, Flute only. Copyright 1979 by Steve Reich. Used by permission.

this highlighting process in the winds involves the doubling of only an incomplete portion of the rhythmically constructed pattern of Piano Two, resulting in distinctive melodic lines for the woodwinds which consist of brief, jagged, rhythmically charged interjections.

In *Octet*, the strings are employed to gradually augment repetitive “cadential” progressions. This slow elongation process is similar to the technique we observed earlier in *Mallet*, *Eighteen* and *Large*. For example, the two-measure, three-chord pattern, which is found in the violins at the opening of Section One, gradually augments to ten measures in length by the end of that portion of the piece. As in *Eighteen*, and *Large*, the elongating “cadential” progressions in the strings lend a constantly shifting harmonic accent to the repetitive melodic lines occurring above them. In Sections Two, Four, and Five, the cello’s “cadential” bass pattern, repeatedly swaying between semi-functional tonic and submediant sonorities and simultaneously augmenting as well, makes the changing harmonic accents particularly noticeable.

The overall structure of *Octet* gives evidence of the composer’s concern for symmetry. Sections One, Three, and Five display more animated rhythmic activity in the cello and bass clarinet, as well as the previously mentioned lengthy melodic lines in the flute and/or piccolo which show greater independence from resulting patterns than the melodies of other portions of the composition. The augmentation process of the upper strings in Sections One, Three, and Five involves an enormous five-fold expansion of an initially brief two-chord progression. In contrast, Sections Two and Four favor brief rhythmic interjections in the winds which are tied more to doubling resulting patterns than are the full-fledged melodies of Sections One, Three, and Five. The augmentation process of the upper strings in Sections Two and Four involves only a doubling of a four-chord progression; simultaneously, the cello is elongating the shifting “cadential” bass pattern which sways between tonic and submediant chords. Section Five combines all of the techniques used in earlier portions of the work: the brief two-chord pattern in the upper strings which expands to many times its original length, the shifting “cadential” bass figure in the cello, the rhythmic interjections of resulting patterns in the clarinet and bass clarinet, and the independent, melodically significant lines in the flute and piccolo.

Before discussing the last of the three commissioned works, *Variations for Winds, Strings, and Keyboards*, it seems important to emphasize several points. First of all, these three Reich compositions (*Large*, *Octet*, *Variations*) display a new turn on the part of the composer back towards his Western musical heritage, and to a great extent a consequent shift away from non-Western techniques. We have already noted the vast enhancement of texture and timbre due to the employment of larger groups of performers, and a



lessening of interest that process be immediately apparent. Other trends, equally indicative of a rejection of “minimalism”, include lengthy melodic lines, a new structural importance of harmony, and a sense that the composer is writing in a more intuitive less impersonal manner than ever before. Lastly, one might point towards a new concision of structure and an almost Classic sense of proportion. Reich appears to have discarded the endless time-distorting aesthetic of so many earlier compositions; *Music for a Large Ensemble* (sixteen minutes long), *Octet* (eighteen minutes) and *Variations* (twenty-two minutes) are never in any way diffuse or verbose, no matter how texturally dense they may be. Lengthy repetition is curbed in favor of having musical structures unfold more rapidly and less repetitively.

Reich himself is well aware of his new respect for the Western heritage. He no longer considers Perotin to be the high point in Western music as he did in 1971, now finding valuable insights to be gained from much wider scope of the Western tradition. The composer stated (1980):

There was . . . a period in which I was very interested in non-Western music and I think that this was an incredibly fertile and healthy influence that has now become a permanent part of my vocabulary. At the moment, however, . . . looking back at older or recent Western music, like that of Bartók, has been exceedingly useful and important to me, and I can see that continuing for some time . . . I would say that it's important to me to study the past, particularly that of one's own traditions . . . not so much to rehash what has been done better by those that precede oneself, as to continue to speak in the musical language that one naturally speaks in at the time that one is alive now, [but] with a better knowledge of what went on before.<sup>85</sup>

*Variations for Winds, Strings, and Keyboards* is perhaps the most indicative of this trend towards the Western tradition. *Variations*, commissioned by the San Francisco Symphony Orchestra, is the first Reich work that can be performed by full orchestra (it is scored for strings, three flutes, three oboes, three trumpets, three trombones, two pianos, and three electric organs). There is also a chamber orchestra version of the composition for twenty-five players; this is the arrangement performed by Reich and his ensemble on their recital programs.

Reich himself admits that *Variations* is so different from his earlier works that a listener “might not perhaps be completely sure that I was the composer.”<sup>86</sup> Several new features are immediately apparent in *Variations* which lend the work its remarkably different sound. First of all, it is slower in tempo (♩ = 120-132) than earlier pieces, resulting in a moderate rather than

hyperactive pace, as well as allowing light, rapid notes to emerge more lyrically in performance. Secondly—and most significantly—*Variations* is built upon a repeated chaconne-like structure; for the first time in Reich's music it is fully functional harmony that has primacy in determining structure, not rhythmic/melodic processes. The harmonic pattern of *Variations* is a slow and lengthy one, the chaconne recurring only three times in the entire twenty-two minute composition. Reich describes how the changes from one chord to the next occur within the chaconne's harmonic progression:

Instead of moving from one chord to the next, the movement would be via what is traditionally called a suspension; i.e., that all the notes stay the same, except one, and then another moves and then another moves and in the midpoint one creates certain dissonances until finally these are resolved, so one is dealing with a functional harmonic situation, but a new one, and I believe that, certainly, functional harmony is not exhausted.<sup>87</sup>

Reich insists that this chordal suspension technique was derived from studying the second movement of Bartók's Piano Concerto No. 2 (1931); in other words, it is a method he learned purely by looking at Western sources. "For me, it's a major breakthrough because it (*Variations*) deals with a harmonic language implicit in many pieces but never really developed, and unless I had gone back to some traditional Western sources, I probably would not have developed it myself."<sup>88</sup>

For the first time in many years, perhaps due to the orchestral nature of the *Variations* commission, Reich uses no percussion whatsoever in this composition. The result is an entirely new, mellow instrumental timbre, lacking the familiar steady rhythmic chatter of the marimbas and xylophones. The wind instruments, which carry the melodic and rhythmic material of the work, and specifically the "tart clarity of the oboes. . . , provide an analogue in woodwind sound to the absent percussive attack."<sup>89</sup>

*Variations* is constructed in three sections, each over one broad statement of the harmonically-based chaconne pattern. Within each of the three sections, the flutes and oboes alternate in presenting the melodic material. The three flutes are doubled throughout *Variations* by two pianos and three electric organs, while the three oboes are doubled only by three electric organs. It is not until the very end of the last variation that the two groups are united in playing the melodic material. Each of the three variations presents a distinctive melodic pattern, with the individual notes of the repetitive rhythmic/melodic figure changing to match the harmonic progression beneath. The effect, says Reich, is "one of a considerably more florid,

melismatic, developed melodic vocabulary than [in] any work of mine to date.”<sup>90</sup> He does not exaggerate: one of the two most significant features of *Variations* for Reich’s output as a whole is its vast increase in the importance of the melodic parameter of musical composition. The endless, shimmering melodic lines of the flutes and oboes, hovering high above the rest of the ensemble, signal a stylistic shift as radical as anything we have yet observed in the composer’s style (see Example 13).

The other significant feature of *Variations*, every bit as important as the melodic development, is the new use of harmony as the prime structural determinant. Though we have observed shifting, repetitive, semi-functional “cadential” progressions in Reich’s previous works, as well as the juxtaposition of static tonalities to delimit sections of compositions, nothing could possibly have prepared us for the harmonic growth evident in *Variations*. Yet Reich’s method of maintaining the chaconne’s harmonic progression during its subsequent statements harks back to earlier techniques. Just as in *Music for Eighteen Musicians* only the middle register of the pulsing chordal “cantus” remained fixed, so too in *Variations* Reich retains only the tonally ambiguous middle register of the chaconne progression, while changing the bass line beneath. Thus he is able to reharmonize the melodic material of the winds, as well as to modulate, without disturbing the integrity and consistency of the chaconne’s harmonic sequence.

The chaconne-like progression, occurring slowly but persistently within the sustained, suspended harmonies of the strings and third electric organ, has a significance even beyond its structural harmonic importance. For Reich capitalizes timbrally on his new-found use of structural harmony: at strategic intervals within the first and third variation, the double bass and full brass section enter to sustain structurally important tonic, sub-dominant and dominant sonorities. This is the sole function of the brass in *Variations* as they are silent for the remainder of the composition; the effect of their entrance is similar to that of the swelling trumpets in *Music for a Large Ensemble*. In the second variation, the brass are absent, but the string bass (doubled by cello and third electric organ) enters at important moments to sustain structural harmonies, as well as to sway back and forth between tonic, sub-dominant and dominant sonorities in a manner similar to the “cadential” progressions of *Octet* and *Large*. Though the cadential patterns do not augment here as they did in the earlier works, they can now be understood for the first time in fully functional structural terms, conceived as they are within a clear, harmonic hierarchy and tonal framework.

Lastly, one might note that again, as in *Octet*, the composer no longer cares to describe the structures of the individual sections, not even the formation of the rhythmic patterns. It is the basic harmonic progression which

Flt. 1

Flt. 3

Ob. 1

Ob. 3

Tpt. 1

Tpt. 3

Tbn. 1

Tbn. 3

Truba

Org. 1

Org. 2

Org. 3

Pno. 1

Pno. 2

Vln. I

Vln. II

Vla.

Vc.

Ch.

never brassy *p*

*mf*

one

never brassy *p*

stagger breathing

*f*

with tube

*sf mp*

*f*

Example 13. Steve Reich, *Variations for Winds, Strings and Keyboards* (1979), mm. 321-324. Copyright 1979 by Steve Reich. Used by permission.

is of prime importance. In actuality, the lengthy rhythmic/melodic patterns are never constructed during the course of the work: they spring forth, fully formed, right at the opening of the composition. Reich is well aware of the radical stylistic shift that *Variations* and its two new compositional techniques—a harmonic structural basis combined with lengthy independently conceived melodic lines—heralds. He states that, unlike *Music for Eighteen Musicians*, which was “a summation of what has come before, it (*Variations*) is very much an open door leading to a much-enriched harmonic and instrumental world for me in the future.”<sup>91</sup>

Reich’s next composition, *My Name Is: Ensemble Portrait* (1980), is, as of March 1981, still a work in progress. At first, it appears to present disturbing contradictions for those of us who would wish the composer’s musical development to progress in a straight, unbroken line. As previously mentioned, with *My Name Is* Reich returns to electronic music for the first time since his decisive rejection of all electronic techniques in 1969. Even more perplexing is the fact that *My Name Is* harks back to a still earlier stylistic aesthetic from within the composer’s output: it is a verbally based tape/speech composition in many ways very similar to *Come Out* (1966) and *It’s Gonna Rain* (1965), Reich’s first two significant works.

Why would Reich return to electronic music after so many years away from it, and why would he choose to go back to the speech-based tape aesthetic, in which he had seemingly already lost interest in 1966? The composer now makes it clear that his earlier rejection of electronic music in 1969 applied only to electronically generated sounds.<sup>92</sup> Viewed from this angle, *Come Out*, *It’s Gonna Rain*, and *My Name Is* are not really electronic works at all: though they use electronic techniques to realize their process, they are speech pieces pure and simple. Consisting as they do entirely of pre-recorded verbal material, they are merely tape compositions which use speech in such a way as to enhance and ingeniously transform both its meaning and its sonic qualities.

The new work, *My Name Is: Ensemble Portrait*,<sup>93</sup> is based upon a piece dating back to 1967. In the earlier composition, the names of members of the audience were taped as the concertgoers entered the hall. The most interesting names were then edited and dubbed onto tape loops during the first half of the Reich and Musicians recital; after intermission, Reich informally improvised phase relationships between the various names by using three small portable tape recorders. The result was a flexible phase composition, similar in its almost aleatoric aesthetic to *Pendulum Music*; compositionally, the effect was close to *Come Out* and *It’s Gonna Rain*, but here the phasing process was presented in a technically much more fluid and unstructured manner.

Recently, it occurred to Reich that in this long-forgotten concept there might lie the kernel of a new composition. Instead of using the audience's names as the basis for a tape piece, he would use the names of the performers in his own ensemble. Instead of improvising the phase relationships, he would meticulously work them out in advance, but using the technologically more sophisticated equipment made available since 1967, with a consequent greater complexity of the end product.

The result was *My Name Is: Ensemble Portrait*, premiered at the Whitney Museum in New York on January 6, 1981. Reich is careful to label this composition as a "work in progress," for reasons which will become evident in a moment. At the Whitney Museum, the eight performers of *Octet* first stepped forward to microphones and introduced themselves ("My name is Ed. My name is Nurit. My name is Shem. My name is Bob. My name is Mort. My name is Virgil. My name is Chris. My name is Ruth"). The tape piece began immediately afterwards, with these same introductions repeated in the identical order. Starting with Ed, Reich puts each of the names, one at a time, through a series of complex phase relationships. Immediately after a name is announced, a rapid shift of phase begins; unlike *Come Out* and *It's Gonna Rain*, where the phasing process took several minutes to become audible, in *My Name Is* it takes only several seconds for a complete shift of phase to be accomplished. The rapidity of the phasing process, combined with its loosely structured application, makes one realize that the composer has transferred a trend we have repeatedly observed in his recent live compositions to tape music: just as live works, such as *Music for Eighteen Musicians*, placed beauty of sound and luxuriance of texture over perception of process, here too the composer is more interested in the coloristic end result of the multiple phasing procedures than in the process itself occurring so slowly as to be clearly audible at all stages of its progression. And the coloristic effects are indeed remarkable—resulting patterns, reverberations, drones, chordal combinations, rhythmic chatter; it is on these timbres that the composer lingers, not on the phasing process itself.

Compositionally, *My Name Is* is simply constructed. A voice fades in, introducing the first name, but rapidly shifts out of phase and into a lengthy section of coloristic patterning. A second voice eventually also fades in, introducing the next name, and rapidly shifts out of phase; simultaneously, the first voice moves back into phase unison and fades out. This overlapping of phasing processes is repeated for all eight of the names used in the composition.

Yet Reich feels that *My Name Is*, as it was performed at the Whitney and just described here, is no more than a work in progress, a sort of "notebook sketch" for a much larger composition that would go far beyond the re-hashing of old tape techniques. The projected work would expand in several

ways upon the processes used in *My Name Is*. First of all, instead of employing voices known only to the composer, it would use voices known to the general public (such as, perhaps, Roosevelt, Truman, or Hitler). Secondly, such voices could be combined with sound film, resulting in a historico-political multimedia event. Thirdly, rather than having the electronic procedures consist only of phasing techniques, Reich would submit these well-known voices to a variety of processes, including some conceived of much earlier in the composer's career, but which were technologically impossible to realize at that time.<sup>94</sup>

What finally convinced Reich to pursue this project seriously was the realization that his devotion to instrumental music, so apparent since 1969, would not have to be abandoned as a result of his renewed interest in electronics. We have already noted the inherent musicality of the speech material used in *It's Gonna Rain* and *Come Out*, as well as the harmonic, melodic, and rhythmic resulting patterns which arise from the complexity of the verbal phase relationships. Why would it not be possible to utilize live instruments in combination with the electronic tape, to imitate the sounds produced by the rapidly phasing verbal material as well as to complete the implied harmonic, melodic and rhythmic inferences of the resulting patterns? Once live instruments were introduced, the tape could fade out, at which point the instrumental music would be able to develop of its own accord. Reich realized that this combination of verbally-based tape techniques with live instrumental music would be his ultimate goal in any musical project involving electronics. Such a procedure struck Reich as being a way to "go back into my own past, to rejuvenate something that I actually enjoyed doing (tape music), which I had stopped doing merely as a kind of ongoing movement away from electronic music, because I didn't see any way to incorporate it in any meaningful manner into what I was doing now. What I would like to do with *My Name Is*—and why I insist that is just a sketch—is because the important part of it is to introduce the instruments. . . . One would end up with a tape and a live score. And *My Name Is* would become a kind of notebook sketch for this larger piece, which is what I really conceive of it to be."<sup>95</sup>

It should by now be apparent that *My Name Is*, with its coloristic application of phasing principles, looseness of process and denseness of texture, and projected combination with live music, is but a logical (though admittedly unexpected) outgrowth of trends already present in Reich's stylistic development. As significant a departure as it marks, the new directions heralded by Reich's most recent composition, a four-part work entitled *Tebillim* (Hebrew for "Psalms"), are far more remarkable. It is not an exaggeration to predict that this composition will mark the beginning of a new style period for Reich, as it gives evidence of a style change even more astounding than that which we observed in *Music for Eighteen Musicians*.

*Tebillim*, commissioned jointly by West German Radio (Cologne), South German Radio (Stuttgart), and the Rothko Chapel (Houston), consists of settings of four Psalm texts, in Hebrew. For the first time in Reich's career, the composer has chosen to set a text to music in the traditional manner, unlike the speech-based tape pieces which took verbal phrases and made them into the actual musical material. Reich had always been displeased by his student attempts of the early 1960's to set a written text directly to music.<sup>96</sup> His initial joy at discovering the tape techniques of *Come Out* and *It's Gonna Rain* derived primarily from his realization that the use of recorded speech as musical material would solve his problem of how to compose vocal music. For Reich felt that setting the works of certain American poets (such as William Carlos Williams, Charles Olson, and Robert Creeley) directly to music distorted or destroyed their essential speech rhythms. Yet in *Tebillim*, the composer finds himself, for the first time, entirely comfortable with the process of creating music for a written text. The fact that the text itself is in Hebrew gives him two distinct advantages: first of all, Hebrew is not Reich's native tongue, and he therefore gains a certain linguistic distance from the material which he would not have with English; secondly, the Psalms are not in modern Hebrew but in ancient Hebrew, and therefore a historical distance from the text is gained as well. In addition, there is no surviving Western scriptural cantillation tradition for the Psalms, as there is for the Torah and the Books of Prophets. Reich, who has studied cantillation techniques, can thus feel doubly free in his dealings with the Psalm texts: not only is he removed from the language, but he can approach the Psalms purely as words without any background knowledge of cantillation melodies hovering in his mind.

Inextricably linked to Reich's new use of a written text is the enormous expansion of the melodic parameter that is evident in *Tebillim*. Selecting specific Psalms as subject matter for a composition obviously assumes a consequent use of musical material that will enhance the meaning of the texts chosen. Therefore, it must have seemed apparent to Reich that *Tebillim* could no longer be constructed around melodically repetitive patterns, as all his previous compositions had been, without violating the integrity of the text. In *Tebillim*, we are dealing with genuine melodic material, spun out independently without being the consequence of either doubling resulting patterns arising in other voices, or of joining together repetitive fragments to form a longer melodic line. We have observed a slow and steady growth of the melodic parameter in Reich's recent compositions: the melodies of both *Music for a Large Ensemble* and *Octet* were formed either by using the resulting patterns from other voices, or by piecing together smaller fragments in the manner of cantillation technique. *Variations* allowed the melodic material of the flutes and oboes to become, for the first time, entirely independent of the musical



substance of the rest of the ensemble, yet the melodic lines were still constructed of shorter repetitive modules, strung together to create longer phrases. *Tebillim* takes the next logical step: the melodic material is neither made up of repetitive fragments nor resulting patterns. We are now listening to fully-formed melody, conceived as an integral, independent entity. In the composer's own words, *Variations*, at least melodically, is "poverty-stricken" compared to *Tebillim*.<sup>97</sup>

Ultimately the melodic material achieves complete primacy in *Tebillim*, a primacy closely connected to Reich's concern for proper text declamation. For the Hebrew text's accentuation pattern determines rhythm and meter, its line and verse structure controls phrasing and sectionalization, and occasionally the exigencies of tone painting dictate the melodic contour. Thus the Psalms themselves (and melody, their conveyor in music) govern both the large-scale form and smaller structural details of *Tebillim*.

Yet not only the melodic parameter establishes *Tebillim* as a major turning point in Reich's oeuvre; harmony also exhibits a vast expansion in scope. Though *Tebillim* was conceived initially as a melodic work, with the harmonic skeleton not germinal but rather a later addition,<sup>98</sup> the several interrelated harmonic cycles of *Tebillim* are a prime contributor to the overall structural plan of the composition. The basic harmonic technique of *Tebillim* harks back to that which we first observed in *Music for Eighteen Musicians*: a chordal cycle, established near the outset of a section, undergoes subsequent permutations which consist chiefly of altering the bass line, while the middle and upper registers remain fairly constant. Thus Reich gains the latitude for eventual modulation, merely placing new bass pitches beneath the original chordal cycle and removing those notes from the middle and upper registers which interfere with the revised modulatory plan. However this technique is used in a much freer manner than it was in *Music for Eighteen Musicians*: the modulatory scope and frequency (and consequent variety of permutations required of a movement's basic chordal cycle) are far greater in *Tebillim* than in Reich's earlier works. Similarly, Reich takes liberties in the manner in which he relates the various permutations of the harmonic cycle; several versions may be combined, either by reordering, overlapping, or juxtaposition, to create longer more enriched chordal sequences. Most significantly, all the harmonic cycles are now clearly wedded to functional tonality, enabling the harmonic language to possess a greater sense of direction than ever before. The chords themselves, chiefly triadic but with many added tones, are similarly more varied in modulatory range and sheer number per movement than was previously the case in Reich.

Other aspects of *Tebillim* point to new directions in Reich's work. His concern with creating an appropriate setting for the Psalms has led to numerous

modifications of his musical aesthetic. Meters now change in practically every measure, though throughout the entire work the metric patterns may be reduced to groups of two or three beats, and within each movement the eighth note pulse itself is unvarying. The metric fluctuation allows for a precise declamation of the Hebrew and is in sharp contrast to Reich's earlier work which typically maintained a fixed meter for long sections or entire compositions. Advances may also be noted in instrumental technique, especially the string writing, which retains its old function as the purveyor of the chordal cycle but increasingly takes part in the motivic fabric. The strings now contribute rhythmic punctuations, staggered imitative entrances, timbral enrichment, and further imitation of vocal motives. The timbral and textural contrasts in *Tebillim*—both within sections and between movements—are astounding in their scope and variety, showing the composer's new concern with diversity, not unity, of sonic quality. Tempo likewise is employed as an element of contrast, with the third part functioning as a true slow movement, pervaded by a warm, expansive new lyricism utterly alien to Reich's earlier compositions.

What is truly unprecedented in *Tebillim* is Reich's abandonment of repetition in the sense that we know it from his previous work. Though the composer warns us that "while there is no repetition in *Tebillim*, I do not mean to say that I'm through with repetitions,"<sup>99</sup> *Tebillim* itself employs repetition only in the manner that it has traditionally been used in Western music. Large-scale sections (such as entire Psalm verses) or individual lines of text may be repeated, but repetition of the earlier Reichian type—the constant reiteration of small-scale rhythmic/melodic modules—has been almost entirely rejected. Only the percussive backbone of *Tebillim* (the tambourine, hand clapping, marimbas, and vibraphones) retains the sort of incessant, interlocking rhythmic chatter that is familiar from Reich's previous compositions.

*Tebillim*, not surprisingly, also shows many links with Reich's earlier work. Structurally, Reich has not abandoned his interest in clarity of process, for the two constructive types used in *Tebillim* (canon and variation) may be discerned aurally by any concentrated listener. The concept of canon in itself has a long heritage in Reich's music. Just as phasing was a sort of seamless, transitionless canonic technique—and as rhythmic construction resulted in the formation of canonic relationships between two or more instrumental parts—so too *Tebillim* depends on the canon in order to combine its new lengthy melodic material. Part One of the work consists almost entirely of two- and four-voice canons at the unison sung by women's voices; each verse of the Psalms is conceived as an independent canon with the metrical position between the voices varying from verse to verse. In this way *Tebillim*, while blazing new paths in its melodic construction, can simultaneously have a satisfying organic connection to Reich's earlier works, due to its utilization of

multiple canonic lines which are all at the same pitch level. For what were the multiple vocal tracks of *It's Gonna Rain* (1965), or the multiple instrumental tracks of *Violin Phase* (1967), if not identical canons at the unison? The prime distinction between such early canonic techniques and *Tehillim* is the fact that the phase pieces, both electronic and live, included metrically irrational transitions between the various canonic positions. Yet the effect of the canons of *Tehillim's* Parts One and Four (due to their unison pitch relationship, their identical vocal range and performing medium, and their pure, non-vibrato vocal style) is remarkably close to Reich's early tape music. In essence, the superimposed vocal tracks of *Come Out* and *It's Gonna Rain* have returned in *Tehillim* in an utterly different guise, proving once more the fertility of electronic influence on live instrumental music.

*Tehillim's* harmonic techniques similarly point back to many earlier works. We have already noted the origin of *Tehillim's* chordal cycle in *Music for Eighteen Musicians* and *Variations*. It must be stressed, however, that Reich's ability to modulate in *Tehillim*, as in earlier compositions, derives as much from the deliberately ambiguous modality of his harmonic materials as from his alteration of the bass beneath fixed middle and upper register pitches. With their bass root removed, the middle and upper registers consist either of triadic chords with many added pitches or modal sonorities; both are unclear tonally. Thus a newly added root can substantially alter the direction of the entire chordal cycle. Closely connected to the harmonic modality is the melodic modality of the vocal lines. In Parts One, Two, and Four, the melodic materials progress from seven-note scale patterns at the outset of the movements to ambiguous four-note scale patterns for the final verses (verses three and four in Part One, verse three in Parts Two and Four). It is these verses, inherently unclear tonally owing to their four modal pitches, that Reich exploits for reharmonization, modulation, and cyclic permutation when they recur later in their respective movements.

As we observed repeatedly in *Music for Mallet Instruments, Voices and Organ*, *Music for Eighteen Musicians*, *Music for a Large Ensemble*, and *Octet*, here in *Tehillim* Reich again employs techniques of augmentation and/or diminution to alter the temporal span of his chordal cycles. The effect of these expanding and contracting harmonic cycles beneath relatively constant melody is to superimpose a wide range of shifting harmonic accents upon the melodic materials above. Similarly, the melodies themselves (in Parts Two, Three, and Four) use augmentation as one of their prime methods of variation, and the combination of elongated melody with altered chordal cycles produces a constantly changing relationship between melody and its harmonic underpinning.

Lastly, the sonic quality of *Tehillim*, its timbres, textures, and instrumentation, recall previous compositions. We have already noted the similarities to

and differences from earlier string writing, the relationships of the vocal canons to tape music, and the interlocking rhythmic patterns in the percussion. In *Tebillim*, one of the most distinctive timbres is derived from the fact that the vocal lines are almost constantly doubled by other instruments—clarinets and later electric organs in Part One; oboe and English horn in Part Two; oboes, violins, and clarinets in Part Three; oboe and English horn, clarinets, and later electric organs in Part Four. The almost electronic sonority resulting from this unison doubling of instrumental and non-vibrato vocal lines is similar to the timbres produced in *Variations*, where three flutes and three oboes (the melodic soloists) were doubled respectively by two pianos/electric organs or simply electric organs. The final textural link to Reich's earlier music involves steady pulse: *Tebillim*, despite its frequent meter change and timbral/textural contrasts, at no point abandons Reich's earlier aesthetic requirement that repeated constant pulse be the backbone of new music. In fact, *Tebillim*'s rhythmic vitality and steady pulse are essential in allowing the work to burst forth at the listener as a prolonged, joyous affirmation of faith.

With *Tebillim* Reich continues his long return to the Western tradition that we have previously noted in *Music for a Large Ensemble*, *Octet*, and *Variations*. *Tebillim* finds Reich dealing with the problem of text setting that Western composers have grappled with for centuries and arriving at a personal solution, one that abandons repetitive modules in favor of lengthy melodic lines that employ traditionally Western canons (though at the unison) and variations as developmental techniques. The notion of development is in itself new in Reich, for in *Tebillim* one feels for the first time that, with constant repetition rejected, the musical materials are finally able to unfold freely and develop as the work progresses. Together with its functional harmonic cycles, typically tonal harmonic vocabulary, and immense variety of contrasting textures and timbres, *Tebillim* appears to draw more deeply from the well of Western tradition than any previous Reich composition. Yet Reich was careful to include instruments within the orchestral ensemble that would relate both to the Psalm texts themselves and to their Middle Eastern associations. In addition to the percussion that Reich has often used before (maracas, marimbas, vibraphones, and hand clapping), *Tebillim* adds two new instrumental types: small tuned tambourines without jingles, and crotales (antique cymbals). The former resemble the small drums described in the Bible (including Psalm 150, set in Part Four) under the name *tof*; the latter were widely used in the Middle East in Biblical times, as were hand clapping and rattles.<sup>100</sup> But Reich states clearly: "In spite of the use of these instruments, *Tebillim* has no musicological content, and it does not pretend to reconstruct Hebrew music of the Biblical period."<sup>101</sup>

1. Ha-sha- my-im meh-sa-peh-reem Ka-vahd Kail u-ma-ah-say ya-dive mah-geed ha-ra-ki-ah.

2. Yom-le-yom ya-bee-ah oh-mer va-ly-la le-ly-la ya-cha-vey dah-aht.

3. Ain oh mer va-ain da-va-reem beh-lee nish-me ko-lahm

4. Be-kawl ha-ah-retz ya-tza ka-ram u-vik-tzay tay-vail mee-lay-hem.

Be-kawl ha-

Example 14: Steve Reich, *Tehillim* (1981), Part I, Section A, verses 1-4, voice only. Copyright 1981 by Steve Reich. Used by permission.

*Tehillim* is a complex work of immense variety and any analysis attempted here can only begin to scratch the surface of its riches. Some analysis must nonetheless be undertaken if only to demonstrate how *Tehillim*'s new melodic style and several constructive techniques are combined into a coherent whole. Part One sets Psalm 19:2-5 (1-4 in the King James Version). It opens with a solo voice accompanied only by tuned tambourine and rhythmically doubling hand clapping. Each verse of the Psalm is given distinctive melodic material (see Example 14), which provides all the music for the remainder of Part One, including the subsequent canons that are constructed upon the melodies of the opening verses. Part One begins using a seven-note scale within D natural minor; verses three and four progress to a modal four-note scale and allow Reich the latitude for later modulation.

After the opening solo vocal section, the entire four verses are repeated once more, now with the clarinet doubling the vocal line and an added second tambourine and rhythmically doubling hand clapping. Reich's devotion to canon is such that even the two tambourine/clapping lines are now in rhythmic canon with one another, producing a complex interlocking rhythmic pattern. A two-part vocal canon at the unison ensues with the metrical position of the answering voice varying for each of the four verses; a second clarinet is added to double the answering line. Once all four verses have been stated canonically, the two-voice canon is repeated with the chordal cycle in the strings now added beneath, lending entirely new harmonic accentuation to the previously stated melodic material. Finally a four-voice canon at the unison begins (Example 15), again with an independent canon built upon the melodic material of each of the four verses. Electric organs now double the vocal lines and the maracas begin their chatter; here the maracas are not merely an aesthetic choice, but (as in *Four Organs*) are essential in clarifying the metric stress. Five complete repetitions of each verse's canon occur; beneath the swirling melodic lines in the voices, the strings play an immensely elongated and slightly altered version of their earlier chordal cycle. In verses three and four, Reich capitalizes on the modal ambiguity of the melodic material and, by changing the bass line, allows the chordal cycle to modulate to G Major while the canons on the original melodies continue above unabated.

Once the four-voice canons have concluded, Reich returns to a reduced texture for a restatement of verses one through four; here a single voice is again accompanied by doubling clarinet, tambourine, and maracas. This section is subsequently repeated added the string chordal cycle beneath, now modulating to an implied D Major. When the four verses are finally complete, Reich repeats the previous section (with the chordal cycle beginning again) but now adds a lyrical second voice singing in parallel thirds or sixths beneath the principal melodic material. Eventually the second voice and string chords fade

1. Ha-sha-my-im meh-sa-peh-reem ka-vohd Kail u-ma-ah-say ya-dive meh-geed ha-

1. Ha-sha-my-im meh-sa-peh-reem ka-vohd Kail u-ma-ah-say ya-dive mah-

1. Ha-sha-my-im meh-sa-peh-reem ka-vohd Kail u-ma-ah-say

1. Ha-sha-my-im meh-sa-peh-reem ka-vohd Kail u-

Example 15. Steve Reich, *Tebillim* (1981), Part I, Section F, verse 1, voice parts only. Copyright 1981 by Steve Reich. Used by permission.

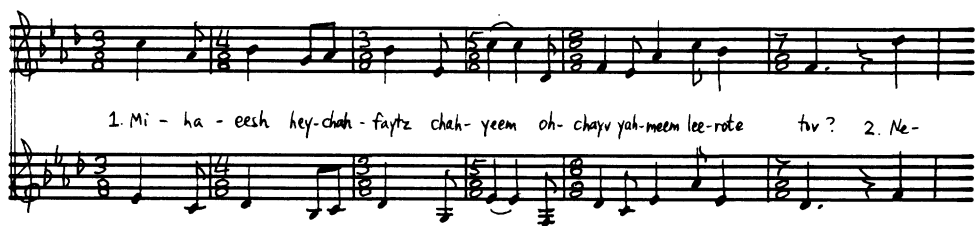
out, leaving the principal voice to be accompanied solely by tambourines, maracas, and clarinet, thus recalling the vastly reduced texture of the opening of the movement. Overall, Part One may be viewed as a symmetrical form progressing from a free melodic style utilizing sparse instrumentation to two- and finally four-voice canons above rich instrumentation; gradually the movement returns to a thin non-canonic texture by its end. A seamless transition between Parts One and Two is provided by the tambourines and maracas, which blend almost unnoticed into the tambourine and hand clapping accompaniment that opens the second part.

Parts Two and Three of *Tebillim* differ from Parts One and Four in that they abandon the canon as a constructive technique and instead turn to the variation. Part Two sets Psalm 34:13-15 (12-14 in the King James Version) and, as Part One, progresses from a seven-note scale (here in A $\flat$  Major) to an ambiguous four-note scale (A $\flat$ -B $\flat$ -D $\flat$ -E $\flat$ ) for the last of the three verses. The lyrical duet texture that opens Part Two is similar to that which occurred towards the end of Part One; here a principal voice is paralleled by a lower line which customarily sings a sixth below the upper voice (Example 16a). The two voices are doubled respectively by oboe and English horn.

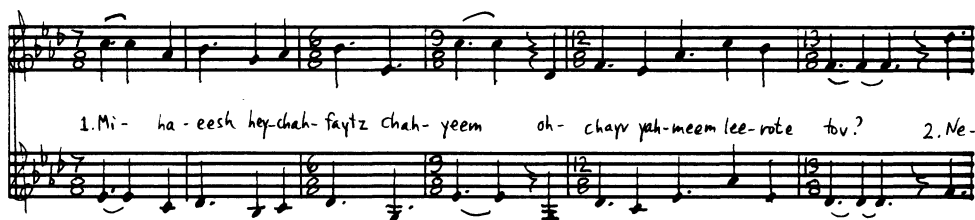
Variation One consists of the addition of a string chordal cycle beneath the vocal duet and its accompaniment; the cycle typically both shifts the harmonic accent and (for verse three) modulates to B Major. Variation Two is an instrumental interlude; merely the text and the vocal parts are removed, while the English horn and clarinet now double one another, playing what in Variation One was the lower voice's counter-melody to the principal melodic line. Both the succession of meters and the versification of Variation One are maintained, despite the fact that the text and the principal melodic material have been abandoned.

Variation Three returns us to a texture and instrumentation identical to that before the interlude; here, however, the original melodic material and the accompanying chordal cycle are greatly elongated (compare Example 16b to Example 16a). Variation Four superimposes a high coloratura soprano line over the previous duet texture; the new voice is doubled by clarinet and clearly pierces through the thick orchestral/vocal texture. An instrumental interlude without any melody whatsoever functions as Variation Five, maintaining the meter and versification pattern of the previously lengthened melodies of Variations Three and Four. The percussion are the stars of this section, accompanied by a string chordal cycle that is an altered composite of all earlier permutations of this movement's harmonic sequence. Finally, Reich returns to a duet texture and melodically ornaments the already extended version of the melodic material (Variation Six, Example 16c); for the final Variation





Example 16a. Steve Reich, *Tehillim* (1981), Part II, Section A, verse 1, voice parts only. Copyright 1981 by Steve Reich. Used by permission.



Example 16b. Steve Reich, *Tehillim* (1981), Part II, Section D, verse 1, voice parts only. Copyright 1981 by Steve Reich. Used by permission.

Example 16c. Steve Reich, *Tehillim* (1981), Part II, Section G, verse 1, voice parts only. Copyright 1981 by Steve Reich. Used by permission.

Seven of the movement, a coloratura line is added above the previous melismatic duet texture, just as was done in Variation Four. Thus, Part Two, like any good variation set, mixes a number of developmental techniques—stable melody with altered harmony, instrumental interlude based on previous vocal material, elongation and melismatic ornamentation of the vocal line, and added counterpoint in the high soprano.

Part Three functions as a predominantly lyrical slow movement, providing a respite from the faster tempo and more animated texture of the other sections. Here the tempo slows from ♩ = 144 to ♩ = 112, and the orchestration changes to feature subdued mallet instruments (vibraphones and marimbas), in contrast to the lively timbres of the tambourines, maracas, and hand clapping which permeate all the remaining movements. Part Three sets Psalm 18:26-27 in an imitative duet texture aptly suited to the Biblical text (see Example 17): the upper voice states the first half of each Psalm line (“With the merciful . . .”), and the answering line echoes the musical material of the principal voice at a lower pitch level (“ . . . You are merciful”). The two vocal lines are accompanied throughout by an interlocking rhythmic pattern in the marimbas and xylophones. Part Three opens in C# Dorian, but the modality is clouded in the second verse by a melodic shift to G# in the principal vocal line; this lovely touch of tone painting depicts the word “perverse” (ee-kaysh) and results in both a tritone with the C# of the marimba/vibraphone 1, and a dissonance with the G# of marimba/vibraphone 2.

Part Three, like Part Two, is constructed as a variation set, but features more subtle alterations in its five variations than did Part Two. The developmental techniques employed consist chiefly of changing the melodic contours from variation to variation; note values are also lengthened, mimicking the elongation techniques used in Part Two. Simultaneously, the vocal duet is enriched by adding parallel melodic lines (often at the third, fourth, or fifth) beneath both the principal voice and the lower answering line, resulting in a four-voice texture. The chordal cycle in the strings, as in the other movements, is constantly varied, with new bass pitches and enriched upper registers lending a changing harmonic interpretation to the melodic materials above. Not only is there modulation, but chord cycles are altered in every possible manner: by adding or removing chords from the original cycle, by substituting new bass pitches, and by overlapping or juxtaposing differing versions of the original sequence.

Most significant in Part Three is the vastly expanded role that the strings play in the motivic fabric. Here they are not simply relegated to prolonging chordal cycles: they imitate previously stated vocal motives; they add brief rhythmic punctuations which momentarily double the rhythmic patterns in the marimbas and vibraphones; they enter in inverted pyramid

1. Im-chah-seed Im-ga-var-tah-meem

Tit-chah-sahd Tit-tah-mahm

Example 17. Steve Reich, *Tehillim* (1981), Part III, Section A, verse 1, voice parts only. Copyright 1981 by Steve Reich. Used by permission.

formation (from highest to lowest), gradually thickening the texture; and they provide timbral variety, especially in the lengthy pizzicato pedal points which, descending by half step from D $\sharp$  to C to begin the chordal cycle of the finale, assist in the seamless transition to Part Four. Most interesting for those of us who like to view Reich's recent works as hybrids of earlier techniques is the effortless "timbral modulation" that links Parts Three and Four. Reminiscent of the method that linked the various sections of *Drumming*, here the marimbas, vibraphones, and strings of Part Three gradually fade out while the tambourines of Part Four crescendo into the opening of the finale.

Part Four combines the constructive techniques (canon and variation), melodic materials, chordal cycles, and distinctive textures of all the other movements of *Tebillim*. As such, it functions as a gigantic recapitulation, returning to the original tempo ( $\text{♩} = 144$ ), key (D minor), and opening melodic material. Part Four sets Psalm 150:4-6, a text that refers to drums, strings, winds, and cymbals, all appropriately used within this movement.

Opening with the homophonic duet texture that occurred in both Parts One and Two, Part Four takes the melodic material of Part One and thoroughly reshapes it to meet the requirements of the new text. Each verse of Part Four can be viewed as a free melodic variation on the respective verse of Part One (compare Example 18a to Example 14). Even the opening chordal cycle of Part Four is based on Part One, being a composite of two different versions of the first movement's harmonic sequence.

Once the three verses have been stated the homophonic duet texture changes into a two-voice canon at the unison, again harking back to the structural techniques of Part One. Continuing the parallel relationship with Part One, the following section constructs a four-voice canon at the unison upon the melodic material of each verse. As in the other movements, the chordal cycle is soon altered beneath the tonally ambiguous melody of the third verse to allow Reich to modulate to G Major.

Up to this point, it is Part One that has been the prime influence on Part Four. Once the canons have ended, however, Parts Two and Three become of greater importance. A variation on the melodic material of Part Four ensues, utilizing the same elongation technique we observed in Parts Two and Three (compare Example 18b to Example 16b); even a high soprano part, reminiscent of Part Two, is now added above the other two voices. An instrumental interlude, utilizing only the chordal cycle in the manner of Variation Five of Part Two, follows. Finally, as in Part Two, a vastly expanded melismatic version of the already elongated thematic material is introduced; a high soprano line is immediately added above the other vocal parts. Despite all the influence of Part Two in the variation techniques, the string writing in these sections refers back to Part Three, with its more active motivic fabric,

1. Ha-le-lu-hu ba-tof u-ma-chol Ha-le-lu-hu ba-mi-nim va-u-gav.

2. Ha-le-lu-hu ba-tzil-tzi-lay sha-ma Ha-le-lu-hu ba-tzil-tzi-lay ta-ru-ah

3. Kol han-she-mah ta-ha-kil yah Ha-le-lu-yah 3a. Kol han-she-mah ta-ha-kil yah Ha-le-lu-yah.

Example 18a. Steve Reich, *Tebillim* (1981), Part IV, Section A, verses 1-3a, voice 1 part only. Copyright 1981 by Steve Reich. Used by permission.

1. Ha-le-lu-hu ba-tof u-ma-chol Ha-le-lu-hu ba-mi-nim va-u-gav.

Example 18b. Steve Reich, *Tebillim* (1981), Part IV, Section O, verse 1, voice 1 only. Copyright 1981 by Steve Reich. Used by permission.

“inverted pyramid” entrances, brief rhythmic punctuations, and pizzicato pedal points in the bass. Even the chordal cycle itself is now a composite of that of Parts Two and Three, as if to complete the recapitulatory nature of the finale.

A grand increase in instrumentation demarcates what is essentially the coda of Part Four, a prolonged joyous affirmation on the single word “Hallelujah.” The flute (to double voice three), piccolo (to double voice one), crotales (to imitate or double vocal motives), and vibraphone (to enrich the percussive backbone and remind one of the timbre of Part Three) are added; in addition, all the previous vocal doubling instruments (electric organs, clarinets, oboe, English horn) are now employed simultaneously. The musical material itself is derived entirely from the “Hallelujah” motive which closed verse three of Part Four. Structurally, the coda demonstrates in a microcosm many of the variation techniques used in the entire work. The “Hallelujah” motive, initially echoed between pairs of voices in a manner similar to Part Three, soon elongates until it is several measures in length. Subsequently, it is augmented even further by the addition of ornamenting melismas. Many of the instrumental techniques used in earlier parts of *Tebillim* are also reunited in the coda: not only do all of the doubling vocal instruments appear together for the first time, but the string writing (with its pyramided entrances from upper to lower strings, its held chords, and its bass pizzicato pedal point) recalls that of Part Three. Within the percussion section, the vibraphone joins the maracas and tambourines to reinforce the interlocking rhythmic patterns that have continued throughout most of the work.

Harmonically, the coda fluctuates repeatedly between the major and minor key signatures used in the work’s four parts, mimicking the shifts in mode that occurred so prominently in verses three and four of Part One and verse three of Part Four. The chord cycle itself begins as an altered version of that of Parts One and Four; soon, however, it returns to its starting pitch ( $B_b$ ) and begins a series of repeated bass patterns ( $B_b$ -A-G). Here, perhaps for the first time in a work of Reich, it is the bass itself—not the middle and upper registers—which is of prime importance, preparing for the closing tonality of the work, D Major. Upon the final repetition of the bass pattern, the bass remains on A, the dominant of D. While D Major is never stated (only implied by its dominant in the bass) it is clearly understood as a result of the purposeful, functional harmonic progression that has driven inexorably toward the concluding measures. Meanwhile the vocal parts have abandoned imitative techniques in favor of a homophonic three-voice (and later four-voice) texture, still employing the “Hallelujah” motive. The final burst of sonority—the thickly textured vocal parts, doubling wind instruments, percussive rhythmic patterns, repeated chordal cycle in the strings, and high-pitched crotales ringing out above the entire ensemble—produces an exhilarating tapestry of

sound. *Tehillim* stands as a jubilant affirmation of God, peace, and life itself; the sheer joy with which it ends overwhelms the listener and performer alike and cuts across religious barriers to unite us all in a song of praise.

By now, it should have become apparent that a discussion of any given Reich work must end with a multifaceted conclusion which points both forward and backward. In describing any new composition, it seems one can never fail to note the structural techniques which reflect earlier works, as well as new, unprecedented developments that offer raw material for the future. For this reason, Reich's compositional development itself, and not just his early aesthetic of 1968, could be fairly described as "Music as a Gradual Process"; hence the title of this article. Reich seems to progress in a highly rational manner from one composition to the next with few deviations along the way. Each new work appears to capitalize on techniques used in immediately preceding compositions, but also adds novel ideas which will in turn stimulate later development. Hardly anything goes to waste or leads to an unproductive dead end. The early tape pieces resulted in the live phase works; the "Phase Shifting Pulse Gate" encouraged the augmentation techniques of *Four Organs*, *Music for Mallet Instruments*, *Voices and Organ*, *Octet*, etc.; the timbral and textural enrichment of *Drumming* led to *Music for Mallet Instruments*, *Voices and Organ*, *Music for Eighteen Musicians*, *Music for a Large Ensemble*, etc.; the technique of rhythmic construction of *Six Pianos* resulted in *Music for Mallet Instruments*, *Voices and Organ*, *Music for Eighteen Musicians*, and *Music for a Large Ensemble*; the use of human breath as a duration of length in *Music for Eighteen Musicians* was apparent once more in *Music for a Large Ensemble* and *Variations*; the lengthy ornate melodies of *Music for a Large Ensemble* found greater expansion in *Octet*, *Variations* and finally *Tehillim*—the list is endless. All these examples serve to reinforce the impression of a deliberate, steady progress toward an as yet unrealized (and perhaps unconscious) goal. Thus, it is easy to predict that Reich is one composer who will never submit to stylistic stagnation: any musician who has undergone such a vast aesthetic transformation in a mere sixteen years of creative activity is likely to continue to evolve in new and unexpected ways.

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In conclusion, it is tempting to try to place minimalism, and Reich's style in particular, within the broader context of not only new music but also contemporary society as a whole. Why did minimalism arise in the early 1960's, and what are the reasons for its continued development? Most obviously, minimalism was a rebellion against many aspects of the establishment avant-garde that the progressive younger composers found unattractive. The numerical

manipulations of serialism, which placed intellectual complexity on a higher level than listener comprehension, were discarded in favor of a clarity of structure. The random processes of Cage and aleatoric music in general were rejected in favor of rigorously structured composer-organized compositions. Lastly, the requisite atonal idiom was challenged by the notion that tonality—though, as we have seen, tonality of a vastly different type—could still play a powerful role in creating new and original music.

Yet beyond the simplistic aspect of rebellion against several existing aesthetics, minimalism is an art with more profound reasons for its development; it is a consequence of the condition of mankind in an increasingly complex and uncontrollable society. Of all aspects of minimalism, it is the deliberate limitation of the resources employed, the focusing in on minute amounts of material, that is the most immediately apparent. Eric Salzman has stated that “clearly, minimalism is a reaction to twentieth-century information overload, to the buzzing, blooming confusion.”<sup>102</sup> Such a reason for the rise of minimalism must certainly be emphasized; its conscious restriction of the material employed can easily be viewed as an extreme response to the complex incomprehensibility of both contemporary music and contemporary culture in general. It is true that, in one sense, this type of response is no more than an escape, yet, escape or not, the music produced has at least two of the marks of artistic value: it has had a lasting power, despite the many cultural changes that have occurred since the mid-1960’s, and it has had the ability to grow and develop far beyond its original aesthetic, as the music of Reich and Glass makes apparent.

The second most obvious aspect of minimalism is perhaps its desire for a clarity of structure coupled with rigorously planned processes, its assertion that the composer’s conscious control over the musical material is still an important factor to be considered. This is in sharp contrast to the rather nihilistic Cageian view that either eliminates art altogether, or asserts that all aspects of our culture deserve equal consideration as art. Here, the minimalists re-assert that conscious judgement is needed to determine what is viable as art, that composer intervention is necessary to regain control over an increasingly unfocused musical scene. It is true that Cage has influenced the minimalist aesthetic in other ways; at the fine line where minimalism and concept art merge, it is obvious that the notion of a single idea or activity being valid as the basis for an entire composition, rather than any developmental or directional procedure, clearly stems from Cage’s philosophy. Yet the minimalists’ utter rejection of random procedures, and their emphasis on an almost dictatorial domination of the musical material, goes beyond Cage to reflect an urge present in all of us: the desire to regain control over increasingly elusive social and artistic processes.

Reich’s personal style is a mirror of the stylistic eclecticism of the



contemporary music scene. Such eclecticism has become the norm since the 1960's; a multiplicity of sources and techniques has replaced the dogmatic application of selected compositional methods, whether serial, atonal, or aleatoric. Reich has employed a vast number of widely varied structures and techniques within his music. We have already noted his roots within popular music, evident in a steady driving pulse, choice of instrumentation, and use of tonality. Eastern philosophical thought, with its rejection of both goal-direction and Western notions of progress and development—and a consequent aspect of timelessness in the resulting music—has also profoundly influenced the composer. A wide range of non-Western cultures have provided Reich with structural models, including Africa, India, Southeast Asia, and the Middle East. Reich's embracing of tonality is in itself but another example of the large number of options available to today's composer of new music.

But the eclecticism of Reich's music has its roots beyond the assertion that a variety of aesthetics can be drawn upon for the development of one's own compositional style. For Reich simultaneously rejects the exclusive primacy of the Classical Western heritage, whether recent avant-garde techniques or traditional goal-directed developmental forms. Reich asserts that all musics and cultures, whether popular, Western, or non-Western, are equally viable as sources of new music. While contemporary art has long since admitted the validity of using non-Western sources as structural models, contemporary music, with the notable exception of such composers as Messiaen, has largely restricted non-Western influence to exotic, coloristic applications. The minimalists, and especially Glass and Reich, derive less their sonic models than their structural techniques from non-Western music, a type of influence that can only occur after long study of the foreign cultures involved. Their declaration of the equal validity of all cultures, their support of the concept of world music, allows the Western heritage to be perceived as only one possible source among many others. This denial of the primacy of Western culture reflects a general turn against an attitude that asserted the superiority of Western society; the rejection of such ethnocentrism has become increasingly apparent in recent years not only in the arts but also in international politics, with third-world and nonaligned nations declaring the equal worth of their own native heritages and cultures.

One last aspect of Reich's style should be discussed briefly, as it is so often emphasized by less sympathetic critics and composers. Reich has repeatedly been accused of composing mechanistic music that requires mechanistic performances; the composer's own early insistence on the impersonality and inexorability of "process" certainly bolstered this judgment. Other commentators, noting Reich's use of the term "pattern" when referring to motives within his own music, have viewed Reich's art as being a reflection of the "industrialism"

of contemporary culture.<sup>103</sup> One cannot help but feel that the underlying current beneath all these observations is the assumption that music must make a uniquely personal, expressive statement; if it does not, it is somehow less valid as art. In effect, this results from expecting new music to live up to outdated notions of what art should be, notions that stem from the nineteenth-century ideal that established originality and personal expression as the prime criteria for art. There is no reason to apply such criteria to minimalism; by doing so one unfairly imposes the requirements of one aesthetic on another. Taken on its own terms, Reich's music most certainly is expressive, even exhilaratingly so. Yet it is an exhilaration derived less from the character of the basic material than from the combined effects of a satisfying intellectual structure, couched in an accessible idiom, and performed by virtuosi who exhibit evident pleasure in adding their own individual contributions to the ultimate goal of group expression.

Steve Reich has revitalized contemporary music in a way that would have seemed hardly possible a few years ago. By the 1960's, the established avant-garde was in danger of collapsing inwards upon itself, lost in a maze of structural complexities and techniques, with no one beyond a privileged few the slightest bit interested in what it was doing. Steve Reich has changed that situation by re-injecting an element of accessibility into new music, by returning to the primal forces of metrical rhythm and clear tonality that the avant-garde had cast aside. Yet he has done this without compromising his own beliefs, and has maintained an admirable stylistic continuity and musical integrity throughout his career. Most importantly, he has re-introduced new music to a mass public as the viable, exciting art form it should have been all along. By doing so, he has challenged the view that the composer must be isolated from the public to create great art, and signaled a return to the healthier relationship between composer and society that existed prior to the last one hundred years: the composer is not only once more part of society as a whole, but in the process of regaining his place within contemporary culture, he has shown us that achieving public acceptance cannot be equated with writing music that is of less than serious artistic value.

The audience at a sold-out Carnegie Hall in February 1980 rose to its feet at the concert's end, giving a standing ovation to a young composer who had just presented a program of challenging new works. For making contemporary music, and the act of composition, once more powerfully relevant to the world at large—and for dramatically redefining the role of the composer in modern society—Steve Reich deserves our recognition and our praise.

## ACKNOWLEDGEMENTS

Special thanks is due to those who made a study of this scope possible. The generosity, effort, and encouragement of Steve Reich himself were indispensable at every stage of this project, as was the assistance of his manager, Lynn Garon Management of New York. Above all, credit must go to Dr. Austin B. Caswell, chairman of the Musicology Department at Indiana University/Bloomington, without whose constant advice and guidance—and conviction that new music is an appropriate area of study for musicology—this article would never have come to fruition.

## NOTES

<sup>38</sup> Reich, pp. 9-11; *Source*, V, No. 2 (1971), p. 30; Liner Notes, DGG 2740-106, 1974; Whitney Museum of American Art, *Anti-Illusion: Procedures/Materials* (New York, 1969), pp. 56-57. There are some slight differences in orthography, punctuation, and layout between the various versions; "Music as a Gradual Process", as quoted in this article, is taken from Reich, pp. 9-11.

<sup>39</sup> For a discussion of *Pendulum Music* in its revised version (1973) see Reich, *Writings*, pp. 12-13; for its original version see *Source*, V, No. 2 (1971), p. 31; Whitney Museum, pp. 28-29.

<sup>40</sup> Reich, pp. 17-24.

<sup>41</sup> Reich, p. 25.

<sup>42</sup> Reich, p. 55.

<sup>43</sup> Reich, p. 25.

<sup>44</sup> Reich, p. 25.

<sup>45</sup> Reich, p. 55. *Four Organs* was derived from several electronic techniques, only one of which was "The Phase Shifting Pulse Gate". The impetus for the work also came from an early concept piece of Reich's, *Slow Motion Sound* (1967). The latter had remained a concept as it was technologically impossible to realize at the time: its premise was "to take a tape loop, probably of speech, and ever so gradually slow it down to enormous length without lowering its pitch." (Reich, p. 15). The result would be the augmentation of a pattern initially heard in shorter values. The combination of this concept with the "Pulse Gate's" unused potential for gradually drawing out the length of a single tone led to *Four Organs*. *Slow Motion Sound* has again returned to influence Reich in connection with the projected expansion of his tape piece *My Name Is: Ensemble Portrait* (see note 94).

<sup>46</sup> Reich, p. 55.

<sup>47</sup> Henahan, sec. 2, p. 14.

<sup>48</sup> Reich, p. 56.

<sup>49</sup> Reich, p. 57. For a detailed description of Reich's African journey, see Reich, pp. 29-37 and 56-58.

<sup>50</sup> Reich's interest in African music dated back to 1963, when he became acquainted with the monograph by A.M. Jones, *Studies in African Music*, 2 vols. (London, 1959).

<sup>51</sup> Reich, p. 32.

<sup>52</sup> Reich, pp. 35-36.

<sup>53</sup> Reich, p. 58.

<sup>54</sup> Steve Reich, "A Composer Looks East", *The New York Times*, 2 September 1973, sec. 2, p. 9; Reich, *Writings*, pp. 38-40. Again, as with "Music as a Gradual Process", the two versions differ slightly; the section quoted in this article is from Reich, *Writings*, p. 40.

<sup>55</sup> Reich, p. 58.

<sup>56</sup> Reich, p. 61.

<sup>57</sup> Reich admits that Webern's concept of "Klangfarbenmelodie" was influential here; however, in *Drumming*, instrumentation is changed gradually (by fading in the new instrumental group while the previous one fades out), in contrast to Webern's technique.

<sup>58</sup> Reich, p. 58.

<sup>59</sup> Reich, pp. 61-62.

<sup>60</sup> Michael Nyman, "SR—Mysteries of the Phase", p. 20.

<sup>61</sup> See Reich, p. 67. *Six Pianos* was even rehearsed in a New York Baldwin Piano showroom in 1972-3.

<sup>62</sup> Aside from *Clapping Music* (1971), *Drumming* had been Reich's last work to employ a live phasing process. Reich's most recently completed work, *My Name Is: Ensemble Portrait* (1980, q.v.), has returned to the phasing process, but within the sphere of tape, not live, music.

<sup>63</sup> Reich, pp. 68-69.

<sup>64</sup> According to the analysis by Reich, Liner Notes, DGG 2740-106, 1974.

<sup>65</sup> Terry, p. 39.

<sup>66</sup> Reich, p. 69.

<sup>67</sup> Whenever "cadential" is placed in quotes in this article, it is used to refer to a progression that, while cadential in its sonic qualities, is stripped of any true cadential purpose by its constant repetition and harmonically non-functional context.

<sup>68</sup> Reich, Liner Notes, DGG 2740-106, 1974.

<sup>69</sup> This analysis of *Mallet* has been based on material in Reich, *Writings*, pp. 69-71, as well as on the lengthy discussion written by Reich and included in the Liner Notes to DGG 2740-106, 1974. The latter is reproduced in Boston Symphony Orchestra, *Program Notes*, 93rd Season (1973-4), pp. 695-697 (program for concerts of January 24, 25, 26, 1974).

<sup>70</sup> Reich, p. 71.

<sup>71</sup> For some reviews of *Music for Eighteen Musicians*, see (in chronological order): "Radikales Poker", *Der Spiegel*, 25 October, 1976, pp. 214-216; Peter Heyworth, "Mr. Reich's Revolution", *The Observer Review*, 6 February 1977, p. 30; John Rockwell, "Reich in Review", *The New York Times*, 18 May 1977, sec. 3, p. 21; Andrew Porter, "Patterns", *The New Yorker*, 6 November 1978, pp. 187-188; John Rockwell, "The Pop Life", *The New York Times*, 17 November 1978, sec. 3, p. 12; John Von Rhein, "Many-sided Maestro Moves from Minor to Major Status", *The Chicago Tribune*, 4 March 1979, sec. 6, pp. 6-7, 15.

<sup>72</sup> Michael Nyman, "Reich: Interview" (1977), pp. 18-19.

<sup>73</sup> Both this and the previous quotation are taken from Steve Reich, *Jacket Notes*, *Music for Eighteen Musicians*, ECM Records, ECM-1-1129, 1978.

<sup>74</sup> Reich, *Music for Eighteen Musicians*.

<sup>75</sup> Reich, *Music for Eighteen Musicians*

<sup>76</sup> Reich, *Music for Eighteen Musicians*

<sup>77</sup> Reich, *Music for Eighteen Musicians*

<sup>78</sup> The dates for Reich's cantillation studies, as well as the dates and origins of the commissions for Reich's recent compositions, have been derived from promotional material provided by Lynn Garon Management.

<sup>79</sup> "Semi-functional" because, while the resolution of dominant to tonic (in Section Four) is evidence of rudimentary functional harmony, the overall harmonic context of the work, with its constant repetition and juxtaposed key areas, is non-functional.

<sup>80</sup> Alpern, p. 17.

<sup>81</sup> Alpern, p. 17.

<sup>82</sup> Alpern, p. 17.

<sup>83</sup> Reich states concerning the piano writing of *Octet*: "It's a piece which I do not play in because the parts are extremely difficult and I wrote myself out of the piece." (Alpern, p. 17.)

<sup>84</sup> Alpern, p. 17.

<sup>85</sup> Alpern, p. 19.

<sup>86</sup> Alpern, p. 17.

<sup>87</sup> Alpern, p. 19.

<sup>88</sup> "Interview: Steve Reich", *EAM Accents*, p. 7.

<sup>89</sup> Sandow, p. 74.

<sup>90</sup> Alpern, p. 18.

<sup>91</sup> Alpern, p. 18.

<sup>92</sup> See the quote concerning electronic music to which note 24 refers.

<sup>93</sup> Much of the following material concerning *My Name Is: Ensemble Portrait* is derived from a personal interview with the composer, which took place on January 2, 1981.

<sup>94</sup> Such as the process embodied in the 1967 work *Slow Motion Sound*; i.e., gradually slowing down a sound without changing its frequency (see note 45).

<sup>95</sup> From a personal interview with the composer, January 2, 1981.

<sup>96</sup> Reich, *Writings*, p. 49.

<sup>97</sup> From a personal interview with the composer, January 2, 1981.

<sup>98</sup> Personal interview, January 2, 1981.

<sup>99</sup> Charles Ward, "Reich Premiere to Reveal Composer's Non-repetitive Side," *The Houston Chronicle*, 21 November 1981, sec. 3, p. 7.

<sup>100</sup> The Rothko Chapel (Houston), Program Notes for *Tehillim*, 21 and 22 November 1981.

<sup>101</sup> "Steve, parlez-nous de votre dernière oeuvre, Tehillim", *Libération*, 23 September 1981.

<sup>102</sup> Eric Salzman, *Twentieth-Century Music: An Introduction*, 2nd ed. (Englewood Cliffs, N.J., 1974), p. 186.

<sup>103</sup> Clytus Gottwald, "Tendenzen der neuen Musik in den USA: György Ligeti im Gespräch mit Clytus Gottwald," *Musik und Bildung*, VIII (February 1976), pp. 58-59.