"CLASSICAL" MINIMALISM

For many listeners, the most characteristic and style-defining aspect of *In C* is the constant audible eighth-note pulse that underlies and coordinates all of the looping, and that seems, because it provides a constant pedal of Cs, to be fundamentally bound up with the work's concept. Like much modernist practice since at least Stravinsky, it puts the rhythmic spotlight on the "subtactile" level, accommodating and facilitating the free metamorphosis of the felt beat —for example, from quarters to dotted quarters at the twenty-second module of *In C*—and allows their multiple presence to be felt as levels within a complex texture. It may be surprising, therefore, to learn that the constant C-pulse was an afterthought, adopted in rehearsal for what seemed at the time a purely utilitarian purpose (simply to keep the group together in lieu of a conductor), and that it was not even Riley's idea. It was Reich's.

Steve Reich came from a background very different from Young's and Riley's. Where they had a rural, working-class upbringing on the West Coast, Reich was born into a wealthy, professional-class family in cosmopolitan New York. Like most children of his economic class, Reich had traditional piano lessons and plenty of exposure to what in later years he mildly derided as the "bourgeois classics." He had an elite education culminating in a Cornell baccalaureate with a major in philosophy. Then came a year of intense private instruction in composition with Hall Overton (1920–72), a composer who combined classical and jazz idioms in a manner comparable to Gunther Schuller's Third Stream (see chapter 7).

Next, Reich put in three years of graduate study in the Juilliard School's rigorous and traditional (though nonserial) composition program, studying with prominent pedagogues like Vincent Persichetti (1915–87), who had been Overton's teacher, and William Bergsma (1921–94). Finally, lured by the presence of Luciano Berio on the faculty, Reich enrolled at Mills College for a master's degree, which he received in 1963. It was the sort of training that usually led to a career as an elite modernist rather than an avant-gardist.

In interviews, Reich has stated that the impressions that led him to his own personal musical predilections, and eventually to his decision to attempt a career as a composer, date from his fifteenth year, when friends introduced him, in close succession, to recordings of Stravinsky's *Rite of Spring*, Bach's Fifth Brandenburg Concerto, and bebop, then the most modern form of

jazz. The obvious common denominator of what might otherwise seem the three unrelated styles that aroused his enthusiasm is, of course, the presence of a strongly articulated subtactile pulse, the very thing that Reich (who participated in the first performances) contributed to *In C*. Baroque music has it, a lot of twentieth-century music (including both Stravinsky's "Russian" style and jazz) has it, but the repertoire of "bourgeois classics"—the music "from Haydn to Wagner," as in this chapter's epigraph—generally lacks it. Rejecting the traditional classical repertoire as a source of inspiration was Reich's first youthful "avant-garde" gesture.

Having discovered that subtactile "rhythmic profile" (as he called it), Reich switched from piano lessons to lessons in drumming. Significantly, though, his first percussion teacher was a "classical" one—who later became the principal timpanist of the New York Philharmonic, no less. It was only at Mills College that he discovered, again through recordings, the "non-Western" styles of percussion playing—West African drumming and Balinese gamelan—that effectively liberated his creative thinking from the assumptions of his traditional training. Eventually, he sought out native teachers in these traditions (drumming in Accra, Ghana, in 1970; gamelan in Seattle and Berkeley in 1973–1974) to gain hands-on experience. But the decisive, appetite-inducing exposure came through records. The global or "world music" orientation that Reich's music (like most minimalist music) exemplifies and serves is thus among the most palpable indications of the way recording technology redefined musical transmission in the twentieth century.

Late-twentieth-century transmission, in a word, was "horizontal." All musics past and present, nearby and far away, were, thanks to recording and communications technology, simultaneously and equally accessible to any musician in the world. The way in which this horizontal transmission supplanted the "vertical" transmission of styles in chronological single file (the assumption on which all historicist thinking depends) was the genuine musical revolution of the late twentieth century, the full implications of which will be realized only in the twenty-first and beyond. Its immediate effect on Reich, and the many composers his work has stimulated, was to convince him—to quote one of those composers, John Adams (b. 1947)—that a truly valid twentieth-century music would be "a music that is essentially percussive and pulse-generated rather than melodic and phrase-generated."[19]

After finishing the master's course at Mills, Reich stayed in the San Francisco Bay Area for a while and was associated, like many avant-gardists there, with the San Francisco Tape Music Center. (That was where he met and befriended Riley.) The earliest pieces of his to achieve wide notice were a pair of tape-loop compositions inspired directly by *In C*. The first, *It's Gonna Rain* (1965; originally titled "It's Gonna Rain; or, Meet Brother Walter in Union Square after

Listening to Terry Riley"), was based on just the three titular words, spliced out of a recording of a gospel sermon delivered by Brother Walter, a San Francisco street preacher, in November 1964. The sermon was about Noah and the Flood. The implied warning of the title phrase, in the context of the scariest phases of the cold war like the still recent Cuban missile crisis, was timely and topical.

The other tape-loop piece, *Come Out* (1966), had a political subtext related to the civil-rights struggles of the sixties. It became Reich's breakthrough to recognition, thanks to its inclusion in one of David Behrman's Columbia records (*New Sounds in Electronic Music*, 1967). The composer's original program note described both the occasion that inspired the piece and the distinctive technical process that made it a milestone in the emergence of minimalism:

Come Out was composed as part of a benefit, presented at [New York's] Town Hall in April, 1966, for the re-trial, with lawyers of their own choosing, of the six boys arrested for murder during the Harlem riots of 1964. The [recorded] voice is that of Danniel Hamm, then nineteen, describing a beating he took in the Harlem 28th precinct. The police were about to take the boys out to be "cleaned up" and were only taking those that were visibly bleeding. Since Hamm had no actual open bleeding, he proceeded to squeeze open a bruise on his leg so that he would be taken to the hospital—"I had to, like, open the bruise up and let some of the bruise blood come out to show them."

The phrase "come out to show them" was recorded in both channels, first in unison and then with channel 2 slowly beginning to move ahead. As the phase begins to shift, a gradually increasing reverberation is heard which slowly passes into a sort of canon or round. Eventually the two voices divide into four and then into eight.

By restricting oneself to a small amount of material organized by a single uninterrupted process, one's attention can become focused on details that usually slip by. A single repeated and gradually changing figure may well be heard as a composite of several figures. Finally, at any given moment, it is open to the listener as to which pattern within the pattern he hears.[20]

After becoming a famous and much-interviewed figure, Reich tended to romanticize as serendipity, a happy accident, the discovery of the "phasing" process, through which identical tape loops feeding into two speakers or headphones go in and out of phase with one another (or more precisely, out and back into phase). According to one version of this much-repeated account, he intended the two channels through which he played *It's Gonna Rain* to remain synchronized, but on the cheap equipment he was using, one unexpectedly began to gain on the other. "The sensation I had in my head," as they played into the composer's earphones, "was that

the sound moved over to my left ear, moved down to my left shoulder, down my left arm, down my leg, out across the floor to the left, and finally began to reverberate and shake" before it eventually "came back together in the center of my head."[21]

The point of the story as told and retold in retrospect is that the composer, in defiance of his modernist upbringing, was willing to decide that the phase phenomenon itself was more interesting than anything he might do with it, so he simply allowed it to play itself out. In its provocative modesty it was a genuinely avant-garde, shock-the-bourgeois gesture, and it was amply repaid with abuse from the relevant bourgeoisie, the academic modernists from whose ranks Reich had defected. They represented the status quo, he a force for change—hence a true avant-garde movement, neither conservative nor nostalgic, even though it renounced complexity and social alienation.

The controversies that swirled around minimalism when it began to have an impact confirmed the basic truth of the situation Reich's parable symbolized, but the parable as such was just a story. In fact, *It's Gonna Rain* and *Come Out* were planned from the start to exploit the "phasing" process, which Terry Riley had already discovered in a couple of tape pieces from 1964–65 that used another feedback device (somewhat more sophisticated than the echoplex), which Riley had christened the "time-lag accumulator." Reich employed a more rudimentary technology: he merely applied his thumb to the supply reel feeding the second channel to slow it slightly and allow the first to gain time. Then he rerecorded the mix of the two channels and repeated the process to produce a four-part phase texture, and then doubled it again so that eventually the sound texture consisted of eight parts in a very complex ratio of speeds. That was no serendipity: it took a great deal of premeditated labor.

Reich's phase compositions did differ considerably from Riley's, however. As Keith Potter, a historian of minimalism, emphasizes, "while Riley always allowed his patterns to accumulate into a psychedelic wash of sound, Reich generally stressed the audibility of his gradually shifting phase relations."[22] It was the process—inexorable and systematic—that mattered to him, because it gave the music a sense of purpose, or what Kant (as a former philosophy major like Reich would surely have remembered) called *Zweckmässigkeit*, the likeness of a purpose. For Kant that was the essence of art, and so it was for Reich.

Anything that goes back to Kant goes back to the very dawn of esthetics. But Reich's stripped-down purposiveness differed to such a degree from the conventional expressive or formal purposes of art (to say nothing of the crasser purposes of pop) as to seem new in kind. He expounded his philosophy in a forbiddingly grim (and rather prim) essay of 1968 called "Music as a Gradual Process." "I do not mean the process of composition, but rather pieces of music

that are, literally, processes," the manifesto began, and then continued in short explosive paragraphs like planks in a political platform. Here are a few:

> The distinctive thing about musical processes is that they determine all the note-to-note (sound-to-sound) details and the overall form simultaneously.

> I am interested in perceptible processes. I want to be able to hear the process happening throughout the sounding music.

> To facilitate closely detailed listening, a musical process should happen extremely gradually. Performing and listening to a gradual musical process resembles:

> pulling back a swing, releasing it, and observing it gradually come to rest; turning over an hourglass and watching the sand slowly run through to the bottom; placing your feet in the sand by the ocean's edge and watching, feeling, and listening to the waves gradually bury them.

> 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. While performing and listening to gradual musical processes, one can participate in a particular 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* outward toward *it*.[23]

The italicized *it* and the implied overcoming of self described in the last paragraph have a Zen Buddhist ring, which brings John Cage to mind. But although he acknowledged the influence of Cage on his thinking, Reich nevertheless rejected Cage's music, because "the processes he used were compositional ones that could not be heard when the piece was performed; the process of using the *I Ching* or imperfections in a sheet of paper to determine musical parameters can't be heard when listening to music composed that way."[24] In other words, Cageian indeterminacy had the same fatal flaw as academic serialism: "the compositional processes and the sounding music have no audible connection," and therefore, for Reich, are devoid of listening (as opposed to analytical or historical) interest.

More explicitly than most musicians at the time, Reich made a political point of this. Citing the complaint of another composer that in the kind of musical process he envisioned "the composer isn't privy to anything,"[25] Reich insisted that that is just the way things ought to be. The next sentence was Reich's most outspoken challenge to the reigning modernist aesthetic: "I don't

know any secrets of structure that you can't hear."[26] The composer's implicit ascendancy over the listener was overthrown. Reich deliberately cast himself, like Schoenberg before him, as a Great Emancipator. But whereas Schoenberg (like Cage) purported to liberate sounds, Reich (like a sixties agitator) was out to liberate people.

SECRETS OF STRUCTURE

Like Cage (and like the Dadaists before him), Reich proposed a limit case to test his theory to a logical extreme: a composition called *Pendulum Music*, composed (or more precisely, conceived of) in 1968, the same year as the manifesto. It was first performed at the university of Colorado–Boulder and repeated at the first all-Reich concert, which took place at the Whitney Museum of American Art in New York on 27 May 1969. Scored for "three or more microphones, amplifiers and loudspeakers," it is as close a musical analogue to the three ordinary process-experiences described in the manifesto (watching the swing, watching the hourglass, burying one's feet) as he could devise.
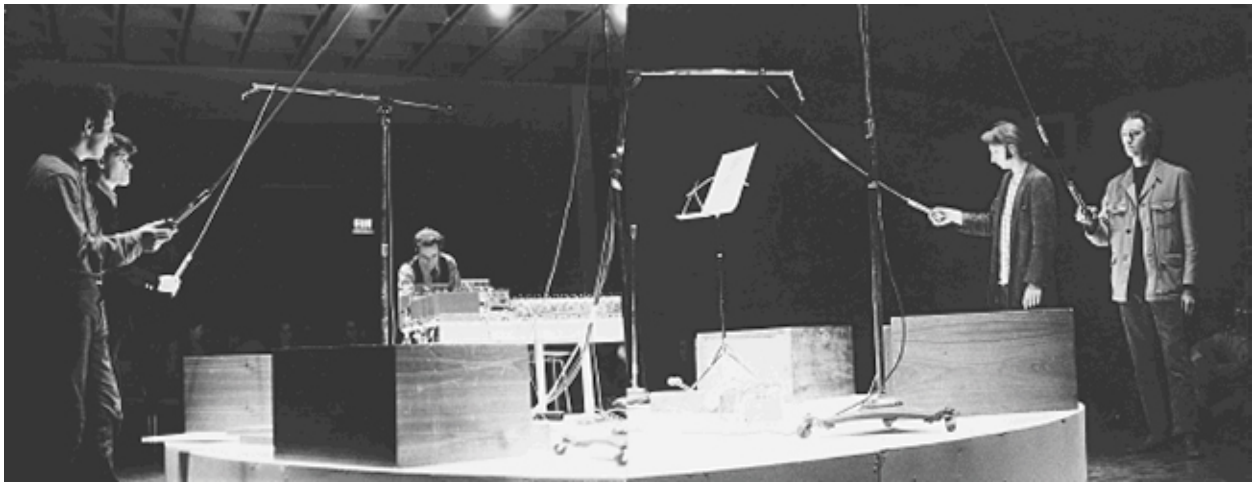
fig. 8-3 New York premiere of Steve Reich's *Pendulum Music*, 27 May 1969.

According to the "score" (actually just a verbal instruction or "algorithm"), the microphones are "suspended from the ceiling or from microphone boom stands by their cables so that they all hang the same distance from the floor and are all free to swing with a pendular motion." Loudspeakers are positioned under the microphones face upward, so that they will produce feedback noise when the microphones are directly above them. Then the microphones are pulled back and released. As they swing like pendulums over the loudspeakers, they produce a series of feedback pulses that will inevitably go out of phase as the pendulums, gradually coming to rest, slow down. Having released the mike-pendulums, the score specifies, "the performers then sit

down to watch and listen to this process along with the rest of the audience." What makes the music, then, is not the composer, not the performer, but *it* (call it the force of gravity).

In concept, Reich's *Pendulum Music* is virtually a duplicate of György Ligeti's notorious *Poème symphonique* for 100 metronomes of 1962 (see chapter 3). The difference is that the earlier piece was at least partly meant as a spoof, while Reich's was meant in deadly earnest—and also, taking far less time to unfold, makes a reasonable rather than comically preposterous demand on the listener's attention. *Pendulum Music* is the conceptual paradigm or limit-case to which all of Reich's early works for conventional performing forces can be meaningfully related.

But it does not require musicians for its performance. It often provided background music at exhibitions of "minimal" art, with the artists, or museum staff, doing the "performing." As "furniture music," it hardly fulfilled the composer's intention of providing a focus of close attention. That role was accomplished much more significantly, and with far greater impact, by Reich's "phase" compositions for pianos, violins, and log drums, composed between 1967 and 1969. Virtuoso pieces in their way, they were responses to the same impulse that motivated Riley's *In C*: the need to apply techniques first discovered in the realm of tape music to standard vocal and instrumental media.

But where Riley deliberately kept things easy, Reich's phase pieces can be arduous to execute with the required precision. It seems that he considered not only the back-transfer from tape to live music making itself but also the effort and the arduousness to be necessary if the product was to be effectively "humanized" and rendered communicative. The difficulty of his music, requiring skilled professionals for its performance and thereby satisfying a traditional elite modernist criterion, has made Reich, of all the composers who inhabit this chapter, the most academically acceptable. He has enjoyed far greater respect than the others among "uptown" musicians and "mainstream" critics.

Piano Phase (1967) is a three-part composition for two pianos, with each major section consisting of a one-measure diatonic or pentatonic module (or "basic unit" in Reich's terminology) that is subjected to the same phase process that Reich first achieved by retarding the turning of a tape reel. The first basic unit is shown in Ex. 8-4. It is an elusively complex rhythmic construction in its own right, a melody that emerges as a composite of two rhythmic figures in a hemiola relationship: the right hand plays three repetitions of the two-note group F♯-C♯ while the left plays two repetitions of the three-note group E-B-D. The interaction of

patterns between the two hands is subtly complicated (or contradicted) by the differently

patterned interaction of two distinct registers, E-F♯ and B-C♯-D, conjunct scale segments separated by a skip of a fourth.

ex. 8-4 Steve Reich, *Piano Phase*, first "basic unit"

The two pianos begin by playing the figure in unison, the way the two tape recorders had begun in *Come Out*. While one pianist holds the tempo steady, the other very gradually gains on it, producing at first an enhanced resonance as the parts go slightly out of phase; then a kind of hocket, with the second piano playing on the "off thirty-seconds." Finally, after another resonant blur, the second piano will be one sixteenth-note ahead of the first; here the two pianists are instructed to lock into the same tempo again, producing a sort of canon at the sixteenth-note which establishes a new point of departure for the next phasing process. After twelve such processes, the original unison is regained.

What is curious, and somewhat ironic given the premises of the "Gradual Process" manifesto, is the ambiguity of the overall structure. Listeners are normally aware only of the steady progress toward the goal of regained unison. According to the terms of the manifesto, that is exactly what the composer intended. But the manifesto contained an interesting escape clause: "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."[27] And indeed, there is a mysterious corollary to this or any other strict phase process: as a moment's reflection will confirm, its second half is (and must be) automatically the retrograde of the first half, with the relationship between the two players reversed. So, is the process a single linear gesture or a double, out-and-back trajectory like so much Western classical music?

This ambiguity was first pointed out by Paul Epstein, a music theorist on the faculty of Temple University, in an article of 1986, more than two decades after the piece was written.[28] It turned out that, in seeming contradiction of Reich's manifesto, there was after all a "secret of structure" in *Piano Phase* that listeners did not know. But if, as seems likely, the composer himself was unaware of (or did not envision) the retrograde, which was irrelevant to his purpose in composing the piece, then his famous maxim—"I don't know any secrets of structure that you can't hear"—remains literally true. (Of course, the last three words of the maxim are another

escape clause, since—exactly as Milton Babbitt has always argued—once anything has been pointed out and conceptualized, it *can* be heard.) Nothing, it turns out, not even a minimalist structure, is ever devoid of ambiguity.

Reich's last strict, if somewhat simplified, phase composition took the minimalist ideal to another sort of limit. *Clapping Music* (1972) is instrumental music without instruments, or rather, percussion music made with the body alone. Two performers begin in unison, clapping a simple riff that one of them will maintain unchanged throughout the piece. As in *Piano Phase*, the riff contains twelve subtactile pulses. The other player, skipping the gradual speedup, jumps to the second "phase," in which the pattern is rendered as a canon at an interval of one pulse. After a while, a similar jump extends the canon to an interval of two pulses, then three, and so on until unison is regained. All the notation that is needed to perform this or any other algorithmic composition is the basic unit, plus instructions for permuting it. Nevertheless, Ex. 8-5 shows all the permutations so as to make all the resulting hockets and syncopations scannable at a glance.

ex. 8-5 Steve Reich, *Clapping Music*

Comparing the unison rests in the thirteen modules will bring the palindrome effect easily into view. Nos. 1 and 13, of course, are identical. Nos. 2, 7 (the midpoint), and 12 are also identical: they are the ones without any unison rests. Nos. 3 and 11 each have one unison rest. If you scan no. 3 beginning at the rest from left to right, and no. 11 beginning at the rest from right to left,

they will match. Nos. 4 and 10 have two unison rests. Scan no. 4 from left to right beginning at its first unison rest, and no. 10 from right to left beginning at its second unison rest, and they will match. Nos. 5 and 9, with one unison rest, will match if scanned the way 3 and 11 were scanned. Nos. 6 and 8 have two unison rests. Scan them the way nos. 4 and 10 were scanned, and they too will match. None of this will be obvious to a casual listener; this piece, too, has its "secret structure."

Clapping Music was written for the road, when the ensemble known as Steve Reich and Musicians began touring. ("Hands," Reich drily explained, "are easy to transport.") It was used as an introductory piece, to give the audience an instant grasp of what "gradual process" meant. By then, however, having laid his conceptual foundation with a manifesto ("Music as Gradual Process"), a limit piece (*Pendulum Music*), and various strict phase exercises for tape and live performers, Reich had somewhat relaxed the rigor of his procedures. On the model of the African and Indonesian musics he was learning, he began experimenting with patterned processes that were less predictable than the "pure" phase pieces with which he had found his voice. But even if less predictable, they remained just as inexorable.

The work that really showed the possibilities of Reichian minimalism was *Four Organs* (1970). The small and relatively inexpensive electric organs for which the piece is scored, called Farfisas, were a staple of rock bands. The very necessary accompaniment was provided by a pair of maracas, which provide a constant subtactile pulse against which the gradually unfolding structural process could be precisely measured. That new process was the gradual filling of the available sound-space within the basic unit. Ex. 8-6 shows the beginning of the process, and the end.

ex. 8-6 Steve Reich, *Four Organs*, beginning (figs. 1–8) and end (last two figures)

At the outset, the available space is measured out by the maracas with eleven pulses. For minimalist purposes that is a magic number, because it is a prime number. Divisible neither by two nor by three, it remains always subtactile; it cannot be grouped mentally into a regular *tactus* or felt beat. In practice, the eleven is subdivided into 3 + 8, as established by the basic unit, which consists simply of two identical chords that fall on the first and fourth pulse of each measure. The process that governs the entire piece, while unrelated to "phasing," was similarly systematic and rigorous. It consists of a single "rhythmic construction" (Reich's term) that gradually replaces the rests in the basic unit with notes, as shown in Ex. 8-6.

Once the basic unit has been filled—or as Keith Potter nicely puts it, once "the original pairs of irregularly pulsing chords have silted up into a continuous sound"[29] —the unit begins to lengthen, eventually expanding to a gargantuan 265 measures of held-out but internally fluctuating harmony that reminds many listeners (including Reich, who claimed to have been inspired by it) of Perotin's late twelfth-century *organa quadrupla* for the Cathedral of Notre Dame—another remote yet direct influence, this one collapsing more than seven centuries of historical time, made possible by recordings. The held-out chord is one often described by jazz musicians as a "dominant eleventh," in which an extra pair of thirds is stacked on top of a dominant seventh built on E, thus: E-G♯-B-D-F♯-A. In practice, since the top A is sounded during the early stages of the piece only on the first and fourth eighths, it seems to resolve like an appoggiatura to the held-over G♯, the first alteration to the basic unit.

That impression of resolution is confirmed by the way in which *Four Organs* comes to an end. Unlike Reich's phase pieces, it neither comes full circle nor reaches a saturation point. Instead, the low E and its doublings are filtered out of the last sustained chord, followed very slowly by the remaining notes one by one, until the piece finally comes to an end, somewhat surprisingly, on the two highest pitches, the fourth E-A. The fact that this ending takes listeners by surprise belies Reich's semifacetious contention that all that *Four Organs* comes down to, finally, is a single, enormously slowed and sustained V–I cadence in A major. The experience of listening to it should be enough to convince anyone that functional harmony is as much a function of rhythm as it is of pitch relations; distend the former enough and you dissolve the latter. But *Four Organs* does signal a new (or revived) interest in harmonic progression and voice leading, and does return pitch to a position of significance, if not primacy, in the articulation of musical shape.

"ALL MUSIC IS FOLK MUSIC"

Four Organs marks a divide in Reich's output between the rigorously experimental works of the sixties and what proved to be the more immediately appealing works that followed. The piece is still sufficiently uncompromising in its minimalist approach to serve as a litmus test dividing "mainstream" listeners from the coterie of its devotees. The latter notice, and become fascinated by, the gradual processes; the former mainly notice, and become irritated by, the repetitions. This became clear in January 1973 when the young conductor Michael Tilson Thomas (b. 1944) offered the piece to a Boston Symphony subscription audience in New York's Carnegie Hall, and elicited perhaps the last memorable twentieth-century succès de scandale. (Among the uncorroborated details that went from mouth to mouth was a woman shouting, "All right, I'll confess!") For the next decade, Reich's primary venues would remain the art museums and downtown halls where various "alternative" musics rubbed shoulders, and his principal means of disseminating his work remained his own touring group. Further exposure to concert audiences would wait. But in the meantime, Reich's style underwent a change.

His output in the 1970s was dominated by two hour-long works. *Drumming* (1971), which can last up to eighty-six minutes depending on how many times the basic units are repeated, is scored for a nine-piece percussion band plus a piccolo player and two women vocalists singing "vocables" (nonmeaningful syllables). Both the rhythmic patterning of the piece and the integration of voices into the ensemble were influenced directly by the African music Reich had studied on location in 1970. The rhythmic unit is expanded from the eleven pulses of *Four Organs* to twelve. The addition of that extra eighth-note makes a huge difference, of course, because it allows the exploitation of hemiola effects by grouping the subtactile eighths, variously and/or simultaneously, into tactile pulses—"felt" beats—of varying length: two (six to a bar), three (four to a bar) and four (three to a bar).

The unfolding process is complex, combining the older phase technique with the "rhythmic construction" (or gradual fill-in) of *Four Organs*, now balanced against its opposite, "rhythmic reduction" (the gradual replacement of notes with rests). The piece achieves its grandiose length through contrasts of tone color. The first of its four large sections is scored for tuned bongo drums; the second, for marimbas and voices; the third, moving into an unsingably high register, uses glockenspiels, with whistling and piccolo piping replacing the voices; the fourth combines all forces. As a result of all of these interacting factors, *Drumming* was a technical tour de force, creating (in John Adams's words) "an interesting large-scale musical structure without recourse to harmony."[30] It served for several years as the staple of Reich's touring group, greatly

increasing the size of his coterie of devotees to the point where he began filling large halls (mainly on college campuses) and attracting imitators.

Perhaps more noteworthy than its structural principles, of interest primarily to other composers, was the effect that *Drumming* had on audiences. Its complexity notwithstanding, the euphoria it produced in receptive listeners (so much more typical of pop than of contemporary classical composition) made it newsworthy and, of course, controversial, not only because it challenged the basic definition of avant-garde art, but also because listeners were obviously responding to more than just the beguiling sound patterns. There was also the unstated but strongly implied (or metaphorical) social meaning that arose directly from its African antecedents. When witnessed live, Adams noted,

> performances of *Drumming* have the flavor of a ceremony, with the performers uniformly clad in white cotton shirts and dark pants, moving gradually during the course of the work from the bongos, to the marimbas, to the glockenspiels, and finally to all the instruments for the finale. The sense of ritualistic precision and unity is furthered by performers playing from memory and by their performing face-to-face, two on a single instrument.[31]

To put it another way, the work presented a model of harmonious social interaction that bore interesting comparison with theories just then being advanced about the primary value of music. In an influential book ambitiously titled *How Musical Is Man?* (1973), based on lectures delivered in 1969–1970 at the University of Washington, the English ethnomusicologist John Blacking (1928–90), then occupying the chair of social anthropology at Queen's University, Belfast, presented a thesis that argued that "humanly organized sound" was a necessary precondition to "soundly organized humanity," from which it followed that music could— should?—be valued according to the degree to which it reflected that reciprocity and furthered the implied objective of social harmony.

Blacking in effect renewed (or modernized) a position that went all the way back to Plato (at least), and that had Count Leo Tolstoy as its most prominent recent exponent in Europe. Though venerable, it had been much weakened in the West by cold-war suspicion of the social as a criterion of artistic value. It was indeed obvious that social criteria of artistic value had been tyrannically abused under totalitarian regimes. But Blacking, who in addition to being an anthropologist was a trained classical pianist, argued that the opposite tendency—toward individualism and the competitive display of skill and originality—had reached a similar, no less deplorable condition of abuse in the highly developed technological societies of postwar Western Europe and America.

fig. 8-4 Steve Reich and Musicians performing *Drumming*.

Basing his thesis on observations made during two years of fieldwork among the Venda, a South African tribe, Blacking noted that among his informants, and in most sub-Saharan African societies, all members are considered to be "musical" in that they are "able to perform and listen intelligently to their own indigenous music,"[32] while in his own British society only a few specially gifted people are credited with "musicality." "Must a majority be made 'unmusical,'" he asked, "so that a few may become more 'musical'?" Did that heightened and exclusive conception of musicality lead to the creation of a better or more valuable music than is available in societies where everyone is considered musical? Or did the concept of musicality with which he was brought up reflect a more general abuse of technology to further the social hierarchies and exclusions on which the British class system depended?

Those technologies began with notation, by means of which "music could be handed down by a hereditary elite without any need for listeners." They included complex machines, like the piano, which relatively few could afford, and to operate which required years of training. By the modern period they entailed advanced and esoteric techniques for encoding sound, the products of which were indecipherable except to those trained in producing them. The difficulties of such

procedures, and the special qualifications they called for, were habitually taken in advanced societies as evidence of their value. But what did such values say about such societies?

Ethnomusicology, Blacking asserted, was the discipline best suited—indeed, created—to answer such questions. It was a new discipline, named (by the Dutch music scholar Jaap Kunst) as recently as 1950. It was often thought of by "Westerners" as the study of "non-Western" musics, or "oral" musics, or "folk" or "traditional" musics, and when defined in this way it could be seen as the continuation of an older tradition in musicology, sometimes called "comparative musicology" or "musical ethnology," that took as its subject matter anything that was not "urban European art music"[33] (to quote the definition of ethnomusicology given in *The New Grove Dictionary of Music and Musicians*). That was the view of the field from within academic musicology, as laid out by the German founders of the discipline in the 1880s.

Blacking, following an alternative model proposed by anthropologists like Alan Merriam (1923–80), granted ethnomusicology a much wider purview. Merriam called it "the study of music in culture,"[34] and Blacking went so far as to declare it to be the only truly universal musicological method. The first chapter of *How Musical Is Man?* ends with a ringing manifesto:

> Functional analyses of musical structure cannot be detached from structural analyses of its social function: the function of tones in relation to each other cannot be explained adequately as part of a closed system without reference to the structures of the sociocultural system of which the musical system is a part, and to the biological system to which all music makers belong. Ethnomusicology is not only an area study concerned with exotic music, nor a musicology of the ethnic—it is a discipline that holds out hope for a deeper understanding of all music. If some music can be analyzed and understood as tonal expressions of human experience in the context of different kinds of social and cultural organization, I see no reason why all music should not be analyzed in the same way.[35]

It is not difficult to discern the political subtext that undergirded these opposing views of ethnomusicology, the one arising out of musicology and the other out of anthropology. The first kept "urban European art music"—a genre traditionally studied through its outstanding individual practitioners, the great composers—front and center. The methods it employed were analysis and style criticism, the first showing how "the music works" as an autonomous structure and the second "how the composer worked" as an autonomous individual.

That approach was often justified by calling on a distinction that anthropologically inclined ethnomusicologists themselves had coined: *etic* versus *emic*. "Etic" was short for phonetic, a kind of linguistic (or, by extension, musical) transcription that sought to record everything

heard by the transcriber, without any consideration of its significance. "Emic," short for phonemic, was a transcription that sought to reflect what was of significance to the informants (that is, the speakers whose language was being transcribed). A phonetic transcription, for example, would include every tiny variant in vowel sounds made by the utterer of a sentence, and every tiny variation in pitch produced by the singer of a melody. A phonemic transcription would exclude chance variations (slurred speech, singing out of tune) that did not affect meaning as perceived by the informants. Since only an insider to a language or a musical system (whether native or "acculturated") can apply the latter criterion, *etic* and *emic* are anthropologists' shorthand for "outsider's perspective" and "insider's perspective."

It is natural, according to the older view of both musicology and ethnomusicology, that Western musicians will study the music of "their own tradition" (that is, the music to which they are insiders) differently, both as to approach and as to method, from music of traditions to which they are outsiders. The one is central to their experience and interests, the other peripheral. Ethnomusicology, in this view, is by definition an etic discipline, suitable only for "other" music, or else, exceptionally, to music within the Western tradition about which "little or no historical information is available and no body of music theory exists"[36] (to quote again from the *New Grove Dictionary*), and where, therefore, scholars must proceed entirely by inference (that is, "etically").

The newer, more inclusive view of ethnomusicology, as expressed most militantly by Blacking, refuses to recognize the special position of urban European art music or its special relationship to the musicologists who study it. Those special privileges maintain an unjustifiable status quo in support of a socially destructive value system. Rather, by stripping the products of European art music of its privileges and studying it "etically" alongside the other musics of the world, one can bring to light that overly individualistic and socially exploitative value system, and possibly find within scholarship the means toward social betterment. To say, with Blacking, that "all music is folk music,"[37] enabled one to expose and counter the ways in which the seemingly innocent study of music, by endorsing a hierarchy that places the great composers (all white, male, and of European stock) at the incontestable top, has lent support to imperialism and racism and sexism. Adopting an openly and actively political stance, the new ethnomusicology (and the "new musicology" that emerged in response to it) refused to allow that there is any nonpolitical alternative; there are only covertly political ones.

As the next chapter will make plainer, these principles are among the ways of late-twentieth-century thinking that have been collectively labeled "postmodernist." The way in which they oppose some of the basic tenets of modernism should already be plain. The way in which

Blacking's ethnomusicological position and its social implications parallel the development of Steve Reich's compositional practice (and *its* social implications) should also be clear, even though there is no evidence that Reich studied Blacking (or even heard of him) despite the fact that they often echo one another's words. Reich, equally unbeknownst to Blacking, had written in 1968 that "all music turns out to be ethnic music."[38] Both Reich and Blacking were part of a growing wave of "sixties" skepticism that had ample repercussions, beginning in the 1970s, both in scholarship and in the arts.

Reich has often said that he is interested not in imitating the sounds of African or Asian musics (mere "chinoiserie," as he calls such imitations) but rather in adapting their structural principles in order to achieve similar effects. "The pleasure I get from playing," he wrote, regardless of whether the music played is Balinese, African, or his own, "is not the pleasure of expressing myself but of subjugating myself to the music and experiencing the ecstasy that comes from being a part of it."[39] His aim in composing—that is, setting up musical processes—was to provide himself and his audience with something to which they could subjugate themselves together.

Now compare Blacking:

> Performances by combinations of two or three players of rhythms that can in fact be played by one are not musical gimmicks: they express concepts of individuality in community, and of social, temporal, and spatial balance, which are found in other features of Venda culture and other types of Venda music. Rhythms such as these cannot be performed correctly unless the players are their own conductors and yet at the same time submit to the rhythm of an invisible conductor. This is the kind of shared experience which the Venda seek and express in their music making.[40]

Blacking was describing the way in which Venda musicians perform intricate complexes of hemiola patterns that together cooperate to produce a series of equal subtactile pulses at the heard surface. He could just as well have been describing Reich's *Drumming*. The crucial difference, however, was that Reich sought not to express concepts found in other features of his own culture, or other types of "urban European art music" (especially the types written by his established contemporaries), but to propose an alternative to them that implied both a musical contrast and a social critique. That critical perspective, hostile to existing institutions and established social relations and even threatening them, makes it not only possible but essential to regard *Drumming* as being, within its own context (and despite its mounting popularity), an avant-garde composition. It produced historical change.

A POSTMODERNIST MASTERWORK?

Reich's other large work of the 1970s, *Music for 18 Musicians* (composed between 1974 and 1976), has acquired emblematic status. Far less immediately evocative than *Drumming* of exotic musics, it represents a synthesis of all the techniques Reich had developed over the preceding decade; and in its use of electronically amplified solo strings, winds, and voices in counterpoint with the ever-present Reichian percussion and keyboards it proposed an alternative, increasingly normative orchestral sound for the late twentieth century. Perhaps the most influential fully notated composition of the decade, it is often described as the first postmodernist masterwork. Although calling it that may be yet another contradiction in terms, the phrase does call attention to the important role it played in renovating the terms on which music was composed and evaluated.

Basically an expansive synthesis of the harmonic structure of *Four Organs* with the rhythmic design *of Drumming*, Reich's *Music for 18 Musicians* unfolds a kaleidoscope of evolving and interacting melodic patterns, all controlled by a common measure of twelve quick-moving subtactile pulses, over a majestically slow-moving chord progression that pulses through the ensemble at the outset at a rate of fifteen to thirty seconds per chord, and is then repeated at the rate of four to six minutes per chord, with the string instruments playing long sustained tones. Each of these long spans provides the background for a "small piece," as Reich calls his closed rhythmic constructions, mostly cast in simple, easily perceived ABA forms. The composition in its totality is a chain of eleven of these small pieces, which, because it recapitulates a previously heard harmonic progression, achieves a preordained closure of its own, reinforced by a final, relatively rapid cruise through the eleven chords at the end.

The most significant resemblance between *Music for 18 Musicians* and *Drumming* is in the manner of its performance. It, too, embodies a highly ritualized set of prescribed actions, in which players (including the composer, when the piece is performed—as it almost always is—by his own ensemble) move from place to place on the stage, their physical movements and resulting sound-output regulated not by a conductor but by the vibraphone player, whose prescribed actions signal the end of each "small piece" and cue the next with a special recurrent tune reserved for the instrument's distinctive timbre. The vibraphone thus impersonally embodies the role of the master drummer in an African ensemble, the "invisible conductor" to which all the players, the composer included, impersonally submit, sacrificing their individual freedom not to a specially empowered individual who alone is free, but to a collective and transcendent ideal of ecstasy-producing accuracy.

The whole hour-long piece, although it has a meticulously notated score and parts, can be followed from the harmonic skeleton given in Ex. 8-7, which shows the eleven-chord progression whose triple cursus provides the composition with its structure. While entirely diatonic, requiring not a single accidental, it is obviously no functional progression. Roots are often equivocal (as is especially obvious in the first chord); the spacing, with wide gaps between the bass dyad and the rest, is eccentric; there is no strong cadence or even any pure consonant triad. Most of the harmonies are of the kind jazz musicians call "added-note chords." One cannot even confidently assign the progression to the A-major or the F♯-minor reading of the key signature. The most one can say, perhaps, is that by choosing a strictly diatonic but weakly articulated pitch field and (relatively) consonant harmonies the composer has made the pitch domain relatively unobtrusive, the better to focus listeners' attention on the rhythmic processes. The change of harmony every five minutes or so amounts to a cleansing of the palate rather than a dramatic event.

ex. 8-7 Steve Reich, *Music for 18 Musicians*, "cycle of chords"

The "opening chorale," or rapid harmonic traversal, unfolds through "hairpin" (crescendo-decrescendo) dynamics corresponding to the length of a wind-player's breath. The bass and treble instruments come separately to the fore, thus further attenuating any sense of harmonic function or progression. During the slow-motion progression that makes up the body of the work, most of the interacting rhythmic/melodic cells are based on the pattern already familiar from *Clapping Music*. These cells occasionally introduce pitches foreign to the sustained harmony, and even the bass occasionally uses foreign and even chromatic pitches as embellishments (yet further lessening its structural role). All of this may be observed in the first "small piece," based on the first chord, as sampled in Ex. 8-8. Despite these liberties, or even because of them, there is always a very firm distinction between what is structural (i.e., related to the basic progression) and what is decorative. It is the stringently limited and static nature of the structural material that maintains the tie between this very elaborate and colorful composition and the reductive minimalist ideal. Gone, however, is the ascetic atmosphere of

early minimalism. Compared with the monochromatic schemes of Reich's previous music, the variegated timbres of *Music for 18 Musicians* are extravagant, even voluptuous.

Reich acknowledged the change in a 1977 interview with Michael Nyman. The all-important process, he now allowed, was more his business than his audience's:

> I'm not as concerned that one hears how the music is 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.... 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? What I was really concerned with in *Music for 18 Musicians* was making beautiful music above everything else.[41]

These are no longer the words of an avant-gardist, but those of an artist who feels his battle has been won. That may account for the sense of celebration that fills *Music for 18 Musicians*. Over its course distinctive features of Reich's previous work pass in review: the glockenspiels from *Drumming*, the maracas from *Four Organs*, the pentatonic patterns from the early phase pieces. By the time the ninth "small piece" is reached, the texture—combining the expanding "rhythmic construction" idea of *Drumming* with the progressive canons of *Clapping Music*—has become very laden and intricate, but also euphoric.

ex. 8-8 Steve Reich, *Music for 18 Musicians*, mm. 99–105

Even within the minimalist purview, it now appeared, it was possible to achieve "maximum complexity under maximum control," and beginning with *Music for 18 Musicians* Reich began

to command the full respect of some influential mainstream or academic critics. But at the same time Reich's music broadened its appeal to what became known as the "crossover" audience. Reich's ensemble gave the premiere of *Music for 18 Musicians* at New York's Town Hall, a classical venue, in April 1976. Two years later, his recording of the piece for ECM, a small German label that specialized in avant-garde jazz, sold 100,000 copies—obviously not just to the avant-garde audience—and the ensemble performed the piece before a sell-out audience at the Bottom Line, one of New York's most famous rock clubs. Add another two years and Steve Reich and Musicians would be filling Carnegie Hall.

Reich began to receive commissions from major orchestras (New York Philharmonic, San Francisco Symphony), which led him for a time to modify his style considerably. That was "rather fortunate," said Brian Eno, "because that meant I could carry on with it,"[42] meaning the earlier, more ascetic and rigorous minimalist manner that now went over quite decisively into art-rock. There was no longer any point even in attempting to draw the line, formerly so sharp and well patrolled, between the high and low genres of music, at least where the impact of minimalism was concerned; nor was there any way of telling where the movement's impact had been greater. Minimalism turned out to be for music a great leveler, for which reason traditional modernists regarded it as the direst of threats. And that made it the most easily cited, if not necessarily the most representative or significant, embodiment of "postmodernism."