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Contents

The Percussive Arts Society is a worldwide organization founded in 1961 and incorporated in 1969 as a not-for-profit corporation under the laws of the State of Indiana and the State of Illinois. Its purpose is educational, promoting through its activities a wide range of musical knowledge, encompassing the young percussion student, the teacher and the performer. Its mission is to facilitate communication between all areas of the percussive arts. PAS accomplishes its goals through six annual issues of *Percussive Notes,* its worldwide network of chapters, and its annual International Convention (PASIC). Annual membership begins with the month in which dues are received and applications processed. Eighty percent ($16) of dues are designated for subscription to *Percussive Notes.*

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Back Cover Photo

Chinese *Chung*, a ritual bell, inscribed "mi-hou." This instrument is part of the National Palace Museum Collection, Taipei, Taiwan, Republic of China.

A Drummer-Boy Looks Back: Percussion in Ives's Fourth Symphony

William Brooks is a free-lance composer and scholar whose work has been concerned primarily with American music. At the present he is preparing a critical edition of Charles Ives's Symphony No. 4. He would very much appreciate information, ideas, and opinions from musicians who have performed this piece; he can be reached at 207 West Main Street, Savoy, IL 61874.

There is something in this music; real vitality, real naivete, and a superb self-respect....And then Mr. Ives looses his rhythms.[1]

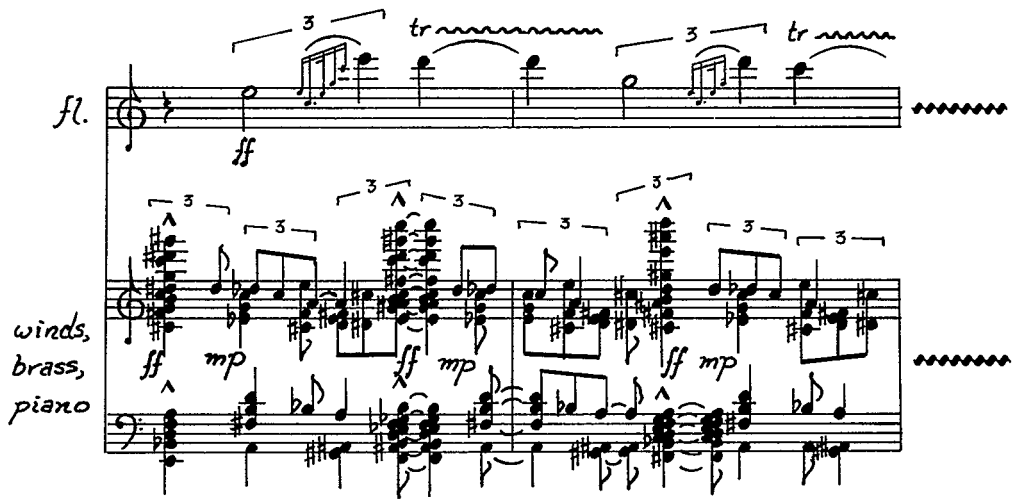
So wrote Olin Downes, reviewing the first performance of two movements from Charles Ives's *Fourth Symphony* in January 1927. Downes was a capable critic, able to grasp the essence of Ives's work despite what was evidently a fairly ragged rendition. He found himself caught up in the symphony's "long and short rhythmic curves, rhythmic clashes, 'rhythmic planes' "; though "the thing [was] an extraordinary hodgepodge," he wrote, its energy revealed "a composer who has not the slightest idea of self-ridicule and who dares to jump with feet and hands and a reckless somersault or two on his way to his destination."

In retrospect, Downes's preoccupation with the rhythmic domain of the *Fourth Symphony* seems particularly perceptive. For although Ives explored rhythm more systematically in other works (the *Tone Roads, The Housatonic at Stockbridge*, even songs like "Soliloquy"), he never surpassed the free-wheeling complexities of the *Symphony*. Today, three-quarters of a century after its composition, the work continues to both confound and illuminate many aspects of rhythmic practice.

Orchestral percussion and percussive orchestras

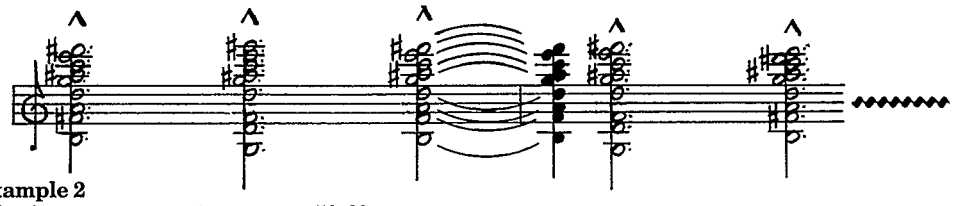
In a work so essentially rhythmic in conception, it is not surprising that percussion plays a crucial role. Indeed, Ives does not confine per-

cussive writing to drums and bells; he treats the entire orchestra as though it were a percussion ensemble. This is especially true in the second movement; a typical instance occurs in the "upper orchestra" at rehearsal ⑧, where dense fortissimo chords crash like cymbals to establish a crossmetric downbeat while noisy trills, like drum rolls, define a different meter (Example 1).[2]

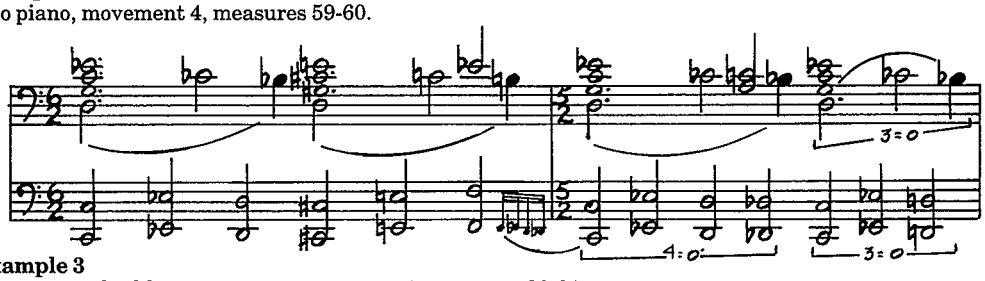


Example 1
Orchestra used as percussion, movement 2, rehearsal ⑧.

Central to the success of such percussionistic writing is the timbre of the piano; Ives calls for both "solo" and "orchestral" instruments, the latter played four-hand. (A third piano, tuned in quarter-tones, is played by one of the orchestral players.) The piano's hybrid character – its ability to both strike and sustain – is fully exploited; in the fourth movement, for example, its functions range from serving as an independent, bell-like percussion instrument (Example 2) to heightening the attacks in sustained string passages (Example 3).

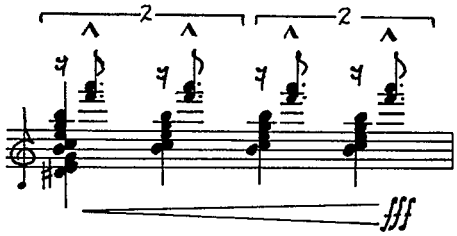


Example 2
Solo piano, movement 4, measures 59-60.

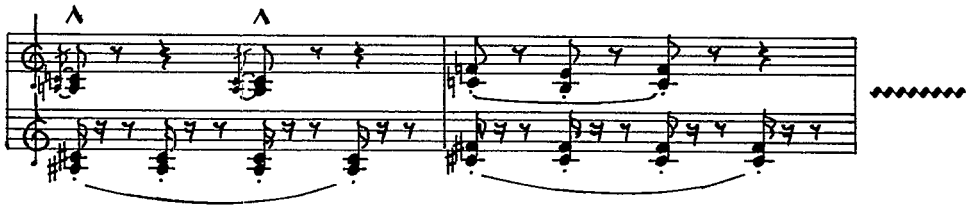


Example 3
Solo piano, doubling strings, movement 4, measures 20-21.

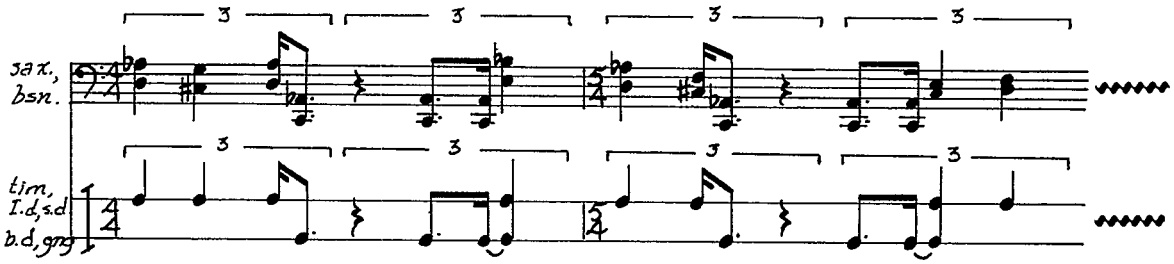
In some passages, Ives cited openly the percussive models for his scoring. In the first movement, for instance, he described the chords before rehearsal ⑦ (Example 4) as "sharp blows, like a bell"; likewise, at rehearsal ⑱ of movement 2 (Example 5), he asked the orchestral pianist to "strike as a drum, short and sharp as possible but not loud."[3] Elsewhere, pitched instruments are wholly subsumed in the percussion section; at rehearsal ㉑ of the second movement, for example, the low winds simply color the rhythms sounded by the drums (Example 6).



Example 4
Solo piano, movement 1, before rehearsal ⑦.

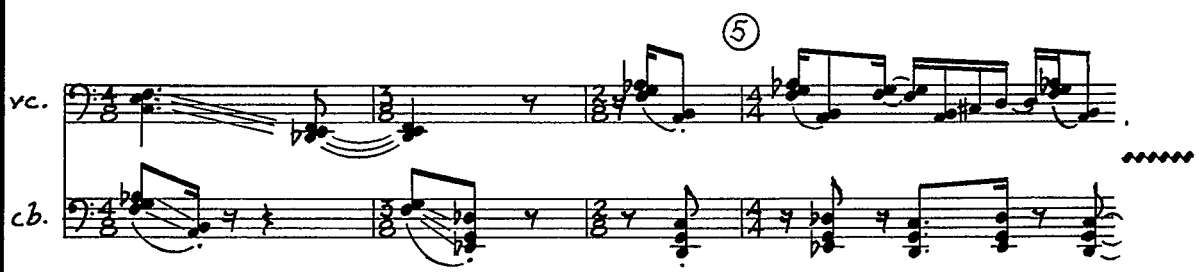


Example 5
Orchestral piano primo, movement 2, rehearsal ⑱.



Example 6
Low winds and percussion, movement 2, rehearsal ㉑.

Even the strings are drawn into the orbit of the percussion. In scoring Example 4, for instance, Ives colored the "bell" chords with a cymbal-like shimmer produced by heavily accented violin and viola trills. In the second movement clusters and glissandi in the low strings, sometimes doubled by piano, evoke muffled drum cadences (Example 7); later, at rehearsal (38), Ives goes so far as to ask the basses and celli, playing *arco*, to "strike hard."[4] Even in very sustained passages, such as the opening of the finale, Ives colored each note percussively by scoring half the basses *arco*, half *pizzicato*.



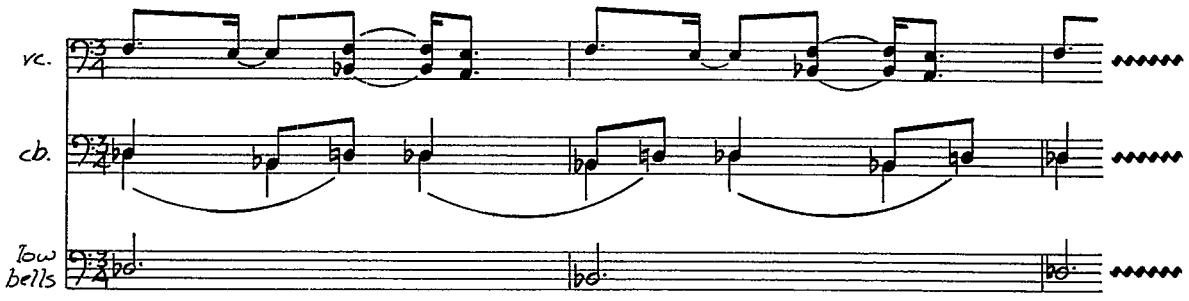
Example 7
Low strings, movement 2, rehearsal (5).

Indeed, Ives's scoring is designed to clarify attacks in all the parts. Throughout the symphony, and especially in the second movement, accents, trills, staccati, and other playing techniques heighten the transients at the beginnings of sounds; the pervasive piano doublings punctuate the texture further. Properly performed, Ives's orchestration produces extraordinary definition despite the extreme rhythmic complexity – *without* relying on percussion.

In a sense, then, Ives has inverted the relationship between the percussion section and the rest of the orchestra. In the nineteenth century, conventionally, percussion colored orchestral timbres or supported orchestral rhythms; percussion parts in the twentieth century, although more independent, usually share or elaborate material presented in other instruments. In both cases the percussion is essentially supplemental; the substance of the composition, its fundamental morphology, is articulated in the strings or winds. In this, orchestration has reflected the central importance of pitch in Western art-music; pitch has come to structure music not only synchronically (i.e., harmonically) but also diachronically (rhythmically), by means of melody, progression, phrase structure, harmonic rhythm and related concepts.

Ives departed from this practice in two ways. First, he employed either novel or multiple pitch structures, thereby either liberating the rhythmic domain or creating simultaneous, conflicting implications. Second – and in seeming contradiction – he insisted on the preeminent importance of time and rhythm to musical expression. (A passage in the *Essays Before a Sonata* speculates about the aspects of music which might be universally understood; next to it Ives wrote in large letters: "RHYTHM.")[5] Thus Ives required himself to center his compositions in the domain of rhythm without relying on pitch to organize that domain. Confronted with this dilemma, he turned to percussion. The substance of most of Ives's pieces is essentially rhythmic, and it is the percussion which measures out the rhythm in its most fundamental form. The other instruments may themselves assume a percussive role, or they may diverge from or contrast with the central rhythmic idea; but in any case, the conventional relationship between orchestral sections is turned upside down: the percussion now is central, the other sections elaborative.

At its simplest, the percussion simply keeps time, like a conductor. Ives sketched a drum part for "In Re Con Moto Et Al," a piece derived from "old piano cycle rhythm studies," which was to serve precisely in this capacity, though he added that he "personally...wouldn't have [the] drum part played except at rehearsal [–] listeners ought to be able to keep time fundamentals in mind."[6] A similar kind of timekeeping, but in a more complex context, occurs in "In the Night," from the *Set for Theatre Orchestra*; in this the low bell pattern marks the points at which the two meters (triple and quadruple) coincide (Example 8).[7]



Example 8
Low bells, celli, basses, "In the Night," opening.

At the other extreme is Ives's most ambitious work, the *Universe Symphony* for multiple orchestras, never completed. This was to be a vastly more elaborate application of the structural principle used in "In the Night"; in the *Symphony*, Ives planned, "the main groups come into relation...only in cycles – that is, they go around their own orbit, and come to meet each other only where their circles eclipse." This fundamentally temporal conception would be realized in a space defined by the different performing groups, distributed "in valleys, on hillsides, and on mountain tops," and representing different aspects of heaven and earth. It was upon the "percussion orchestra" that the other ensembles would build: "The pulse of the universe's life beat was by the percussion orchestra, who play their movement first, all through, before any of the other orchestras play."[8]

The opening projected for the *Universe Symphony* closely resembles the actual opening of the *Fourth Symphony's* finale, which indeed appears in some ways to have been a prototype for the unfinished work. But the percussion also shapes other movements of the *Symphony*, albeit less obviously. Quoting Henry Bellamann's program notes for the second movement, Olin Downes noted "a basic rhythm marked by gongs and deeper metallic figures; above that drums of various kinds; above these wood and brass used 'rather as percussion,' and the solo piano in the role of leader." And in parts of the first movement as well, the percussion keeps the time, marching quietly forward despite multiple metric layers and a wholly divergent distant choir. In its use of percussion, then, as in so many other ways, the *Fourth Symphony* is a kind of summary of Ives's compositional practice.[9]

Background

What led Ives thus to invert conventional orchestrational priorities? Like so many aspects of his style, Ives's writing for percussion is probably grounded in his youth, and especially in his experiences with Danbury's town band and theatre orchestra. In both of these ensembles it was the percussion which regulated the tempo and kept time. Both were led by Ives's father, George, and in the band, at least, it was young Charles who was the drummer. Ives's adventures as a drummer-boy not only influ-

enced his percussion scoring in later years but also revealed to him the percussive potential of other instruments: *When I was a boy, I played in my father's brass band, usually one of the drums. Except when counting rests, the practicing was done on a rubber-top cheese box or on the piano. The snare and brass drum parts were written on the same staff, and there were plenty of dittos. In practicing the drum parts on the piano (not on the drum – neighbours' requests), I...got to trying out sets of notes to go with or take-off the drums – for the snare drum, right-hand notes usually closer together – and for the bass drum, wider chords....For the explosive notes or heavy accents in either drum, the fist or flat of the hand was sometimes used, usually longer groups in the right hand than the left hand.*[10]

Like the parts he learned as a child, many of the drum parts Ives wrote as a mature composer display "plenty of dittos." The percussion goes its own way, measuring "the pulse of the universe," while the other instruments diverge and rejoin, seemingly independent but almost always tied at a very deep level to the percussion cycles. And if the pulse is lost, it will not be the percussion which has wandered: *In re piano playing drum rhythms, etc. – Fred Sanford (a boy friend of mine fifty years ago in Danbury, now dead) was playing his drum in the yard just by the parlor windows – his sisters, Gracie and Mattie, were playing the piano. They called out to Fred, "You put us all out, you're out of time" – Freddy said, "*You *put me all out, you're all out of time."*[11]

But drums were not the only percussion instruments Ives encountered as a boy. Equally influential were his experiences with Danbury's church bells. Throughout his adult life, Ives sought to recapture both their sounds and their associations, incorporating bells even into relatively small chamber ensembles or pieces for solo instruments: the *Tone Roads*, "In the Inn," and even *Some Southpaw Pitching*.

In the mature orchestral works, bells are frequently evoked by more than one instrument: "high bells," "low bells," celesta, triangle, gongs. The high bells and celesta generally occupy an intermediate orchestrational position, somewhat like the piano, although they are usually limited to material having religious connotations. The low bells often measure the passage of time, as in "In the Night"; in this they are sometimes allied with the non-pitched percussion.

But low bells – church bells – also helped to shape Ives's harmonies; many of his distinctive sonorities (such as those in Example 2) can be analyzed as approximations of the mixed partials present in bell sounds. Bells also fascinated Ives's father and evidently were indirectly responsible for the microtonal experiments carried out by both father and son: *One afternoon, in a pouring thunderstorm, we saw [my father] standing without hat or coat in the back garden; the church bell next door was ringing. He would rush into the house to the piano, and then back again. "I've heard a chord I've never heard before – it comes over and over but I can't seem to catch it." He stayed up most of the night trying to find it in the piano. It was soon after this that he started his quarter-tone machine.*[12]

George Ives's many inventions included novel percussion instruments constructed from domestic materials: a "Glass Orchestra," for example, which Charles recalled producing "some sounds as beautiful, sometimes, as they were funny."[13] On another occasion, possibly as a substitute for the anvils of the *Anvil Chorus*, George used "some large water pipes, perhaps sewer pipes, made...from some kind of cement or brick composition, and which gave quite a distinct sound if hit with a wooden hammer."[14]

Charles generally used more conventional instruments, although his father's experiments led him to believe that "the possibilities of percussion sounds...have never been fully realized." His most diverse instrumentation was for the projected *Universe Symphony*; in this he tried "...for the percussion orchestra (Earth's motion and pulse), about a dozen different kinds – as Drums (8), Snare (2), Bells (11), Gongs (4), Pipes (2), Cymbals (3), Xylophones (2), Blocks of wood – all I could think of – it sounded (with eight players) better than I thought."[15] Of the completed works, the *Fourth Symphony* probably uses percussion the

most extensively; Ives calls for celesta, triangle, high and low bells, timpani, Indian drum, snare drum, bass drum and cymbals, and gongs. But both Ives's nomenclature and his notation are often misleading; to interpret the percussion parts of the *Symphony* in a literal way is probably to misrepresent Ives's intention. The history of the manuscripts and of the first performance of the *Symphony* clarifies some aspects of the percussion writing, though it raises additional questions as well.

The 1927 Performance

The *Fourth Symphony* is one of only a handful of mature works played during Ives's lifetime and, to some extent at least, under his direction. On 29 January 1927 an ensemble of about fifty musicians drawn primarily from the New York Philharmonic performed the first and second movements at Town Hall, conducted by Eugene Goossens. The concert was given under the auspices of the Pro Musica Society, founded and directed by pianist E. Robert Schmitz, who played the solo piano part himself.

From the orchestral parts we learn who the percussionists were and what they played: Risch, high bells; Van Praag, low bells; Goodman, timpani; Greinert, Indian drum; Schmehl, snare drum; Katz, bass drum; and Baker, gongs. The timpanist was, of course, Saul Goodman; although he recalls very little about the 1927 performance, Goodman has identified the other players as follows: Harry Baker, a percussionist, was primarily associated with the CBS orchestra; Albert Risch, August Schmehl, and Ruben Katz, with Goodman, formed the percussion section in the New York Philharmonic; Emil Greinert was the Philharmonic's librarian, a violinist, and an occasional percussionist; and Maurice Van Praag was a horn player and the Philharmonic's personnel manager.[16]

The preparations for this performance give some idea of the importance Ives attached to the percussion. When the project was first conceived, perhaps in 1925, Ives probably had available only his autograph scores, which, as always, were messy to the point of illegibility. Consequently he hired a copyist named Reis, probably in early 1926, to make a fresh copy of the first two movements; in the face of astonishing difficulties, Reis did a remarkably accurate job.

Ives's review of Reis's work probably started as simple proofreading; but Ives seems to have been constitutionally unable to use a score without altering it, and he soon had made many small changes on the "clean" copy, especially in the second movement. Either because these had begun to obscure the percussion part or, more likely, because his percussion revisions were growing extensive, he then began a completely new score of the percussion parts only, probably in summer or early fall of 1926. (The first leaf of this score, through rehearsal (11), was subsequently lost.)[17]

The orchestral parts for the second movement were copied from this percussion score, although the changes, which were substantial, were not copied into the Reis score. Goossens conducted from the latter; thus it appears that in addition to the difficulties inherent in Ives's composition, Goossens had to contend with a percussion section playing music that resembled only vaguely the parts on his score. That the performance took place at all seems little short of a miracle.

Never satisfied, Ives went over the orchestral parts himself; as usual, he made substantive changes as well as simply correcting errors. The players also added changes and corrections, some evidently in response to Ives's suggestions, and some simply because of the exigencies of performance. Ives was present at rehearsals; Goossens later recalled that *Ives and his wife sat in the green room during the rehearsals of his piece. You couldn't hear anything for the steam pipes – it was a cold winter – and a leaking water closet next door. Every time I came in there to see him – he wouldn't come out – she would get up and leave...After the last rehearsal, the orchestra had come to like the music and gave him an ovation of clattering bows and shuffling feet – a very high compliment. But he wouldn't come out of that d[amned] green room, even after I went and fetched him. The players were a bit miffed in the end – thought he was a snob. But he was a charming and delightful*

man when he chose to be – and as shrewd as the devil...[18]

Although Ives may have kept to himself at full rehearsals, he was evidently sufficiently concerned about the percussion parts to overcome somewhat his shyness. According to Elliott Carter, "Ives...invited the New York Philharmonic percussionists to his house and [beat] out the complicated rhythms on the dining room table until they learned them."[19] It is perhaps significant that Ives's only successful rehearsal with professional symphonic musicians was with percussion players.

The series of *Fourth Symphony* scores continued after the first performance with the publication of the second movement as part of Henry Cowell's *New Music* series (II:2, January 1929). For this Ives evidently made yet another set of revisions, some as late as the proof stage; although the percussion parts conform generally to the percussion score of 1926, there are a few rather substantive differences. Ives did check the engraved score, but his proofreading was unpredictable at best; in this case he clearly missed a fair number of errors. Because he also made undocumented changes on the proofs themselves, however, it is not always clear whether discrepancies between the engraved score and the manuscripts represent errors or alterations.

In 1965 a score for the entire symphony was prepared under the direction of Theodore Seder; it was this that was used in the first performance of the complete work, conducted by Leopold Stokowski on 26 April 1965, and it was this that was subsequently published by Associated Music. Working against a deadline, Seder essentially limited his team to transcribing Reis's copies of the first two movements and Ives's final autographs of the others. The large number of errors and ambiguities on these scores were not cross-checked against other manuscript sources, so the existing edition (hereafter referred to as AMP) misrepresents Ives's intentions in many details and in a few major matters. A critical edition, badly needed, is being prepared by the present author.

The complex history of sources for the *Fourth Symphony* is not at all atypical for Ives's music. But the existence of orchestral parts prepared and performed under Ives's supervision is unique. One might expect that the parts would resolve the pressing problems in the score, or at least clarify Ives's intentions; unfortunately, they often only confuse matters further. There remain many uncertainties about instrumentation, notation, and the relationship between the percussion and the rest of the orchestra. To some extent these can only be addressed separately, for each instrument in turn.

Pitched percussion: notation and instrumentation

Celesta

Interpretive problems extend even to instruments for which the notation seems relatively straightforward. Although the melodies and rhythms of the celesta part, for example, are essentially clear, the register in which they are to sound is problematical. Ives generally wrote for celesta at pitch, rather than an octave lower as is conventional; confirming this practice, he wrote "celesta actual notes" on the autograph score of the first movement.[20] This explanation, however, was omitted from the celesta part used in the first performance and from the AMP score; thus in all performances to date the celesta has sounded in the upper octave.

For the second movement, every manuscript contains a different version of the celesta part, and crossouts and addenda confuse matters further. The version on Ives's autograph score is the clearest and seems to best suit the context, assuming that here as elsewhere Ives scored the part to sound as written. In this version the part sounds as written in AMP except for the C♯'s after rehearsal (36), which sound an octave higher (the G♯'s sound at pitch).

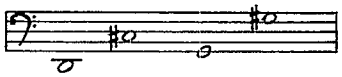
The autograph for the last movement contains a memo reading "(actual notes)" above the celesta in measure 35; in measure 51 Ives first wrote "(actual)" and then "(write down)," altering the octave accordingly.[21] The context as well as these memos strongly implies that the part printed in AMP should sound an octave higher from measures 50 to 59 and in the octave written before and after this passage.

Timpani

The timpani present even more serious prob-

lems; although the writing is conventional in movements 1 and 3, the notation in the other two movements is both incomplete and misleading. Ives explained in a "Conductor's Note" written for the *New Music* edition of the second movement that "the tympani are tuned...as low and as high as will give suitable resonance – preferably a little under or over an octave, but not an exact octave."[22] Apparently he felt that the complex harmonies of the second movement would cause the timpani to be heard essentially as unpitched percussion, and indeed this is often the case. There are several passages, however, in which the timpani tuning becomes rather important.

The complications are such that it may actually be best to use two pair of timpani in the second movement. A possible tuning is given in Example 9; Table 1 summarizes which drums might be used in each section of the movement.



Example 9
A possible tuning for the timpani, movement 2.

Table 1
Timpani, movement 1

PASSAGE	DRUMS
rehearsal (2)	g♯
(4) through (13)	D & c♯
(14)	G & g♯
(15) through (17)	D & c♯
(19) through (21)	G & g♯
before (24)	to suit tom-tom
before (25) through (26) + 2	G & g♯
(26) + 3 through 27	D & c♯
(28)	g♯
(28) + 4 through (32)	D & c♯
(33)	D?? (g♯?)
(34) to end	D & c♯

For one phrase, just before rehearsal (24), the choice of drums will be affected by the pitch of the tom-tom used; the percussion gesture there is clearly intended to rise more or less uniformly, in imitation of the piano. (On his autograph, Ives explained that the "strings may not be needed here if the drums will give enough impression of ascending sound").[23] Throughout, mallets and playing techniques can be adjusted either to obscure the timpani pitches (e.g., at rehearsal (4)) or to clarify them (e.g., at rehearsal (19)). The tuning proposed in Example 9 has the advantage of supporting the harmonies when they are most naïve (at rehearsal (36) – (37)), while blurring the orchestral "drumming" (at rehearsal (10) and elsewhere) and maintaining the timpani's independence in passages like those before rehearsal (25) and before rehearsal (29). But it has not yet been tested, to my knowledge, and it may well be that a different solution will prove preferable.[24]

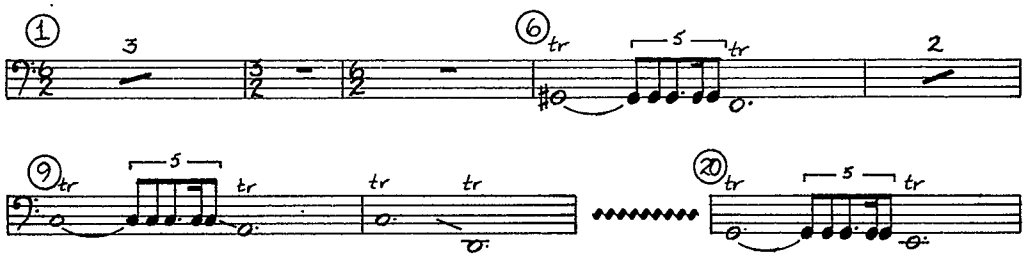
The timpani part in the final movement is among the least well-defined of the symphony. Ives's autograph for that movement, unlike his score for the second movement, was clearly a working draft; to the ink copy he added many pencil sketches of alterations and additions. The timpani have been added very lightly and intermittently on a staff just above the "battery unit"; Ives's hasty jottings offer no clues about the tuning. It is possible that, as in the second

Table 2
Timpani, movement 4

PASSAGE	TUNING	COMMENTS
mm. 1-10	changing	see Example 10
11-17	f & g♯	perhaps an octave lower?
20	E & G	see Example 10
40ff	C & c??	continue as ostinato; or omit this measure??
50-58	A & a & c♯[1]	triangle doubles celesta
59-64	B & g	with solo piano; continue pattern into m. 64

movement, he meant to leave the tuning unspecified; on the other hand, his normal practice was to notate only rhythms in timpani parts until the very final copy. (Only rhythms appear in most of the first movement sources, for example, including Reis's copy; Ives did not specify the tuning for that movement until just before the parts were made.) The sonorities in the fourth movement are much more homogeneous than those in the second, and a timpani part which supports them seems far more appropriate than one which proceeds independently. Table 2 summarizes a possible set of tunings for this movement.

It is likely that in the fourth movement, at least, Ives conceived the part specifically for pedal timpani. Faint wavy lines in measures 9 and 10 may simply indicate a roll, but it seems more probable that they signify a downward glissando on the top drum designed to augment the shuddering glissandi in the low strings. If pedal timpani were used, rapid retunings would be possible; then the timpani could simply double the contrabasses and celli through measure 10. Measure 20 is probably best interpreted to recall the previous gestures within the context of the new sonorities (Example 10).



Example 10
Timpani, movement 4, measures 1-10 and 20.

For the other timpani passages in the fourth movement, all of which are ostinati, Ives generally sketched in only the beginning of the pattern. In some cases he indicated the repetitions he planned; for example, after measures 11-13 he wrote "÷ 3 m" (the repetition, not strictly possible because of the meter change in measure 14, has been appropriately adjusted in AMP).[25] In this passage a tuning of f and g♯ both supports the harmonies and prolongs the interval (the minor third) already established.

The next passage is less tractable; Ives included no instructions whatsoever after measure 40, which was the final measure on page 11 of his score. It is hard to gauge whether and how long the pattern should continue and even harder to deduce the tuning intended (an octave C works reasonably well if a very large drum is available). The uncertainties are such that it may be best simply to omit the timpani in this passage, despite the fact that measure 40 is one of the few measures in the autograph in which the timpani part is inked in.

Both the timpani and the piccolo timpani are written out in full in measures 50-58; a workable tuning is A, a, and c♯^{1}. The "piccolo timpani" has a curious history. On his penultimate draft Ives assigned this rhythm to "low tambourine," and on his final score, apparently, he originally planned to approximate a tambourine sound by combining piccolo timpani with triangle (this is the instrumentation indicated on AMP). However, a memo later added to measure 50 of this score reads "Tr[iangle] with celesta," and this seems to represent Ives's final decision.[26] The possibility that Ives imagined a c♯ tuning for the piccolo timpani may be supported by the rests in measures 56-58; the sonorities at that point shift from the field of A to the field of D. (On the other hand, these

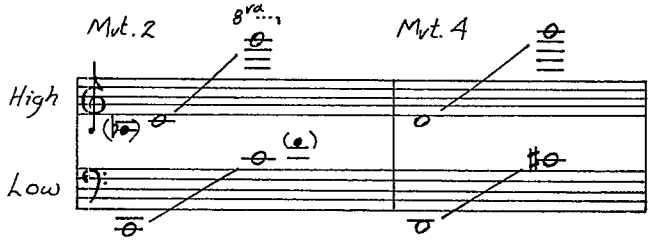
measures begin a new page in the penultimate draft, and Ives did not write in the "low tambourine" part there, so the rests may be simply a copying oversight.)

The final timpani ostinato presents few problems; in measures 58-63 the timpani support the solo piano (see Example 4), and the tuning can be deduced accordingly. The pattern, however, should surely continue through measures 62 and 63; these begin a new page in the autograph score, and Ives's omission of the continuation was almost certainly inadvertant.

Bells

The difficulties in the bell parts are the exact inverse of those in the timpani: though the pitches are quite clear, the instrumentation is not. In the first performance glockenspiel (orchestral bells) and tubular chimes were used for the "high" and "low" bells, respectively; this practice has been followed in modern performances as well, with the octave dispositions of the parts adjusted as necessary. Ives apparently acquiesced in the original instrumentation, since he referred specifically to "glock[enspiel]" on his percussion score; on the sources for the fourth movement, the same term appears as early as the sketches.[27]

On the other hand, the use of orchestral bells and tubular chimes may have been simply a compromise with practicality; quite possibly Ives had something very different in mind. To begin with, there is a sizable gap in both timbre and register between glockenspiel and chimes; yet in his "Conductor's Note," Ives explained that he "assumed that the low and high bells produce a continuous scale and of like quality."[28] And indeed, the ranges of the two parts are essentially contiguous, although their span is enormous (Example 11). Moreover, there is every indication that Ives conceived both bell parts to sound in the octave written. This was common practice for him, as evidenced by the celesta and even the piccolo parts, and it is further confirmed by passages in which the bells are doubled by other instruments. Nevertheless, as with the celesta, Ives may have violated his own convention from time to time; there are a few passages which seem idiomatically best suited for orchestral bells sounding above the octave written.



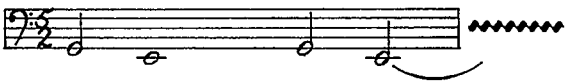
Example 11
Ranges of bell parts, movements 2 and 4.

All the bells, in every register, seem to have been intimately associated in Ives's mind with steeple bells and chiming. Almost without exception both high and low bells play only hymn tunes or the "Big Ben" melody (*Westminster Chimes*); frequently they sound only a melodic fragment, tolling it again and again with church-like permutations or variants. Very possibly Ives conceived his bell parts for a nonexistent instrument: a kind of orchestral carillon of steeple bells with a range of five and one-half octaves. In present circumstances, of course, such a carillon can only be approximated by carefully choosing and blending conventional instruments; some possibilities are summarized in Appendix A.

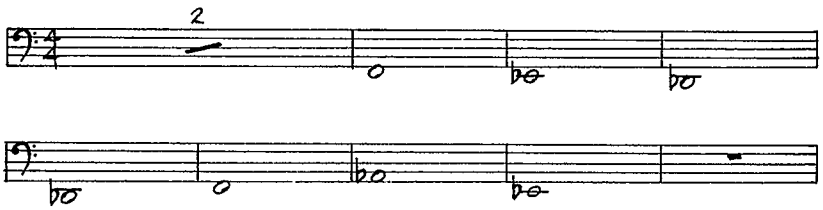
Despite Ives's remark about "a continuous scale," the bell parts rarely cover a wide range within a particular segment of the symphony. Rather, Ives tended to score for the bells in

layers, with each passage containing one or more registral bands, each about an octave wide. In the very lowest tessitura, Ives was almost surely imagining actual church bells, probably as heard from a distance; these sometimes toll only patterns (Example 12) and sometimes offer very extended hymn fragments (Example 13). The writing for low bells in "In the Night" is very similar (see Example 8), and in this case Ives explained unambiguously the effect he wanted: "...the rest of the music is but the silence and sounds of the night – bells tolling in the far distance, etc."[29]

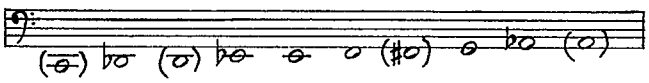
Actual steeple bells are, of course, wholly impractical under most circumstances, although if the symphony were performed in or near a church, the effect of bell sounds drifting in from above might be breathtaking. In most orchestral contexts, plate bells are the only instruments available for this extreme range; the pitches required are indicated in Example 14.[30]



Example 12
Low bells, movement 4, measure 17



Example 13
Low bells, movement 2, rehearsal ⑩-⑪.

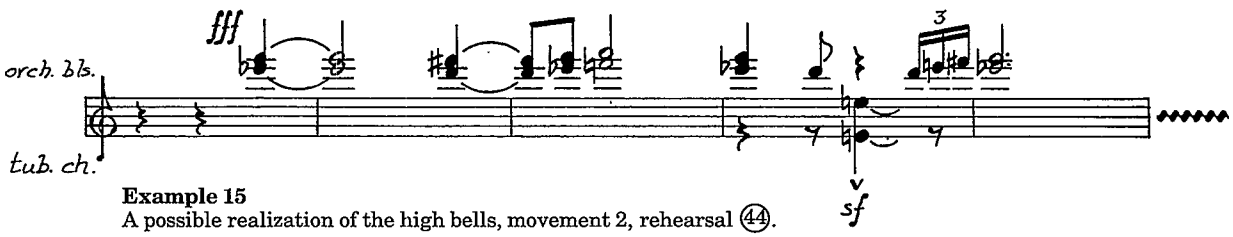


Example 14
Lowest bell notes, movements 2 and 4.

Constructing or assembling such an extensive set of plate bells may be impossible, however; in this case the timbre of steeple bells might be approximated by a combination of tuned gongs and low chimes, played simultaneously, or by some other combination of instruments. In any case every effort should be made to produce a timbre the fundamental of which appears to sound in the octave written.[31]

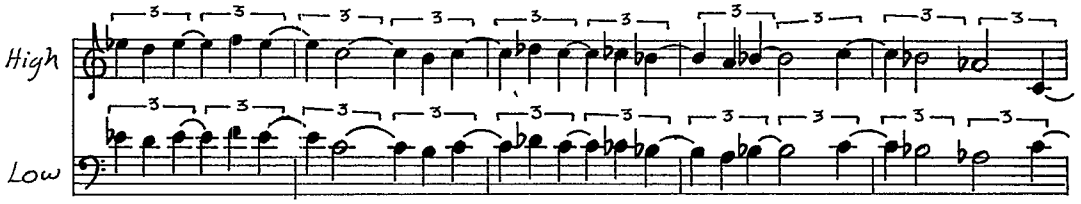
At the other extreme are passages which seem well suited for orchestral bells. The increasing activity of the high bell part at the end of the second movement (after rehearsal ㊹) seems to call for performance on orchestral bells sounding an octave higher than written, with the sforzando E's played on tubular chimes, perhaps as octaves (Example 15). The material at rehearsal ㉞, although playable at pitch by a set of chimes with an extended upper range, is probably intended to sound at

least one octave above, like the orchestral piano (in his autograph, Ives originally scored the piano two octaves higher). And the entire passage from rehearsal (18) to (21) can be played at pitch on orchestral bells if a low $f\sharp^2$ is available (the octavo sign at rehearsal (20) of the AMP score should appear *above* the notes).



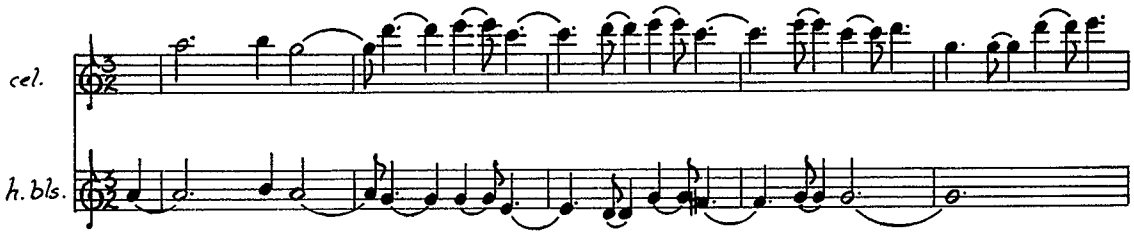
Example 15
A possible realization of the high bells, movement 2, rehearsal (44).

The bulk of the bell parts, however, is probably best managed on a very large set of tubular chimes (at this writing, apparently, the largest sets extend from e to f^3). Such a set can easily accommodate many passages in the second movement that must have been rescored or played in upper octaves by orchestral bells in the 1927 performance. In one problematical section Ives sanctioned an adjustment that is still helpful; at rehearsal (40) of his percussion score he wrote "or high bells top oct[ave] if low bells do not reach."[32] Presumably he meant both parts to be moved an octave higher through the next five bars (Example 16).

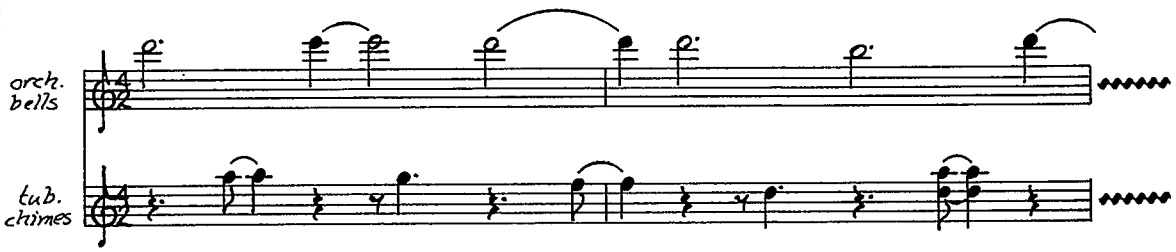


Example 16
Bells, in "top octave," movement 2, rehearsal (40).

The last half of the finale contains several notational and instrumentational puzzles. Ives's score is quite unclear in measures 45 through 49, but he may possibly have meant the celesta to play the upper notes, the high bells the lower (Example 17). Between measures 50 and 63, although there is much confusion in both the autograph and the AMP scores, Ives probably meant the low bells to sound in the range $e - c\sharp^1$; if so, the part can be played on an extended set of chimes. Chimes can also be used for the high bells from measures 50 through 58; after this the part must be divided, with the upper notes played at pitch on orchestral bells, the lower notes taken on chimes (Example 18). With one additional note (low d), the tubular chimes would also be capable of managing all the parts in the final section of the movement (measures 72ff). It is here that Ives's desire for "a continuous scale...of like quality" assumes the most importance. Without a low d, it would probably be better to play the low bell part on a matched set of plate bells ($f\sharp - e - d$), beginning with the last note of measure 63.

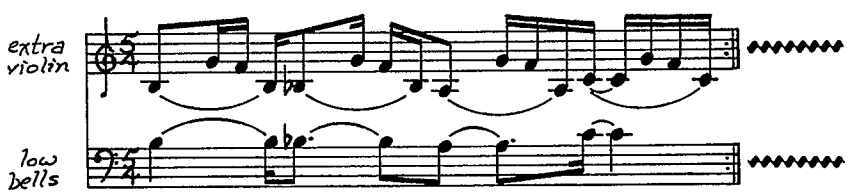


Example 17
Celesta and high bells, movement 4, measures 45-49.



Example 18
High bell part, divided between orchestral bells and tubular chimes, movement 4, measures 59-60.

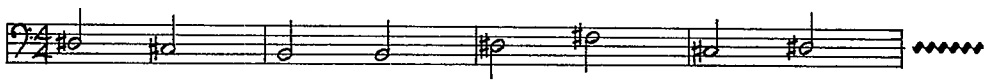
Handbells might also be considered for certain passages. If they carry sufficiently and have enough depth of tone, handbells in their lowest octave might be suitable for the low bell part at the end of the fourth movement (measures 50ff). In other, rather transparent textures, such as the opening of the second movement, both bell parts might possibly be played by handbells. Handbells seem ideal for the low bells at rehearsal (23) of movement 2 (Example 19); here, Ives explained in his "Conductor's Note," "the low bell...should be near the strings...It is but to clarify in an unobtrusive way the lower notes of the extra string parts..."[33] An added set of chimes standing among the strings would be an unseemly distraction; but four handbells could be placed there "in an unobtrusive way" and, moreover, could be played by members of the violin section.



Example 19
Extra violin and low bells, movement 2, rehearsal (23).

Even with extended sets of chimes and orchestral bells, handbells, and plate bells, a few passages remain problematical. The low bells at rehearsal (31) of movement 2, for example, extend beyond the range of both chimes and handbells yet surely should sound where written (Example 20). To construct five plate bells for this passage seems unwarranted, but it would be even less appropriate to mix instruments within the phrase. In such straits one might well consider synthesized bell tones.

With the sound analysis capabilities of present digital synthesizers it is possible to create a matched scale of bell sounds using an actual steeple bell as a model, thus creating an electronic approximation of the orchestral carillon Ives apparently imagined. If more variety were desired, several different "instruments" could be created from several different sources. The whole would be manageable by a single player at a single keyboard, and the bells themselves could appear to originate from anywhere in the hall without any loss of rhythmic accuracy.



Example 20
Low bells, movement 2, rehearsal (31).

Synthesis would preclude, however, the myriad inflections possible when an instrument is actually struck, so that the shaping of each phrase will be far less sophisticated than with actual bells. Perhaps equally unfortunately for Ives's music, a synthesizer would eliminate the theatrical dimension implicit in live percussion. But the gain in range and flexibility may well compensate for these deficiencies, especially for performance ensembles having limited resources. One thing is certain: Ives was genuinely committed to experiment and innovation and had nothing but scorn for music shaped to suit instrumental limitations: *My God! What has sound got to do with music! The waiter brings the only fresh egg he has, but the man at breakfast sends it back because it doesn't fit his eggcup. Why can't music go out in the same way it comes in to a man, without having to crawl over a fence of sounds, thoraxes, catguts, wire, wood, and brass? Consecutive fifths are as harmless as blue laws compared with the relentless tyranny of the "media." The instrument! – there is the perennial difficulty – there is music's limitation. Why must the scarecrow of the keyboard – the tyrant in terms of the mechanism (be it Caruso or a Jew's-harp) – stare into every measure? Is it the composer's fault that man has only ten fingers? Why can't a musical thought be presented as it is born – perchance "a bastard of the slums," or a "daughter of a bishop" – and if it happens to go better later on a bass-drum than upon a harp, get a good bass-drummer.*[34]

Non-pitched percussion: pulse and cadence

Instrumentation

Compared to the pitched percussion, the instrumentation of the non-pitched instruments is relatively straightforward. There are, however, a few peculiarities. Ives's "gongs," to begin with, are almost certainly meant to be non-pitched; indeed, in his "Conductor's Note," Ives explained that "the light gong may be a small cymbal (hung and fairly taut)." In the 1927 performance of the second movement, a cymbal may actually have been used; on the percussion score a memo referring to the small gong reads "(cymbal must not ring)," and the part lists the instrument as "small gong (cymbal – hung – leather struck)."[35] In the finale the "gong" part is probably best played on a small to medium tam-tam; a tam-tam might also

serve for the "heavy gong" of the second movement, although certain passages (notably at rehearsals (38) and (45)) seem better suited to a large cymbal.

The "Indian drum" used in movements 2 and 4 is also not quite what it seems. (The designation at the beginning of AMP's last movement – "Small Timp. or Medium Drum" – is incorrect; Ives actually asked for "Pic[colo] Ty[mpani] or Ind[ian] D[rum]".) That Ives meant simply a tom-tom is confirmed by the part for the 1927 performance, which calls for "Indian Drum (Medium size = 'Tom-Tom')."[36] Very probably the heritage of Ives's "Indian drum" was not ethnic at all, but theatrical; tom-toms were among the instruments assembled by percussionists for "exotic" effects in late nineteenth-century theatre orchestras. Ives's vaudevillian associations with "Indian" drums are revealed in a story told by John Kirkpatrick. For an orchestral version of the song "The Indians," Kirkpatrick...*went down to a shop where they had Indian artifacts and got a beautiful drum with a thunderbird on one side, and ... took it up to Ives to show him. He was delighted, and ran his fingers over it, and he found out all the different things he could do. So he kept up a kind of improvisation on this drum for about two minutes, just all sorts of jazzy rhythms – though he would have called them ragtime rhythms.*[37]

Another of Ives's instrumentational quirks may also be rooted in his experiences with theatre orchestras. In all but the third movement of the symphony, Ives called for bass drum "with cymbal," notating the part as it appears in the AMP score for the second movement, in which the bass drum note is circled whenever the cymbal is to be sounded. (In the AMP score for the prelude, the bass drum and cymbal parts have been dissociated; in the finale the circles have been replaced by double stems.) Ives clearly meant both instruments to be played by one musician, and only one player was used in 1927. Presumably Ives had in mind the technique typical of nineteenth-century theatre and opera orchestras (and sometimes used in concert bands), in which a cymbal is affixed to the top of the bass drum; the player wields the other cymbal in one hand and the bass drum beater in the other. In these circumstances the cymbal punctuates rather than rings, resembling a hi-hat more than cymbals *a due*. Ives's writing well suits this technique, and it is important that it be employed (though in the last movement it may be appropriate to allow the held cymbal to ring somewhat longer than usual).

The snare drum, too, recalls both theatre orchestras and bands. For the second movement, with its dense texture and energetic rhythms, a small show drum with a penetrating tone can be used. In the finale, however, the "battery unit" has a more somber character; a relatively deep drum, perhaps a field drum, would appear more suitable. Indeed, on two drafts of this movement, Ives specifically called for a "long (snare) drum."[38]

Finally, it is worth noting that the triangle used in the second movement is frequently associated with the high bell part; at rehearsal (7), for example, it establishes the slow pulse picked up by the high bells after rehearsal (8). This association may be useful in determining the size of the triangle to be used. It is possible for the triangle to be incorporated into the other parts; in general, it can be played by the gong player until rehearsal (40) and by the "Indian drum" player thereafter. With such an arrangement the non-pitched percussion in the second movement, as in the last, can be managed by four rather than five players.

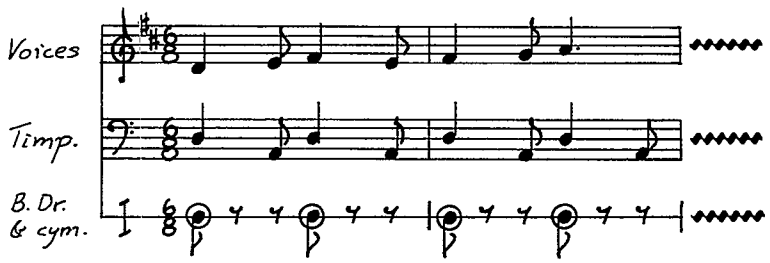
Pulse, accent, and cadence

Just as the writing for bells reflects their association with churches, so also the writing for drums reflects their association with bands. Broadly speaking, Ives used non-pitched percussion in one of two opposing ways: to support pitched instruments by playing in rhythmic unison with them or by articulating an underlying pulse; or to present drum cadences derived from marching bands, sometimes coordinated with pitched instruments and sometimes independent of them. The relationship between these functions varies from movement to movement: in the prelude they are merely foreshadowed, in the second movement they are opposed, and in the finale they are reconciled. In the second movement, especially,

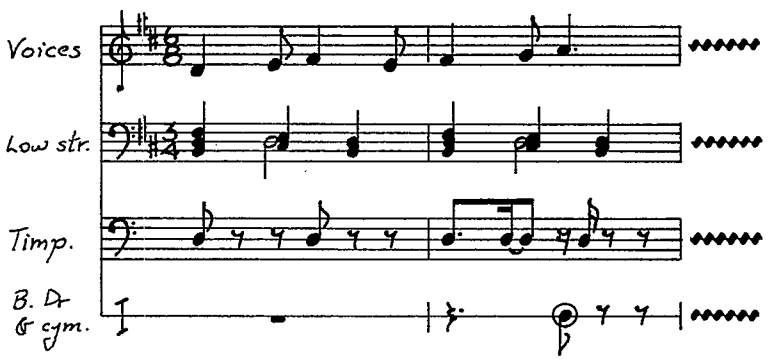
it is not always easy for the percussionists to recognize how their part is functioning and with which instruments it is coordinated; Appendix B summarizes this information in a general way.

The range of roles the percussion will play – from orchestral pulse to independent drum corps – is intimated very subtlely in the first movement. During the second verse of the hymn (rehearsal ⑦) the percussion simply supports the choral melody, the timpani playing in rhythmic unison while the bass drum marks the pulse (Example 21). Previously, however, during the first verse, these instruments had combined to present a very simple cadence pattern which was gently independent of the triple meters in the chorus and orchestra (Example 22). This simple pattern is typical of all the cadences Ives employs: a regularly repeating phrase in duple meter, its activity increases just after its midpoint to impel it forward to the next cycle. In its skeletal form (Example 23), this pattern is also the basis for many rhythmic variants, and it is the only pattern to recur unaltered several times in the symphony: in the snare drum of the finale, for instance (see Example 32), and repeatedly in the second movement (as in Example 5).

In the second movement the opposition between pulse and cadence assumes central importance. The alternation between these two roles corresponds roughly to the alternation between verse and refrain, secular and sacred, that characterizes the pitch material; this in turn reflects the program for the movement (based on Hawthorne's story "The Celestial Railroad"), which contrasts "an exciting, easy, and worldly progress through life...with the trials of the Pilgrims in their journey through the swamp."[39] In this movement the cadence patterns are made more complex and are sounded by pitched instruments as well as by



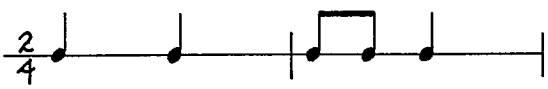
Example 21
Voices, timpani, and bass drum with cymbal, movement 1, rehearsal ⑦.



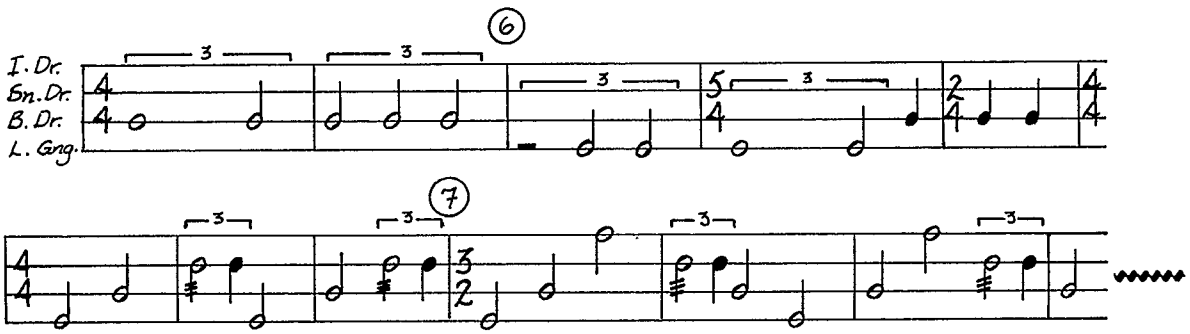
Example 22
Voices, low strings, timpani, and bass drum with cymbal, movement 1, rehearsal ④.

percussion; in the low strings at rehearsal ⑤, for example, the basic pattern (Example 23) is converted to compound meter and overlaid on a different pulse (see Example 7). Frequently the basic pattern is extended to asymmetric units of five or seven beats; sometimes these are built up or dissolved by means of informal additive processes (Example 24).

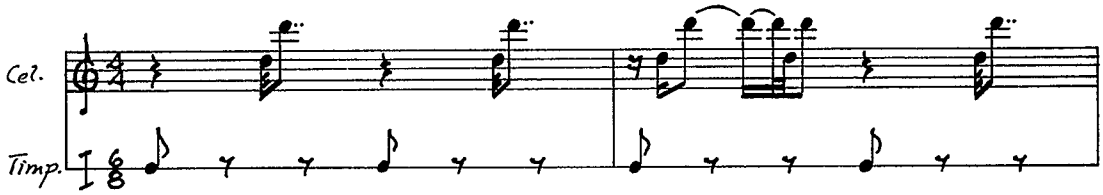
The oppositions on which the second movement is based grow more and more extreme as the movement evolves, and the percussion becomes more and more prominent. The pitched instruments oscillate with increasing abruptness between sustained and percussive idioms, and Ives's score becomes dotted with instructions to "strike" or "beat" the pianos and strings. At the same time, cadence patterns begin to dominate the percussion parts. By rehearsal ㉝ even the most transparent textures are accompanied by a sort of drum cadence, a variation of the basic pattern presented by the timpani and celesta (Example 25). Then, at rehearsal ㊵, an obvious "rolloff" pattern leads to an extraordinary melee in



Example 23
The basic cadence pattern.



Example 24
Percussion cadence, movement 2, rehearsal ⑥.

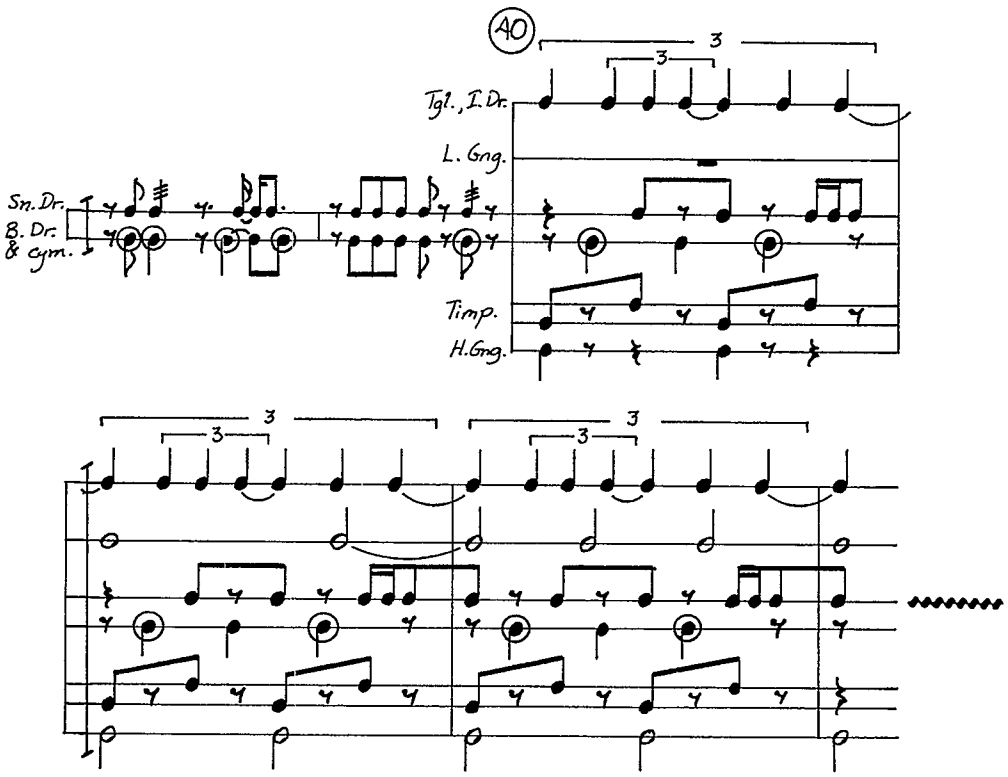


Example 25
Celesta and timpani, movement 2, rehearsal ㉝.

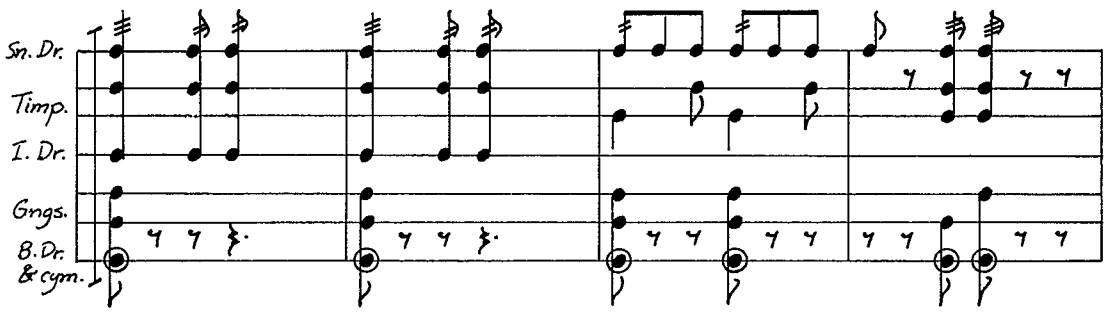
which four distinct cadences compete for attention (Example 26). Over the next ten measures the percussion section gradually reunites, and at rehearsal (44) all non-pitched instruments combine to present the most vigorous, most explicit drum cadence in the movement (Example 27). They are joined by pianos, brass, and low strings, and the cadence pattern becomes the central element in the texture; all pitched material is secondary. The transformation of full orchestra into percussion ensemble is complete.

"The pulse of the universe"

In the second movement, then, the relationship between non-pitched percussion and the other instruments is to some extent antagonistic; the contrasts on which that movement is based extend into the domain of orchestration. In the fourth movement quite a different relationship exists, although in a sense the percussion is again central: the "battery unit," although seemingly independent of the main orchestra, actually serves to regulate it. Like the percussion in Ives's projected *Universe Symphony*, the battery unit is the "pulse of the universe" depicted in the main orchestra. But this pulse, governing the tempo and marking the time, is itself an extended, complex drum cadence. Thus the opposition between cadence and pulse, like the deeper philosophical oppositions embodied in the first three movements, is transcended in the finale.



Example 26
Non-pitched percussion, movement 2, after rehearsal (40).



Example 27
Non-pitched percussion, movement 2, rehearsal (44).

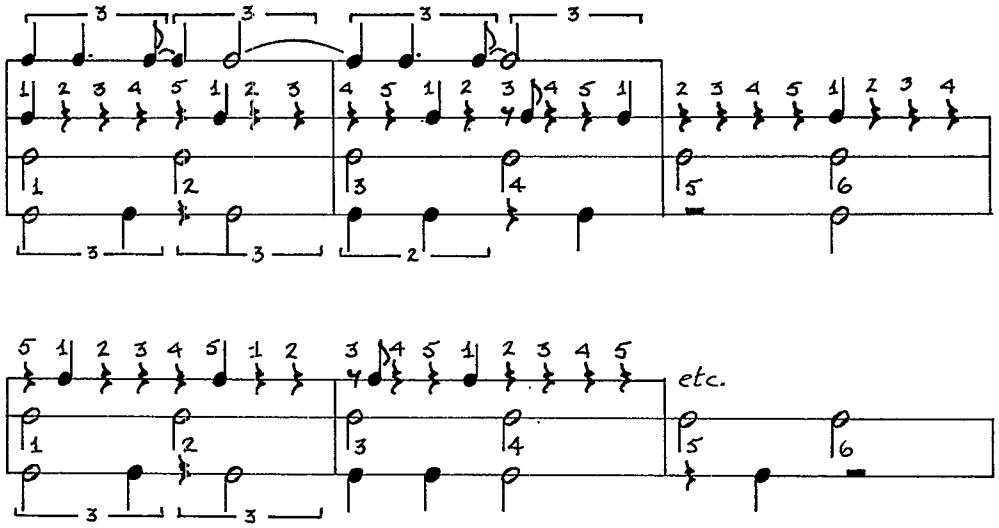
Because Ives's score of the fourth movement is very much a work-in-progress, and because the battery unit was sketched only intermittently in earlier drafts, the source materials for the percussion parts contain many discrepancies and ambiguities. Very few of these are resolved satisfactorily in the AMP edition, which indeed increases the confusion by introducing several errors of its own. Even though a final chronology for the fourth movement sources has yet to be established, earlier versions of the battery unit do clarify several important matters.

The battery unit was evidently present in the finale from the very beginning. According to Ives, the movement "grew out of " a "short organ piece," elsewhere referred to as a "Memorial Slow March"; this became measures 50-63 in the completed score.[40] "Drums" appear briefly on what seems to be the earliest surviving sketch for this section, and on a slightly later sketch for the same passage there appears a rudimentary version of the battery unit (Example 28). In this Ives first worked out the cross-metric version of the basic cadence pattern which is played by the snare drum (apparently making an error in the penultimate bar). Sketches for other passages, the chronology of which is not yet certain, also incorporate early versions of the battery unit or at least indications of its basic pulse; one leaf contains a rhythmic sketch, crossed out, which may represent a rejected introduction to the movement.[41]

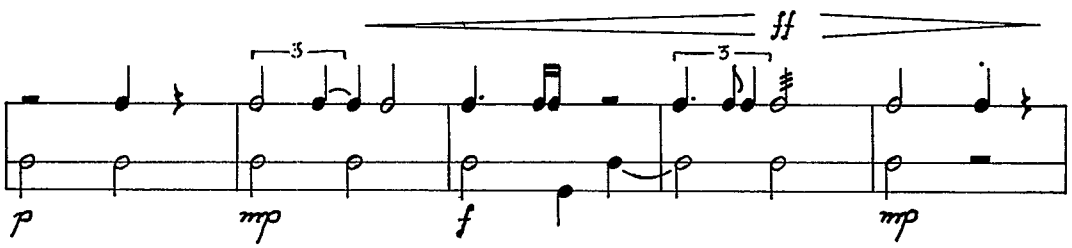
When he was ready to assemble his sketches into an orderly draft, Ives twice made brief lists of the major sections in the movement; in both cases he included a five-measure draft of the battery unit which more closely resembles its final form (Example 29). Thereafter, similar sketches for the percussion parts appear intermittently and unpredictably on various drafts and patches; most draft pages contain at least references to the battery unit or indications of its pulse.[42]

In all these drafts the movement began with what is now measure 8; it was probably not until after Ives had revised the prelude to the symphony (about 1913) that he added the opening measures to the finale. At this time he apparently extended the battery unit pattern for two more measures, making it virtually identical to the final form (Example 30). (None of these sketches include the snare drum; from Example 28 it appears that Ives had already settled on the final form for that part.)[43]

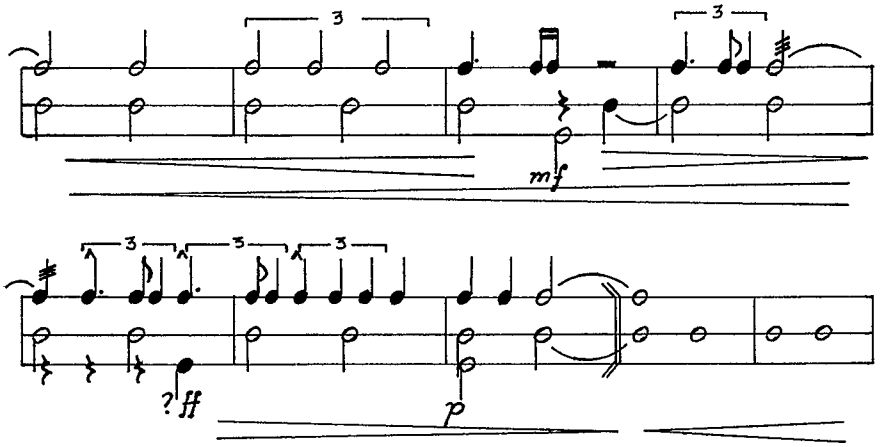
On his drafts and sketches, Ives always began the battery unit at the beginning of a cycle, regardless of where in the movement it was placed. Hence, when he began the clean copy that became his "final" score, he had not yet worked through the relationship of the percussion to the main orchestra. Therefore, after laying out the score in full, Ives pencilled in memos to himself concerning that relationship; he also pencilled in numbers to keep track of the battery unit pattern. For the bass drum,



Example 28
Battery unit, movement 4, rudimentary form, transcribed from f1689; the numbers are Ives's.



Example 29
Battery unit, movement 4, sketch, transcribed from f1706.



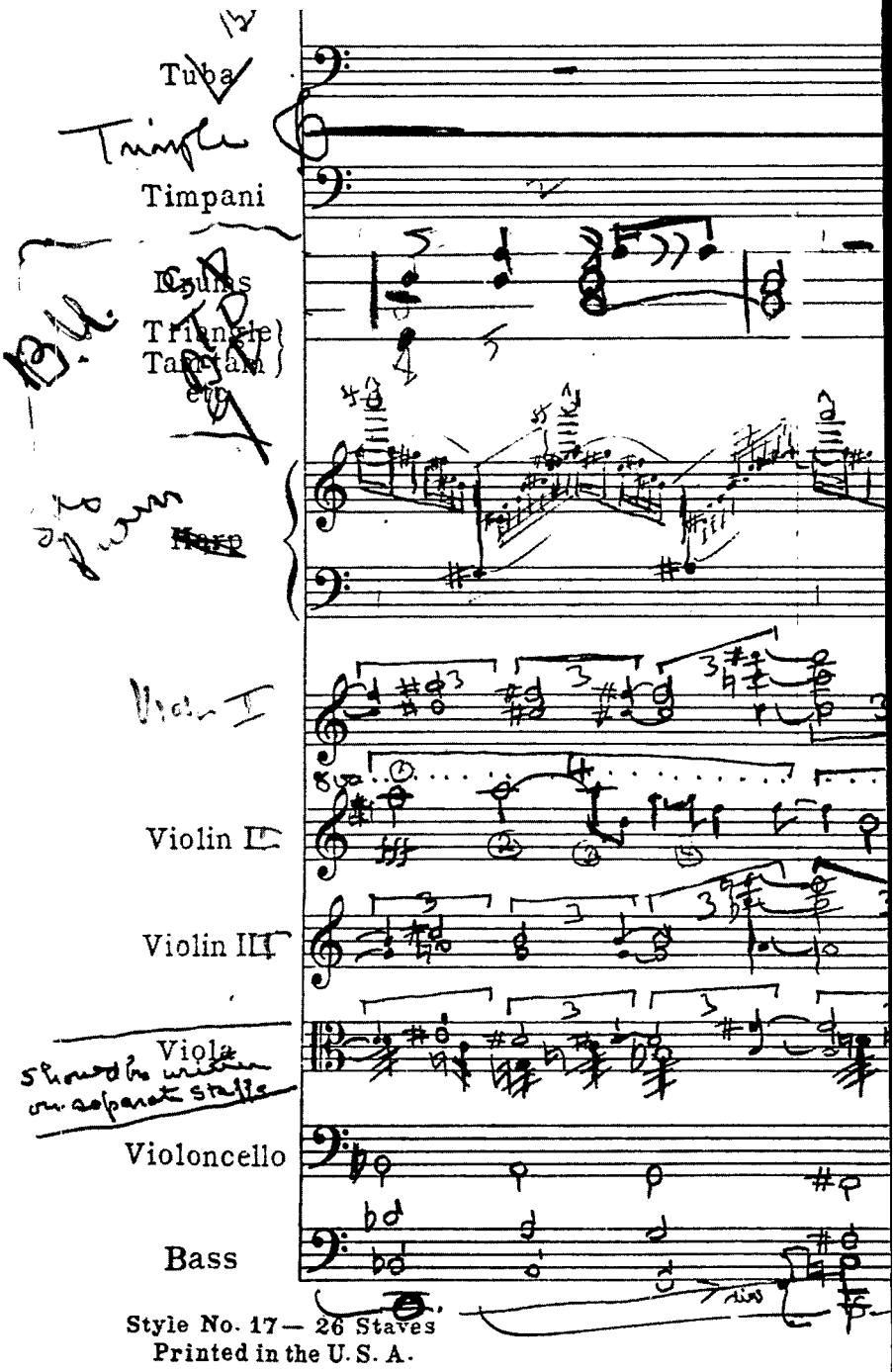
Example 30
Battery unit, movement 4, sketch transcribed from f1711.

Indian drum, and gong, he numbered half-notes in cycles of seven, so that two cycles equalled a seven-bar pattern; for the snare drum, he numbered measures in cycles of five. These pencilled numberings can be faintly discerned above and below the battery unit at the top of Example 31.

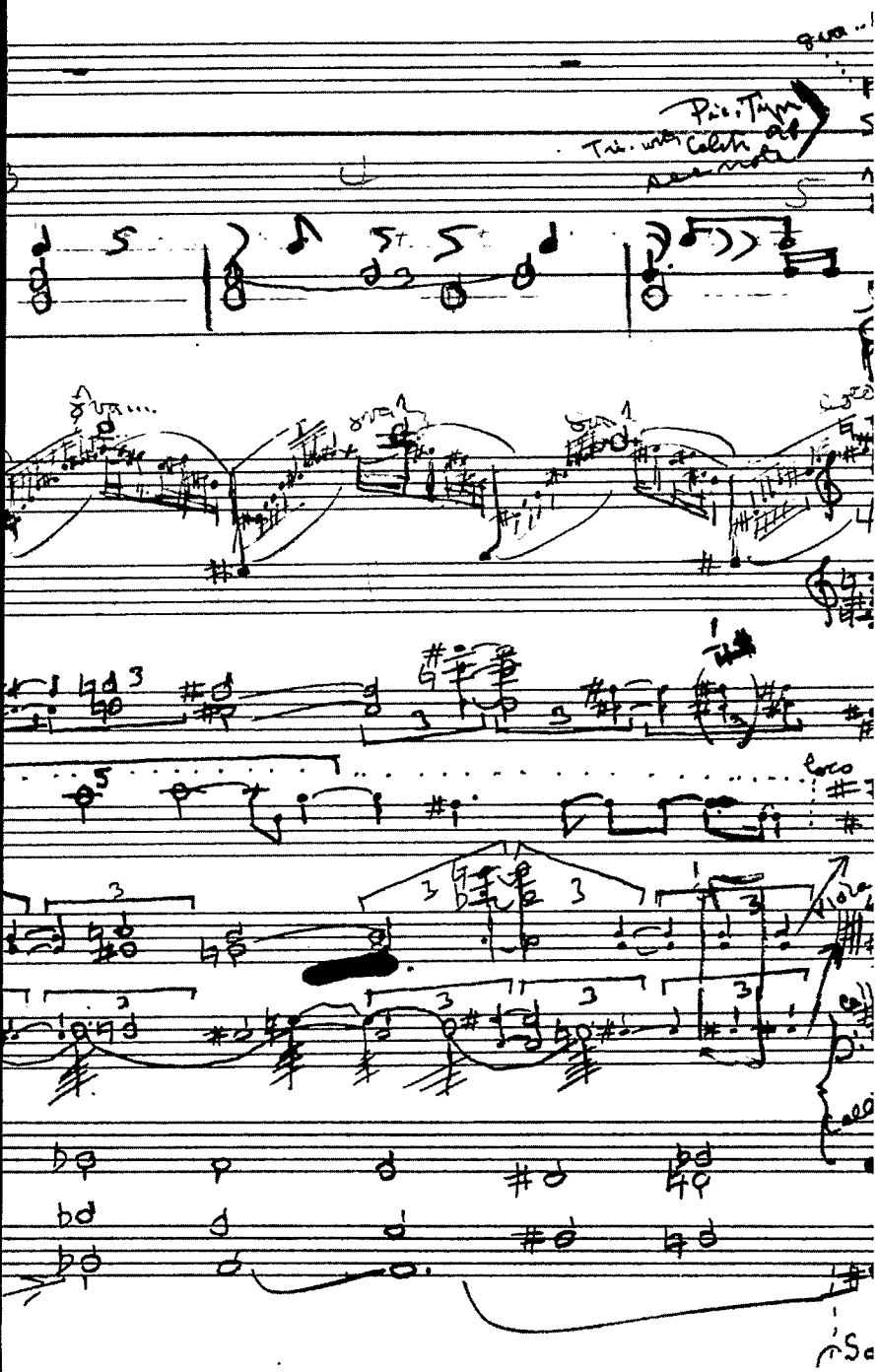
Only after thus tracking the cycles through the score did Ives copy in the actual notes, and this he did rather carelessly. As a result, his cycles are very inconsistent with respect to accents and phrasing, and there are even a number of rhythmic discrepancies; when the AMP score was prepared, still more errors crept in. There is absolutely no reason to suppose that Ives intended any variation whatsoever in the battery unit other than the Indian drum digressions in measures 27ff and 59ff; on the contrary, both the compositional history and Ives's copying procedure indicate that he intended an absolutely consistent ostinato. The proper form of that ostinato, which is actually two cycles long, is given in Example 32.

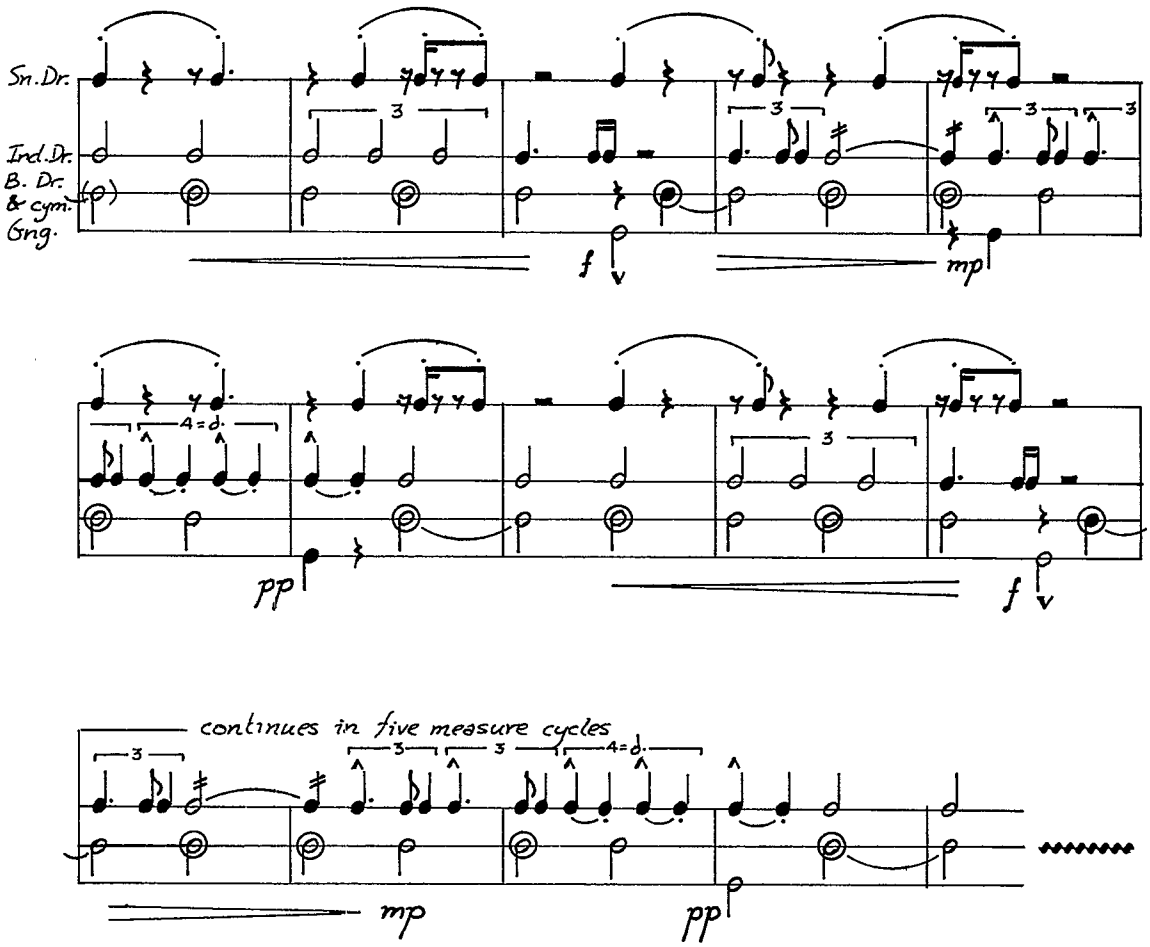
It was not until after Ives had completed his score for the finale that he decided to open the movement with the percussion alone; he indicated this change with a repeat sign before what is now measure 5 and a memo: "Drums will play percussion theme alone = 7 meas-[ures]."[44] (The AMP score, for some reason, says these "1st 8 bars" are "ad libitum"; but Ives's memo was meant to indicate a change, not an option.) Ives clearly intended a repetition of the "percussion theme," rather than literally the first seven bars. On the AMP score, seven and one-half bars were repeated, to allow room for three complete snare drum cycles, but as a result the pattern of the other drums was disrupted. A better solution might be that given in Example 33.

The dynamic arch in Example 32 was an early part of Ives's conception, appearing even in the early sketches, sometimes in more than one version (see Examples 29 and 30). Ives's most complete draft for the battery unit included nearly two full cycles, underlaid below measures 22ff; in both of these the arch was clearly indicated.[45] Thus it seems very likely that Ives intended the dynamics of Example 32 to recur throughout the movement; the battery unit was to produce an unchanging series of slow, wave-like crescendi and diminuendi. Although the overall dynamic level would no doubt change with that of the main orchestra, the percussion throughout would alternately approach and recede from view.

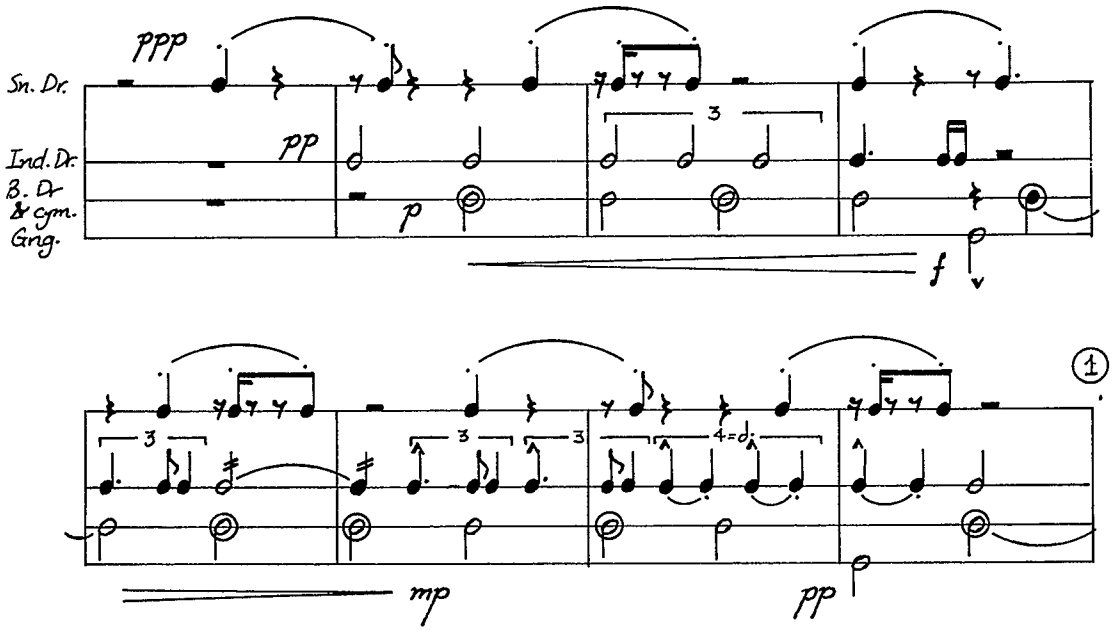


Example 31
Battery unit and strings, movement 4, measures 47- 49, reproduced from Ives's autograph (f1744).





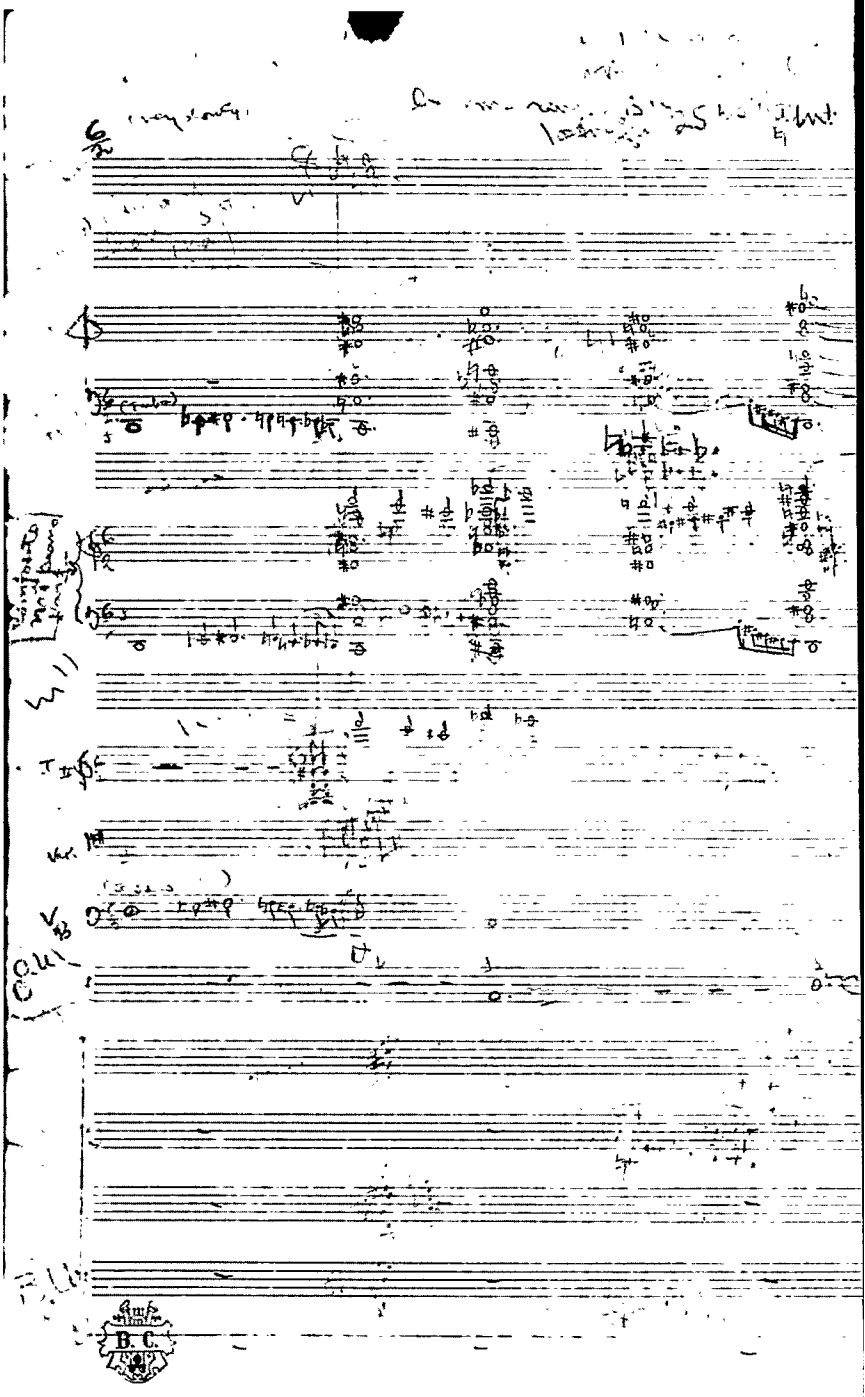
Example 32
Battery unit, movement 4, final version.



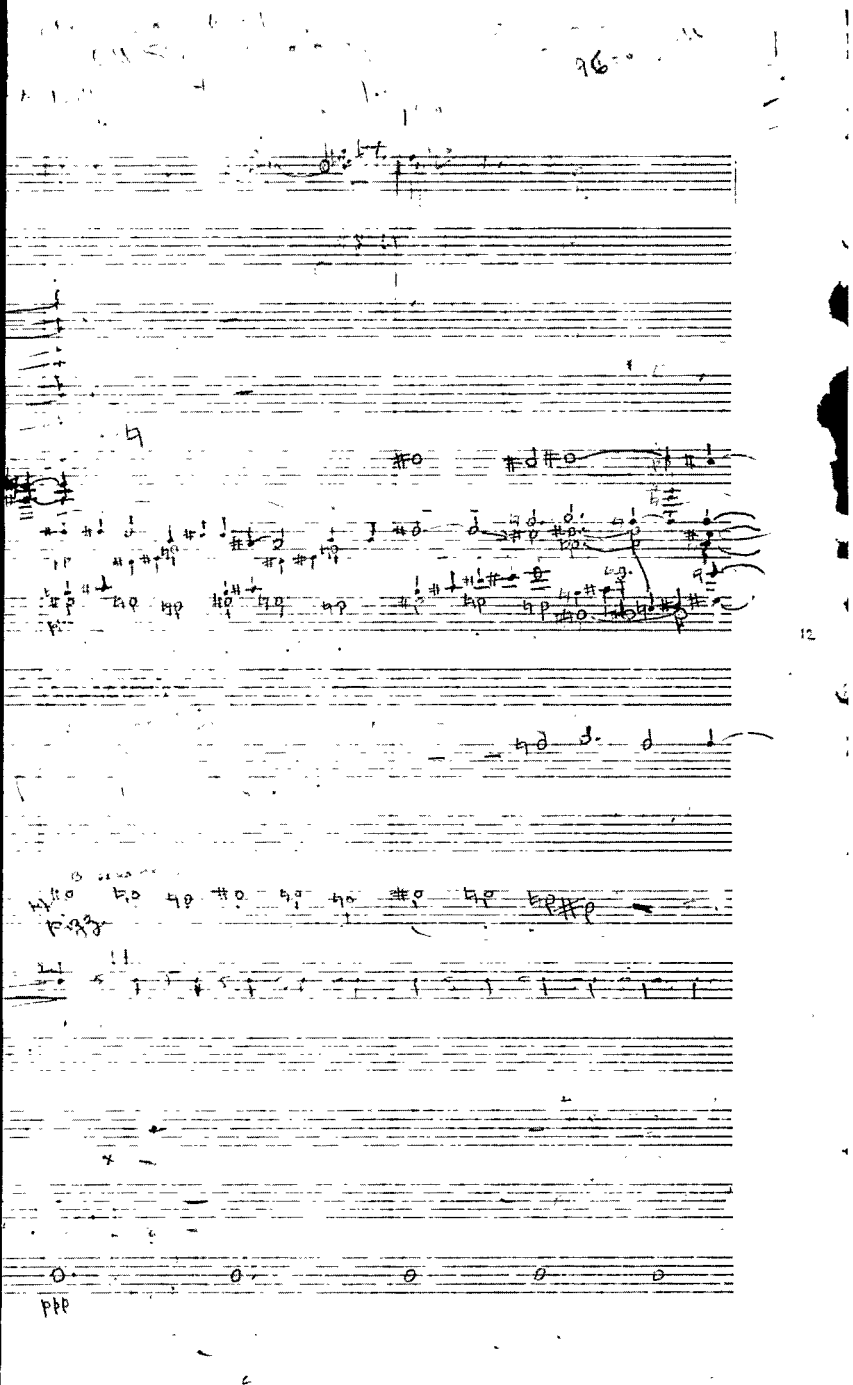
Example 33
Percussion opening, movement 4, adjusted for lengths of cycles.

Like the details of the cycles, the relationship between the battery unit and the main orchestra is also somewhat unclear in Ives's "final" score. Again a review of earlier sources is revealing. From the outset, the battery unit's values always stood in some clear proportion to those of the main orchestra; on the sketch which accompanied measures 50ff (Example 28), for instance, the 2/2 measures of the battery unit were barred to make them equal to the 3/2 measures of the main orchestra. On later sketches Ives spelled out the relationship with indications like "Orch[estra] 𝅗𝅥 / B[attery] 𝅗𝅥 / same" or "BU here = 5 ♪s?"[46] Although it is not always clear exactly what was meant by some of these memos, it is evident that Ives was struggling to notate precise metric ratios between the percussion and the main orchestra. At no time did he contemplate allowing the battery unit to proceed entirely independently, as the distant choir does in the prelude.

When Ives began assembling full drafts of the movement he became concerned with tempi as well as proportions. Nearly all the drafts contain one or more pages with complex and often contradictory tempo calculations; those in example 34 read in part: "if B.U. is about 33 begin 𝅗𝅥. or 3 ♩s to it / (viz. 𝅗𝅥 of O.U. = 66) or perhaps O.U. slower/extreme range of BU possibly from 25 to 50..."[47] The pervasiveness of such annotations is some indication of the importance Ives attached to matters of tempo and proportion in this movement. His problem was to reconcile the unchanging tempo of the battery unit with the rhythmic flexibility required in the main orchestra without sacrificing precision in the relationship between the two. If the battery unit was to be the pulse or heartbeat of the main orchestra, it had to remain constant even when the activity level of the orchestra changed; at the same time, in order to serve as the music's time-keeper, its



Example 34
Draft of finale, first page, Ives's autograph (f1714).



meter had to be intimately tied to that of the orchestral unit.

This difficult problem often required ingenious solutions. When Ives first sketched the section after measure 27, he evidently intended it to accelerate gradually, slowing to the original tempo only at the end of measure 31; a memo indicated the passage was to be played "freely, not necessarily in this time ratio." But it would have been treacherous, if not impossible, to coordinate an unchanging battery unit with a free accelerando, and Ives eventually substituted a related effect: he kept the tempo of both units constant but wrote out an accelerando in the Indian drum part. After measure 58 there is a similar accelerando in the Indian drum, and the motivation may have been the same. No sketches for this passage survive, but on the draft, a concluding "rit. to B.U." seems to imply that a free accelerando had previously been planned.[48]

Ives's efforts to find a satisfactory tempo for the percussion and to properly describe its relationship to the main orchestra continued through the drafts and onto his full score. There many pencilled notes describe possible tempos and ratios for the battery unit and the main orchestra; thus in measure 40 Ives wrote, "BU change to 5 ♩ OU," and in measure 50, "♩ = ♩. faster, about 30 / 36?"[49] One of these preliminary memos has found its way onto the AMP score; at measure 35 appears "if BU has been ♩ = ♩ to here then now ♩." This makes no sense in the final version, since the battery unit half-note equals the orchestral dotted half both before and after measure 35; Ives's purpose is explained by another preliminary memo appearing in measure 32, omitted from the AMP score: "BU here 𝅗𝅥 = ♩♩ or ♩ = ♩♩♩? "[50]

In many performances of the *Fourth Symphony* the battery unit has remained largely in the background and has proceeded essentially without reference to the main orchestra. From the foregoing, however, it seems clear that Ives intended quite a different effect. Not only should the cyclic dynamics of the battery unit bring it regularly into view, but also its tempo and meter should be strictly related to those of the main orchestra. By the time Ives inked in the battery unit on his full score, he had decided exactly what ratios were necessary between the two units. He laid out his score quite accurately with respect to these ratios (the vertical alignment of his score is far more accurate than that of the AMP score), pencilling in beat counts where needed to place notes correctly; some of these can be discerned faintly just above the snare drum line in Example 31.

In practice, of course, the tempo of the battery unit will not remain exactly steady throughout the finale, any more than the pulse of a living organism remains steady. In the final score as well as the drafts Ives indicated different tempos for the battery unit at different points in the score; on many of the drafts adjustments in the tempo are specifically called for: "B.U. may reach as high as 42 here," or "perhaps up to 38 or a little faster."[51] Annotations on the ink score set the tempo range for the battery unit half-note at between 26 and 33; this also seems to have been the range which appears most frequently in the drafts. Using this and the tempo ratios as a guide it is possible to determine a range of possible tempos for each passage in the main orchestra. Both the ratios between the units and the derived tempos are summarized in Table 3.

Table 3
Ratios and tempos, movement 4

MEASURES	BU = ? of OU	OU TEMPO CHANGE	OU TEMPO RANGE
1-23	♩.		♩ = 39-50
24-26	𝅗𝅥	♩. = 𝅗𝅥	♩ = 52-66
27-38	♩.	𝅗𝅥 = ♩.	♩ = 39-50
39	𝅗𝅥	♩. = 𝅗𝅥	♩ = 52-66
40-49	♩𝅘𝅥𝅯	𝅗𝅥 = ♩𝅘𝅥𝅯	♩ = 33-41
50-58	♩.	♩𝅘𝅥𝅯 = ♩.	♩ = 39-50
59-63	𝅗𝅥	♩. = 𝅗𝅥	♩ = 52-66
64-71	♩.	𝅗𝅥 = ♩.	♩ = 39-50
72-end	𝅗𝅥	♩. = 𝅗𝅥	♩ = 52-66

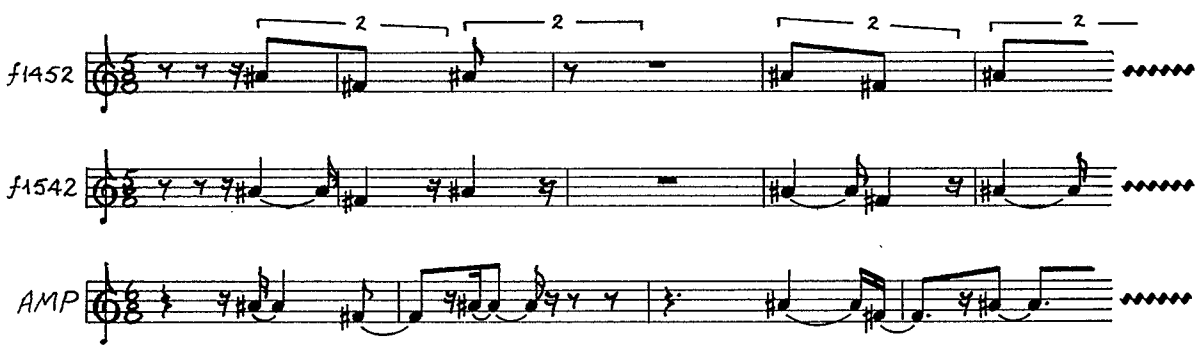
Notation

In concluding, it may be useful to consider briefly some of the peculiarities of Ives's notation. In writing down his complex rhythms, Ives did not always choose the simplest method; editors of his music have debated hotly whether or not to renotate passages to make them more tractable for conductors or players. In the AMP edition of the second movement, for example, the passage after rehearsal (14) has been rewritten in 3/16, to correspond with the material in the clarinets and solo piano; Ives had scored it in 4/4, to correspond with the low strings.[52]

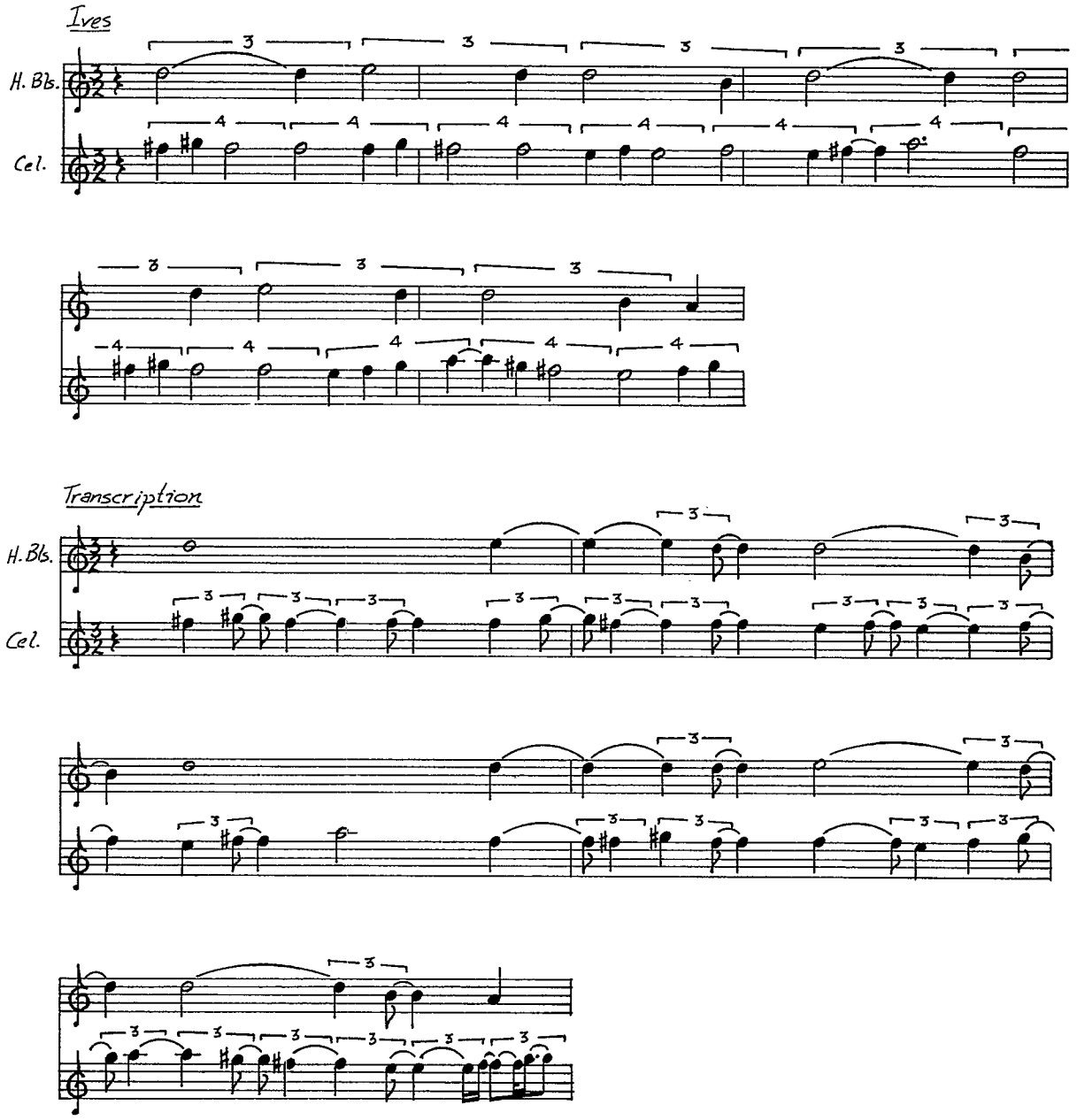
The most difficult problems occur when an instrument or group of instruments play in a meter which differs from the prevailing one. At the very beginning of the second movement, the high bells are playing in a duple rhythm which is superimposed on bars of 5/8; these are themselves superimposed on the prevailing 6/8 meter. The rhythmic conception was clearly reflected in Ives's original notation, which is, however, virtually unplayable. When Ives corrected Reis's score he rewrote the duple overlay but retained the 5/8 meter; in the AMP score this meter has been subsumed into the 6/8. Example 35 presents the successive notational variants for this passage.[53]

Example 35 illustrates in a simple way the notational principles which Ives had to reconcile. On one hand, notation reflects the fundamental structure of the passage in question; on the other, it provides a practical means by which the various parts can be coordinated. In general, Ives emphasized the first of these purposes; he used meters within meters to make clear the conception of the part, leaving it to the player to renotate as necessary for performance conditions. His motivation was to some extent ethical and political as well as musical: his notation was designed to draw the performer at least part way into the compositional process, to ensure that he would confront the ideas behind the music rather than being a mere executant.

This philosophy, however, increases the possibility of misinterpretation or error, especially in scores which Ives did not polish for publication, such as the finale to the *Fourth Symphony*. When the triangle rhythms after rehearsal (7) of the second movement were renotated for the AMP score, for example, at least two significant errors were made. But to make no changes at all is equally unsatisfactory. Several passages in the finale require far more time to be made comprehensible than is available to most or-



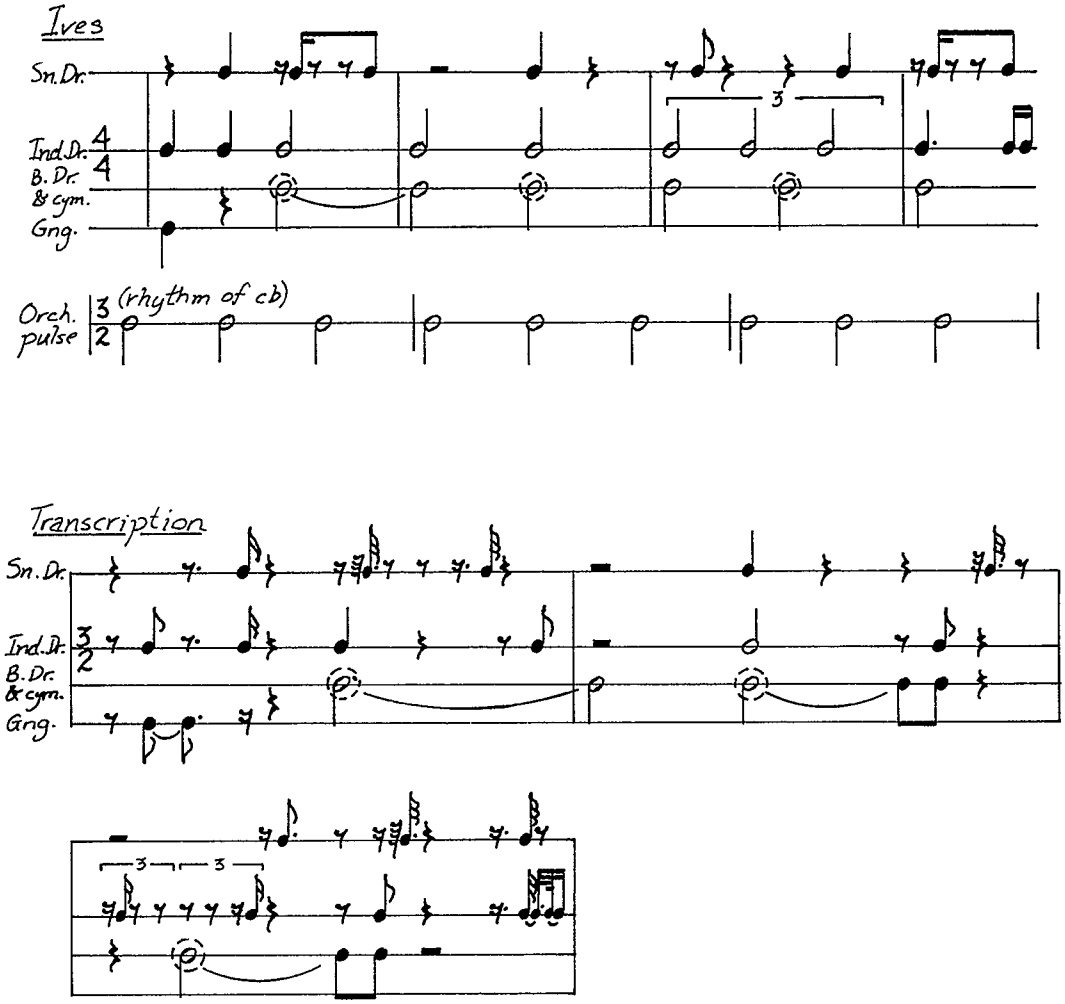
Example 35
High bells, beginning of movement 2, successive versions: Ives's ink score (f1452), Reis's score, corrected by Ives (f1542), and AMP.



Example 36
High bell and celesta, movement 4, measures 40-44: Ives's notation and a rhythmic transcription.

chestral players. At measure 40, for instance, the bells and celesta (doubling the violins) embark on a series of offset, cross-metric rhythms which seem virtually unintelligible. Only after it is discovered that the bracketed quadruplets of the celesta equal a half-note of the bell triplets (the alignment in AMP is no help) can the passage be transcribed into a playable form (Example 36).

Nowhere are the notational problems more acute than in the battery unit; it is virtually impossible for these parts to be properly coordi-



Example 37
Battery unit, movement 4, measures 47-49: Ives's notation and a rhythmic transcription.

nated with the main orchestra without being reworked fairly extensively. By way of illustration, Example 37 presents measures 47-49 of the battery unit as notated in Ives's score (see Example 31) and as they might be renotated. In making this rhythmic transcription the notated durations have been adjusted, except for ringing instruments, to increase readability. As a result the drum cadence patterns are obscured; in addition, such transcriptions can become dauntingly complex, especially in the snare and Indian drum parts. An alternative might be to use a kind of hybrid notation, in which only the bass drum and gong parts are transcribed into the orchestral barring, with the other drums notated with reference to the pulse of the bass drum. Such a hybrid might be better for performances, but it might well result in less precision and would also present difficulties in rehearsal situations, in which the ensemble must start and stop repeatedly.

The best editorial solution, of course, is to make available both Ives's own notation and a "performance" score. There is certainly no practical reason why both cannot appear on the parts, one above the other; in the second movement the percussion parts could also contain much of the material summarized in Appendix B. By the use of foldout pages, even the full score could present both alternatives: with pages folded one way the conductor would read the "performance" score; folded the other way, the student or scholar would read Ives's own notation.

Ives frequently denigrated the importance of the notation and even the sound of music: "That music must be heard is not essential," he wrote; "what it *sounds* like may not be what it *is*." Or again, with reference to the "Hawthorne" movement of the *Concord Sonata* (on which the second movement of the *Fourth Symphony* is based): "Marks of tempo, expression, etc., are used as little as possible. If the score itself, the preface or an interest in Hawthorne suggest nothing, marks may only make things worse."[54] Despite such pronouncements, however, Ives filled his scores and sketches with revealing information that is of much use to concert performers as well as scholars. The interpretation of Ives's compositions requires to an unusual degree some understanding of their history, development, and variants.

Lou Harrison once described Ives's legacy as a "marvelous playground in which we will all be making beautiful things for the rest of time," proposing that editions of Ives take "the form of enhanced photographic reproductions of all the original materials."[55] Though Harrison's concept has been applied only to the materials for the *Universe Symphony*, the microfilming of Ives's manuscripts at Yale has made them easily accessible to all who perform his music. It is altogether consistent with Ives's philosophy for each of us to penetrate in our own way the substance of Ives's purpose and the manner in which he achieved it. This article – *any* article on Ives's music – is properly regarded as an invitation, not a conclusion; its purpose (and Ives's) will be best served if it induces performers and conductors to return to Ives's own manuscripts to make their own "beautiful things."

Notes

1. Olin Downes: "Music: Pro-Musica Society," *The New York Times*, 30 January 1927 (28:3).
2. *All examples are written at the sounded pitch.* Examples, rehearsal numbers, and measure numbers are taken from the Associated Music edition of the *Symphony No. 4*, © 1965, unless otherwise noted. Permission to reproduce excerpts from the *Symphony*, granted by Associated Music, Inc., is hereby gratefully acknowledged.
3. Ives's memos appear on the manuscripts for the symphony, pages f1403 and f1474. (Page numbers preceded by "f" are numbers assigned when the manuscripts were microfilmed; copies made from the films may be ordered from Yale University using these numbers.)
4. Memo on f1503.
5. Charles Ives, *Essays Before a Sonata, The Majority, and Other Writings*, ed. Howard Boatwright (New York: W. W. Norton & Company, Inc., 1961), p. 71.
6. Ives's memo is quoted in John Kirkpatrick, *A Temporary Mimeographed Catalogue of the Music Manuscripts and Related Materials of Charles Edward Ives* (New Haven: the author, 1960), p. 68. The published version of "In Re Con Moto Et Al" (New York: Peer International Corporation, 1968) omits all mention of the drum part.
7. Example 8 is reproduced by permission from *A Set of Pieces for Theatre Orchestra* (New York: Edwin H. Kalmus, reprinted from *New Music* V:2, January 1932), p. 20.
8. Charles Ives, *Memos*, ed. John Kirkpatrick (New York: W. W. Norton & Company, Inc., 1972), pp. 107-108; and Henry and Sidney Cowell, *Charles Ives and His Music* (New York: Oxford University Press, 1955), p. 201.
9. Downes, *loc. cit.* The first movement is analyzed in detail in the author's "Unity and Diversity in Charles Ives's *Fourth Symphony*," in *Yearbook for Inter-American Musical Research* X (1974), pp. 5-49.
10. *Memos*, p. 42.
11. *Memos*, p. 43.
12. Ives, "Some 'Quarter-Tone' Impressions," in *Essays Before a Sonata, The Majority, and Other Writings*, p. 111.
13. *Memos*, p. 45, and "Some 'Quarter-Tone' Impressions," p. 111.
14. *Memos*, p. 124.
15. *Memos*, pp. 124-125.
16. The players' names appear on f1971-2017, *passim*. Goodman was interviewed by telephone on 25 May 1984. Harry Baker may still be alive, but the author has not yet been able to locate him; suggestions or information would be most welcome.
17. Ives's autograph occupies f1452-1516; the Reis score is on f1540-1617; and the percussion score is on f1527-1538. Though much of the chronology given here is conjectural, it is well supported by many small biographical and orthographical details.
18. Quoted in David Wooldridge, *From the Steeples and Mountains* (New York: Alfred A. Knopf, 1974), pp. 212-213.
19. In Vivian Perlis, ed., *Charles Ives Remembered* (New Haven and London: Yale University Press, 1974), p. 142.
20. Memo on f1399.
21. Memos on f1740 and f1745.
22. Ives, "Conductor's Note," in *Symphony No. 4*, p. 12.
23. Memo on f1482.
24. The author would very much like to learn of the solutions employed by timpanists in recent performances and also welcomes opinions about the alternative proposed here.
25. Memo on f1733.
26. The "low tambourine" part is on f1720; Ives's memo is on f1744.
27. Memos on f1527 and f1691.
28. Ives, "Conductor's Note," p. 12.
29. Ives, *Memos*, p. 59.
30. The parenthesized pitches in Example 14 are less important than the others. The A appears only in measure 71 of the last movement, where the G and A are pencilled into Ives's score; they may represent alternatives rather than chords, which might justify their omission. The C and D occur only after rehearsal (34) of movement 2; in this *con furore* passage, in which the low bells double the bassoons and tuba, the octave is probably not too crucial (though the low range might help to anchor the pandemonium). The F♯ also appears in this passage, as well as just before rehearsal numbers (1) and (32); in each case it could be taken up an octave without serious ill effect. The other six notes – D♭, E♭, E, F, G, and A♭ – occupy central places in more transparent textures; their register cannot be changed without fundamentally altering Ives's conception.
31. I would like to thank Mr. Frank Toperzer of Drums Unlimited, Bethesda, Maryland, for much information and many valuable suggestions about the instrumention of the bell parts.
32. Memo on f1536.
33. Ives, "Conductor's Note," p. 12.
34. Ives, *Essays Before a Sonata*, p. 84.
35. Ives, "Conductor's Note," p. 12; and memos on f1527 and f1986.

36. Ives's, designation is on f1731; the part appears on f1986.
37. In *Charles Ives Remembered*, p. 221. The relationship between theatre music percussion and the evolution of the drum set has not, to my knowledge, been adequately investigated; this is an area which would reward careful scholarship.
38. Memos on f1714 and f1720.
39. Henry Bellaman's program note for the 1927 performance of the *Fourth Symphony*, quoted in John Kirkpatrick, "Preface" to Charles Ives, *Symphony No. 4*, p. viii.
40. Ives, *Memos*, p. 66 and note.
41. The earliest apparent sketch is f1693; the "drums" are noted on staff 11. The rudimentary version of the battery unit occupies the area around staff 13 on f1689. References to or sketches for the battery unit also appear on f1695 and f1699; the rejected introduction is on f1703.
42. The lists and battery unit sketches are on f1704 and f1706. Relatively detailed sketches for the percussion, closely resembling Example 29, appear on draft pages f1700, f1715-17, and f1720; battery unit pulses and other references appear on f1703, f1708-9, f1718-19, and f1721-25.
43. The extended opening and the extended percussion pattern were sketched on f1711. A justification for the date of the prelude's revision is beyond the scope of this paper; the chronology is based in part on information known about the final revision of the *First Violin Sonata*, which uses the same material.
44. Memo on f1731.
45. The dynamic arch is found on sketches f1704, f1706, and f1711, and on draft f1715.
46. Memos on f1700 and f1709.
47. Memo on f1714; similar memos can be found on f1709, f1715-16, f1718-20, and f1723-24.
48. Ives's memos are on f1710 and f1721.
49. Memos on f1741 and f1744; several other related memos are so faint or overwritten that they are illegible.
50. Memos on f1740 and f1739.
51. Memos on f1720 and f1724.
52. This change does support the most prominent material, but it is a kind of halfway solution. Why not use a meter which also reflects the phrasing: two bars of 12/16, one of 18/16, and four of 12/16?
53. Example 35 is drawn from pages f1452 and f1543.
54. Ives, *Essays Before a Sonata*, p. 84; and *Piano Sonata No. 2* (New York: Associated Music Publishers, Inc., 1947), p. [73].
55. In *An Ives Celebration*, ed. H. Wiley Hitchcock and Vivian Perlis (Urbana, Illinois: University of Illinois Press, 1977), p. 84.

Appendix A

Bell Parts, Movements 2 and 4: Ranges and Instrumentation

Movement 2

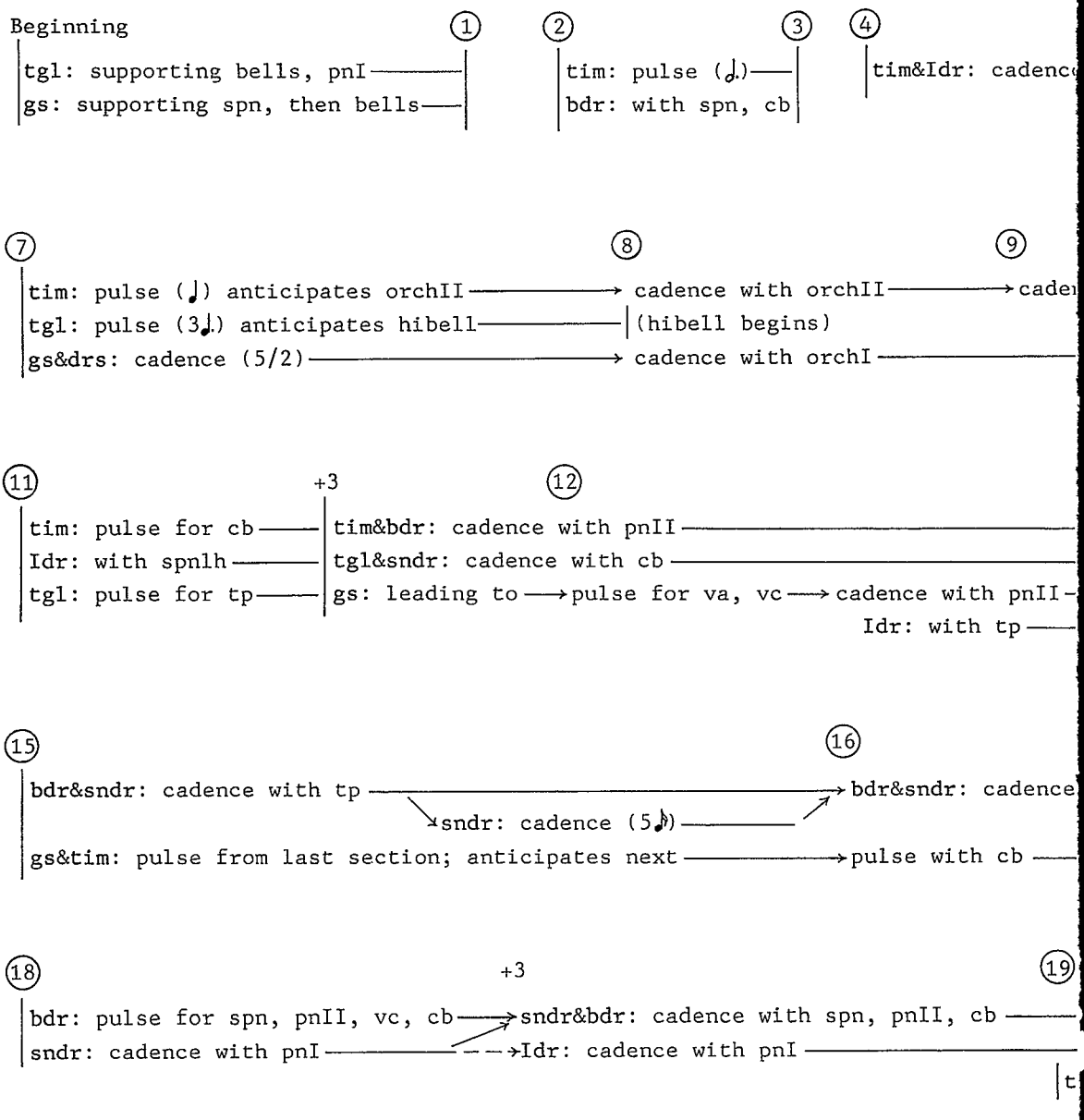
PASSAGE	PART	RANGE	INSTRUMENTS	COMMENTS
beginning	H&L	F-a♯^{1}	†chimes (handbells?) & plate bells	The F and F♯ can be played an octave higher, if absolutely necessary, though they are the lowest notes of the sonority.
②	L	F	plate bell	
⑥	H	e♯^{2}-b^{2}	*chimes	
⑧-⑨	H	f♯^{1}-d♯^{3}	handbells (*chimes?) (‡orchestral bells?)	Orchestral bells would have to sound one octave higher than written. Handbells might not penetrate the texture well, but the part, associated with the strings, is marked "D" (least prominent).
⑩-⑪	L	D♭-A♭	plate bells	
⑮	H	c^{2}-e^{3}	*chimes	If orchestral bells are used in the next section they might also be better here, sounding one octave higher than written.
⑯	H	c♯^{1}-b^{2}	*chimes (& orchestral bells?)	The part may well be too muddy if played entirely by chimes; in this case orchestral bells could sound the upper line one octave higher.
⑰	H	a^{1}-g^{2}	*chimes	
⑱-⑳	H	f♯^{2}-g^{4}	‡orchestral bells	
㉓-㉕	L	a-c^{1}	handbells (4)	Played by members of the violin section.
㉗-㉛	H	d♭^{2}-f^{3}	*chimes	Using different hammers for the two lines at ㉘ might clarify the dynamics and voice-leading.
㉛-㉜	L	F♯-g♯	chimes & plate bells?	See text for a discussion.
㉞-㉟	H	d♯^{2}-b^{2}	orchestral bells	Sounding one or possibly two octaves higher, depending on the balance with the piano primo and woodwinds. Chimes would sound in the octave written but might well blur the material unnecessarily.
㉞-㉟	L	C-a^{1}	†chimes & plate bells	Chimes for the upper notes, plate bells for the lower. The registers could be compressed so the part is playable on chimes alone, but this will change its character significantly.

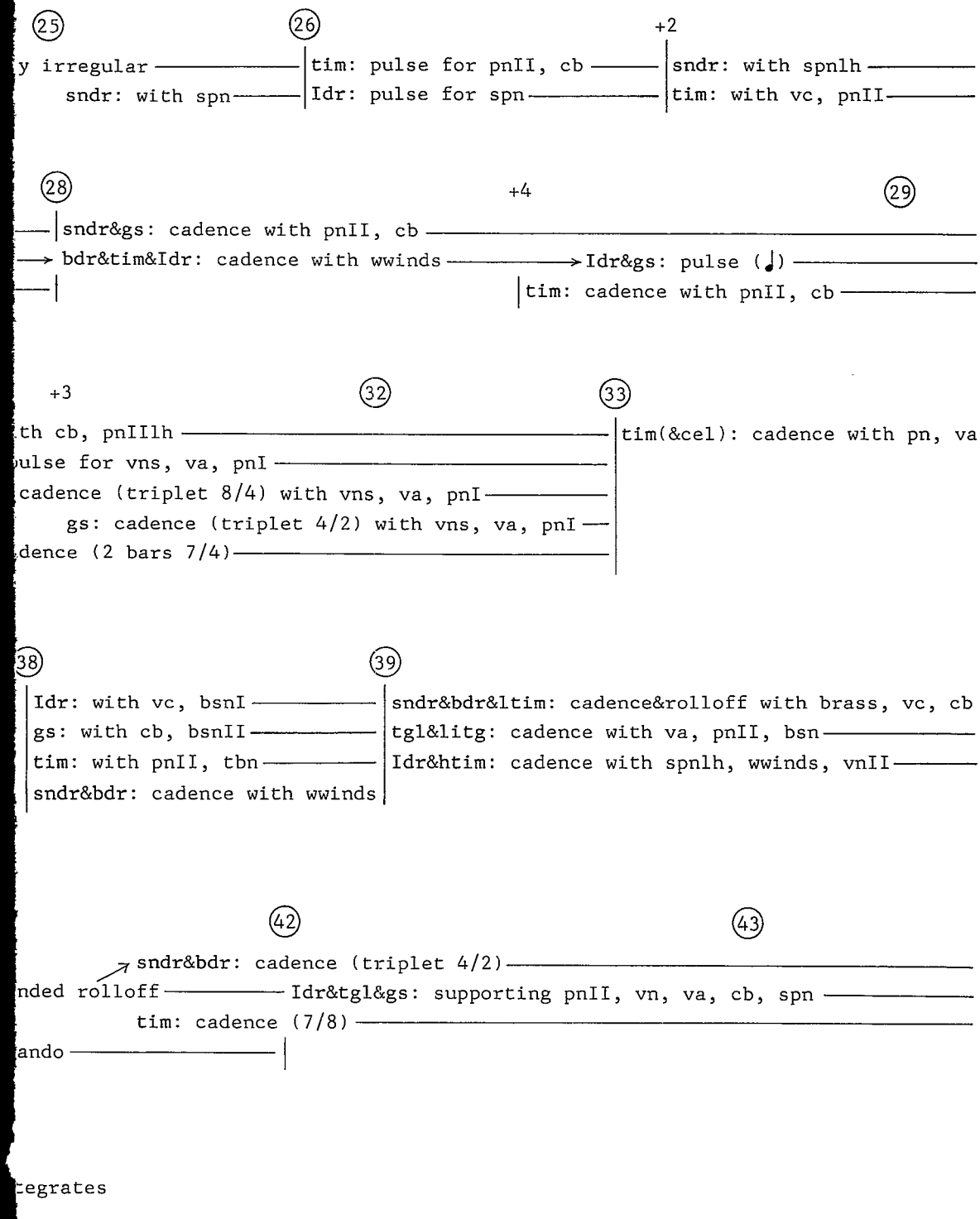
PASSAGE	PART	RANGE	INSTRUMENTS	COMMENTS
(40)-(43)	H&L	$a^{\flat}$-$e^{\flat 2}$	chimes	Ives specifically suggested (on f1536) that the octaves at (40) be sounded an octave higher (see Example 16); from the measure before (41) the parts are at pitch.
(44) - end	H	e^1-f^3	orchestral bells & chimes	Though the part here is playable by an extended set of chimes, its character and context suggest orchestral bells, sounding an octave higher; the sforzando E can be taken on the chimes.
(44) - end	L	$E^{\flat}$-G	plate bells	
			Movement 4	
measure 17	L	E-G	plate bells	
40-49	H	d^1-e^2	*chimes	The chimes may be meant to take the lower notes in measures 45-49 (see Example 17).
50-58	H	c^2-e^3	*chimes	
59-end	H	d^1-$f^{\sharp 3}$	*chimes & orchestral bells	Orchestral bells, sounding as written, can take the upper notes, the chimes the lower ones (see Example 18).
50-63	L	e-$c^{\sharp 1}$	†chimes	Despite the confusing notation, Ives probably intended this entire section to sound in this octave.
64-end	L	d-$f^{\sharp}$	chimes or plate bells	If a low d is available, the part can be played on chimes; if not, a set of three matched plate bells will be needed, unless handbells carry sufficiently and have a long enough ring.

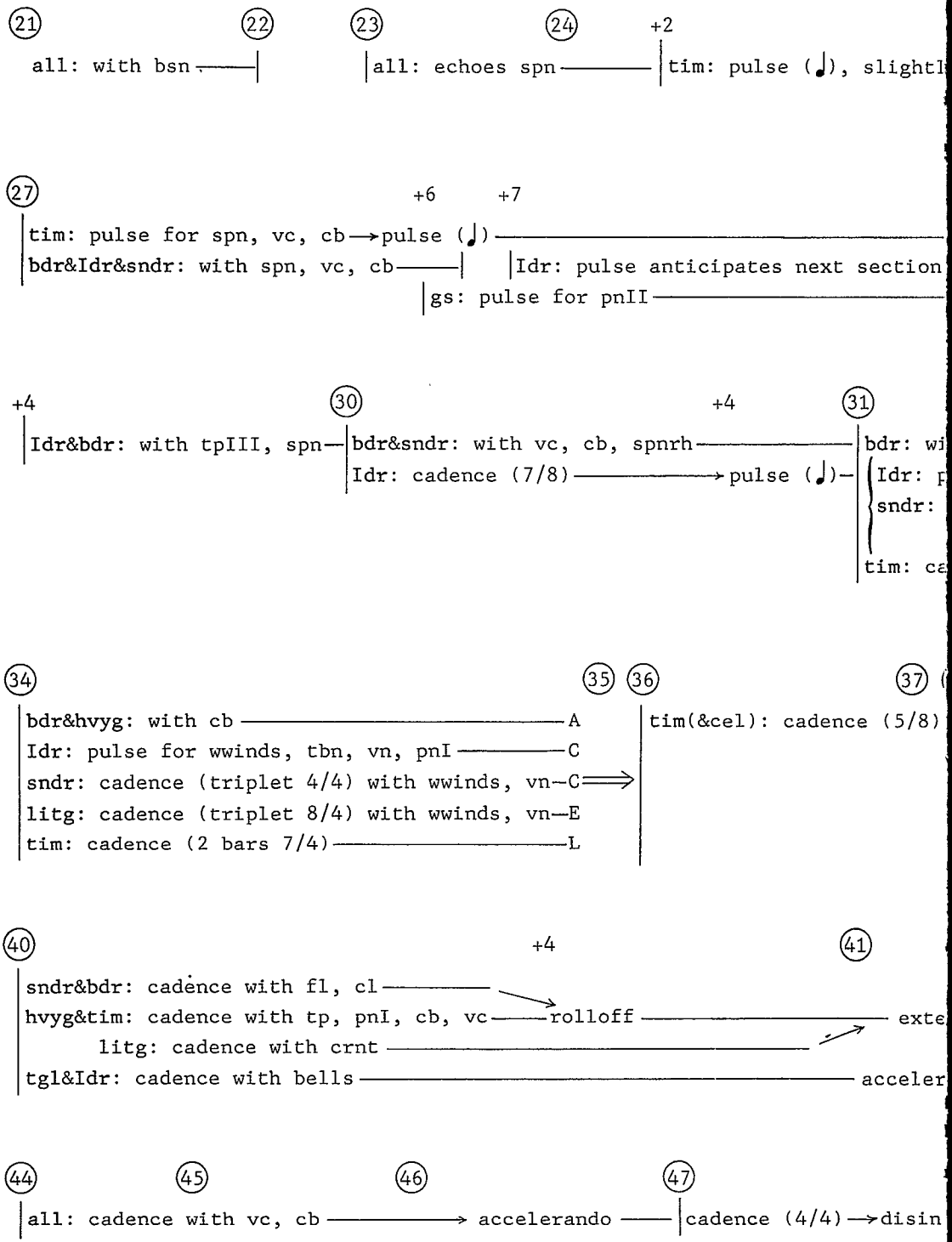
**chimes: with the upper octave, ranging upward to* f^3.
†chimes: with the lower octave, ranging downward to e.
‡orchestral bells: with a low $f^{\sharp 2}$ *(sounded pitch).*

Append

Non-pitched percussi

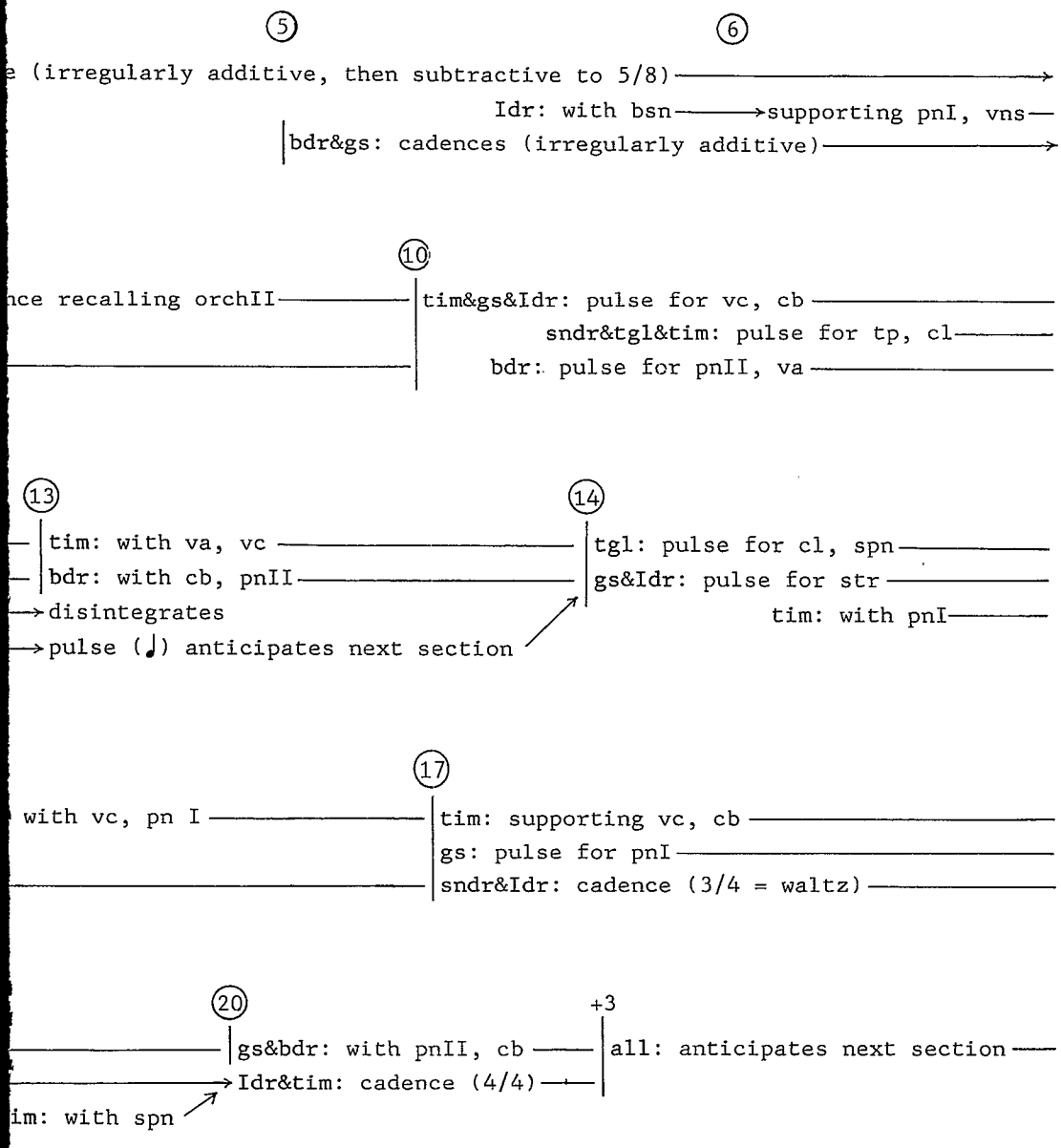



(25)
(26)
+2
y irregular
sndr: with spn
tim: pulse for pnII, cb
Idr: pulse for spn
sndr: with spnlh
tim: with vc, pnII
(28)
+4
(29)
sndr&gs: cadence with pnII, cb
bdr&tim&Idr: cadence with wwinds
Idr&gs: pulse (♩)
tim: cadence with pnII, cb
+3
(32)
(33)
th cb, pnIIlh
ulse for vns, va, pnI
cadence (triplet 8/4) with vns, va, pnI
gs: cadence (triplet 4/2) with vns, va, pnI
dence (2 bars 7/4)
tim(&cel): cadence with pn, va
(38)
(39)
Idr: with vc, bsnI
gs: with cb, bsnII
tim: with pnII, tbn
sndr&bdr: cadence with wwinds
sndr&bdr&ltim: cadence&rolloff with brass, vc, cb
tgl&litg: cadence with va, pnII, bsn
Idr&htim: cadence with spnlh, wwinds, vnII
(42)
(43)
sndr&bdr: cadence (triplet 4/2)
nded rolloff
Idr&tgl&gs: supporting pnII, vn, va, cb, spn
tim: cadence (7/8)
ando
egrates


21
22
23
24
+2
all: with bsn
all: echoes spn
tim: pulse (♩), slightl
27
+6
+7
tim: pulse for spn, vc, cb → pulse (♩)
bdr&Idr&sndr: with spn, vc, cb
Idr: pulse anticipates next section
gs: pulse for pnII
+4
30
+4
31
Idr&bdr: with tpIII, spn
bdr&sndr: with vc, cb, spnrh
Idr: cadence (7/8)
pulse (♩)
bdr: wi
Idr: p
sndr:
tim: ca
34
35
36
37
bdr&hvyg: with cb — A
Idr: pulse for wwinds, tbn, vn, pnI — C
sndr: cadence (triplet 4/4) with wwinds, vn — C
litg: cadence (triplet 8/4) with wwinds, vn — E
tim: cadence (2 bars 7/4) — L
tim(&cel): cadence (5/8)
40
+4
41
sndr&bdr: cadence with fl, cl
hvyg&tim: cadence with tp, pnI, cb, vc
rolloff
exte
litg: cadence with crnt
tgl&Idr: cadence with bells
acceler
44
45
46
47
all: cadence with vc, cb
accelerando
cadence (4/4) → disin

ix B

ion, movement 2



Charles Ives

Structure As Behavior

by Thomas DeLio

There is a moment in Ezra Pound's *Pisan Cantos* when the poet suddenly becomes conscious of both the wooden packing crate on which he is writing and the person who provided the makeshift table for him:

In less than a geological epoch
said Henry Mencken
"Some cook, some do not cook,
some things cannot be altered"
'Ιυγξ...'εμὸν ποτί δῶμα τὸν ἄνδρα
What counts is the cultural level,
thank Benen for this table ex packing box
"doan yu tell no one I made it"
from a mask as fine as any in Frankfurt
"It'll get you offn th'groun"
Light as the branch of Kuanon.
Canto LXXXI[1]

Subtly, the reader becomes aware that the act of writing and its object have fused as the reality of creating the poem becomes enmeshed within the very fabric of the poem itself. At this moment the poet's thought has no subject other than its own emergence. The mind recognizes in its appropriation of the world the creation of the self. The poet and the act of writing – the poet's engagement with the world – become one and the same, inseparable fragments of a continuum which fuses consciousness, action and object.

Despite the recurrence of many themes central to the entire series of cantos, what emerges as predominant in the Pisan collection is the vivid re-creation of the human thought process.

For more than thirty years this theme has dominated progressive American writing and is addressed with particular intensity in the works of more recent poets, such as Jackson MacLow and David Antin, for whom the only subject for poetry is the very act of speaking. From this theme a new dialectic emerges, one having to do not so much with a perceiver/object dualism, but with the process of perception and the way in which consciousness becomes manifest by virtue of that process.

This attitude toward the creative act has been central to the development of the visual arts of the past thirty years as well, and is most readily apparent in the works of Bruce Nauman, Robert Morris and Robert Irwin. Throughout the '60s, Nauman works on a series of pieces in which he used his own body as the "material" upon which he acted. In a 1968 hologram entitle *Making Faces*, the artist used his face as material to be shaped and deformed in various ways. In a work such as this, what is most important is the fact that the object acted upon is the very source of those same actions.

This concern with the physical self is not simply artistic egocentrism, but use of the body to transform intimate subjectivity into objective demonstration. Man is the perceiver and the perceived; he acts and is acted upon; he is the sensor and the sensed. His behavior constitutes a dialectical interchange with the world he occupies.[2]

Eventually, Nauman shifted focus away from his own body toward those of others. As the artist has noted with respect to the first of his corridor pieces:

I began to think about how you relate to a particular place, which I was doing by pacing around [referring to the film of himself pacing around his studio in a large square]...then I began thinking about how to present this without making a performance, *so that somebody else would have the same experience instead of just having to watch me (or anyone else) having that experience...*

The earliest pieces were just narrow corridors. The first one I used was a prop for a piece that was taped. It was presented as a prop for a performance and was called that, without any description of what the performance was.

It was just a very narrow grey corridor and all you could do was walk in and walk out. It limited the kinds of things you could do...because I don't like the idea of free manipulation, of putting a bunch of stuff out there and letting people do what they want with it. I really had more specific kinds of experiences in mind...[3]

In this work, entitled *Performance Corridor* (1968), the viewer becomes both the subject and object of his own experience. Although earlier works were experienced by observing the artist functioning as performer, here the artist constructs the piece in such a way that the viewer must activate it for himself. The corridor is an exceptionally narrow space rarely encountered in everyday activities. At the same time, it is a highly directed space. One can only move in two directions and, since the walls are too high to see over, one can only see in those same two directions. Thus, vision is linked with mobility. The artwork leads the perceiver to an understanding of the operations of his own physical being. Moreover, "because most of the...corridors...are designed for one person at a time to enter, it would appear that the audience has been dispensed with, forcing the solitary spectator into a carefully manipulated behavioral pattern *that does not signify anything.*"[4] Nauman has not re-created any quality of his own experience of such a space. The viewer must traverse it and experience it for himself. The artwork transcends its traditional role as an object invested with meaning and becomes the occasion for pure consciousness.

It is precisely this point of externalizing the experience of art which links Nauman's work to that of Christian Wolff. One of the most striking aspects of Wolff's music and the central issue guiding the development of his innovative notation is the tacit recognition that the morphology of form is nothing more, nor less, than a resonance of the structure of human behavior. With remarkable precision, he identifies those aspects of physical existence which constitute human experience and makes the perceiver aware that the nature of human behavior is:

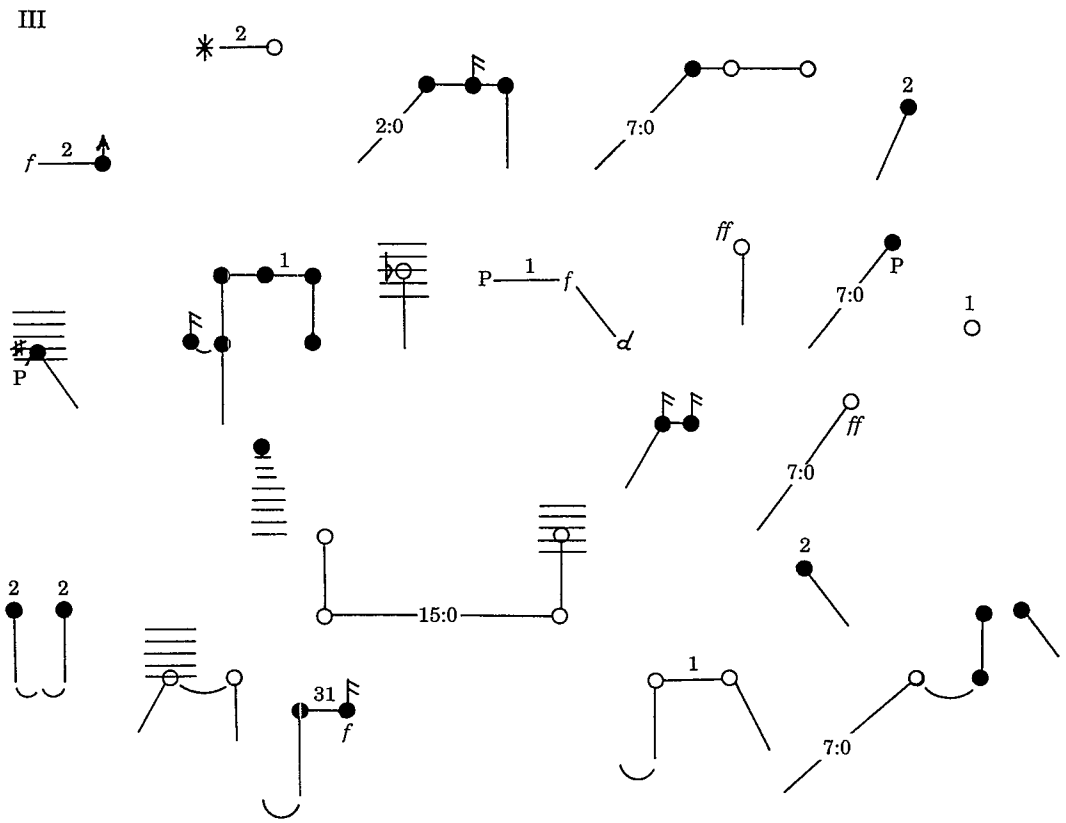
...neither a series of blind reactions to external 'stimuli' nor the projection of acts which are

motivated by the pure ideas of a disembodied, worldless mind. It is neither exclusively subjective nor exclusively objective but a dialectical interchange between man and the world...It is a circular dialectic in which independent beings of the life field, already selected by the structure of the human body, exert a further selective operation on the body's acts. It is out of the dialectical interchange that human meanings emerge.[5]

Through his music Wolff seems to contend that: "Meanings are neither passively assimilated from an external order...as the realists have imagined, nor constructed 'de novo' by a creative mind as the idealists have supposed."[6] Instead, he identifies the gestures of behavior with the forms issuing therefrom and, ultimately, with the appropriation of meaning.

These attitudes first become apparent in Wolff's pieces from the early '60s such as the *Duo for Violinist and Pianist* (1961) and the string quartet, *Summer* (1961). However, even these pieces perserve some vestige of the historical separation of object from action as certain parameters, in particular, pitch and timbre, are still fixed precompositionally. Thus, Wolff maintains a certain degree of control over each composition's unfolding. The composer's ideas and notation crystallize in later works such as *For 1, 2 or 3 People* (1964) and *Edges* (1968).

For 1, 2 or 3 People is indeterminate with respect to all sonic parameters and any specific morphological propensity. The score consists of ten separate sheets one of which, the third, is reproduced below. These may be utilized to



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make a performance in one of two ways: first, any number of sheets may be played in any order without repetition; or, second, one sheet may be repeated as often as desired up to ten times. One, two or three people may perform, using any instruments. Further instructions read, in abridgement, as follows:

Play all that is notated on a page, in any convenient sequence, not repeating anything...

Black notes are variously short, up to about one second. With stems as sixteenth notes they are very short. White notes are of any length, sometimes determined by the requirements of coordination...

A diagonal line towards a note = play that note directly after a preceding one. A diagonal line away from a note = that note must be followed directly by another.

A vertical line down from a note = play simultaneously with the next sound (both attack and release)...

If a line to a note is broken by a number followed, after a colon, by a zero (-2:0-)...that number of seconds of silence intervene before the required coordination.

 = *play after a previous sound has begun, hold until it stops.*

 = *start anytime, hold till another sound starts, finish with it.*

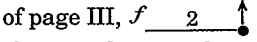
 = *start at the same time (or as soon as you are aware of it) as the next sound, but stop before it does.*

 = *start anytime, hold till another sound starts, continue holding anytime after that sound has stopped.*

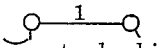
Horizontal lines joining two notes = a legato from the one to the other...

Larger numbers on a line between notes: if black = that number of changes of some aspect(s) of the sound before reaching the next note; if red = that number of changes of the timbre of the first note before reaching the next one...

 = *high in some aspect.*[7]

Thus, for instance, the first symbol on the upper left side of page III, 

directs the performer: first to play any loud sound; then, while holding that sound, to change two aspects of it (perhaps volume and timbre); and, finally, to move to another sound which is high in some way. In contrast, the symbol near the lower right corner of the page,



directs the performer to play his first sound only after he hears one of the other players produce a sound. He is to hold his sound until the other stops, ending as close to it as possible. In addition, while holding his sound he is instructed to change one aspect of its character (for instance, it might get louder or softer). After this first gesture is completed, he is to move directly and smoothly to another pitch which is itself to be followed by one more sound produced by himself or any one of the other players.

Any analysis of *For 1, 2 or 3 People* should begin with John Cage's observations concerning the nature of Wolff's music:

...the division of the whole into parts is indeterminate. Method, the note-to-note procedure, is also indeterminate. [And]...the morphology of the continuity is unpredictable...It is not a time object but rather a process.[8]

First, one must deduce aspects of its morphology which characterize and direct the specific type of process which is its structure. As noted above, a performance may be devised in one of two ways, either by playing several pages in any order or by repeating one page a number of times. Thus, the performers are given a great deal of flexibility in determining the degree of focus desired and where that focus might be placed. The first option provides a large repertory of gestures which, in diverse ways, influence the interaction among the participants. The latter is more limited, forcing each performer continually to discover new and varied uses for a very small number of gestures. Though the repertory of movements may be quite small, a performance designed in this way can reveal multiple facets of each gesture as they constantly reappear in ever changing and totally unpredictable contexts.

Each symbol or set of interconnected symbols is scattered randomly about a page and may be performed in any order. Since the composer is only concerned with coordinating responses to actions which are themselves not predetermined, the process is, of necessity, non-

linear. Order is determined, either because it is applicable or desirable. If a performer's actions are to be triggered by those of another he must wait until the appropriate moment to begin. If he is to initiate sound on his own, he may simply act, ignoring all consequences and potential, unpredictable resonances. Throughout, context determines the succession of events.

It is important to recognize, however, that freedom of choice is often quite limited. In all but one case (page IX) the symbols on a given sheet may be played only once. Thus, as one begins a particular page, one has a great deal of freedom of choice and flexibility in terms of the initiation of action or the range of responses available to another's actions. As one proceeds through the page, however, one's freedom becomes more and more constrained; one's ability to respond more limited until, eventually, a point of stasis may be reached where either one can no longer act or has no choice as to which gesture to employ. In the latter case the gestures are, *de facto,* fixed in a specific temporal order.

As is typical of many of Wolff's compositions of this period, three types of activities are notated: activities which initiate sounds; activities which coordinate sounds; and, activities which transform sounds. Of these, the second type is by far the most common and most significant in this work.[9] Actions which initiate sounds function primarily as catalysts for occasional changes in movement while gestures of transformation afford the opportunity to extend or enrich an individual part. In addition, the composer employs a variety of modifiers which restrict the amount of choice the performers are given in realizing each of the three types of symbols when they appear in the score.

Of the first type of activity – that which initiates sound – there is one basic notation:

 = any sound

The composer also employs two modifiers which restrict the type of sound which may be produced:

 = pitched sound

 = noise

As stated above, the activities of coordination are the most abundant and richly varied of any employed in this piece. Of these there are basically two types: those which designate temporal coordination and those which represent some other type of coordination. The former are far more common in the piece and indeed in Wolff's music in general. There are two basic gestures which organize sound temporally:

 = two simultaneous sounds

 = two successive sounds

The composer combines them in a variety of ways which render coordination more specific:

 = two sounds which enter successively and end simultaneously or vice versa;

 = two sounds, one of which envelopes the other.

In addition, there are several symbols which suggest other levels of interaction and which appear infrequently:

 = a sound which is in some respect "in a middle place" vis-a-vis the sounds around it – for example, a tone which is in the middle of all sounding registers;

 = a sound which is in some respect "dissonant" with those sounds which precede it;

 = a sound which is in some respect "as far away as possible" from the sounds which precede it.

Finally, there are the gestures of transformation. These allow each performer to expand his own part with or without coordination. They include:

 = (where × = any integer) a certain number of changes in some aspect of the sound; if the number is red those changes must be made with respect to the timbre of the sound;

 = any slight alteration of a sound;

 = cut off a sound;

 = extend a sound;

 = raise a sound in some respect;

 = lower a sound in some respect;

 = change in spatial location.

The composer freqently limits the amount of choice he allows each performer in realizing the symbols. The following *modifiers* help specify the type of sound to be produced:

time: ● = short
♪ = very short
as fast = as fast as possible
asp

register: ↑ = high in some aspect
↓ = low in some aspect

color: ◇ = harmonic
w = wood
met = metal
pl = plucking
etc.

and intensity: *pp* through *fff*.

Large numbers placed over a note specify the number of tones or timbres to be played.

Certain modifiers restrict the gestures of coordination by pinpointing the exact moments of coordination rather than leaving them up to the performer's choice. The symbol

which specifies no particular point of connection, is rendered more precise as

x = 2, coordinate with the second sound which follows
x = 3, coordinate with the third sound which follows
etc.

while

are rendered more precise as

x = 2, coordinate with the second sound which follows
x = 3, coordinate with the third sound which follows
etc.

In addition, the composer frequently introduces silence in order to give a more precise timing to the succession of tones.

are rendered more precise as

x = 2, insert two seconds of silence before completing the required coordination;
x = 3, insert three seconds of silence.

The syntax which governs Wolff's structure incorporates the three fundamental components of his language of actions – initiation, coordination and transformation – in a rich and varied array of formations. This syntax may be discerned in any single instrumental part:

initiation x 2
transformation
coordination

or in a combination of parts, as when coordination is required for initiation:

player 1 — 3
player 2 — ✳

Syntax, however, is not ordered in time. For example, coordination may come first:

Each page of the score is characterized by different syntactic formations which are unique in structure and yield a different complex of interactions. The gesture most characteristic of page III is

7:0

which is distinguished by a rather lengthy delay before coordination is effected. It is presented in several variations:

p
7:0 7:0 7:0 7:0

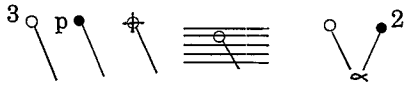
The first two fix, somewhat, the duration and volume of the connected tone. The third and forth extend that tone to other pitches of variable duration, while the fourth effects further extension by linking up with other symbols.

In contrast, there are two very distinctive gestures of coordination which characterize page IV. The first is

a single tone of variable duration, intensity, color and frequency which ends with any sound the performer hears or produces. While this type of gesture appears only two times on the third page, it appears nine times on the fourth where it is presented in two basic forms. The first fixes the end point of the sound (the point of connection between sounds) in three different ways, the second of which appears twice:

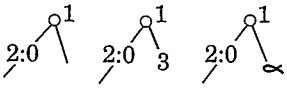
3

The second specifies the type of sound to be made as well as, occasionally, the end point:



The second type of gesture which characterizes page IV is itself a variant on the one that characterized page II, since it too delays coordination:

This gesture appears in three forms, the second of which also appears twice:



In these respects, the third and fourth pages differ quite sharply with one another. They differ even more, however, with the first two pages which contained no such timed connections.

Other factors which characterize a given page have to do with the use of gestures which require no coordination. In general, these are used quite sparsely. On the third page, for instance, of the twenty-two symbols employed, only two require no coordination:

With respect to the fourth page, the situation is quite similar. Of the thirty-four symbols employed, only four require no coordination:

In contrast, on the very first page, of the twenty-seven gestures employed, one-third require no coordination. Page I, then, is characterized by much less coordinated activity than either pages III or IV – or any others for that matter.

In listening to this music, one is struck by the fact that several renderings of the same notated gesture rarely, if ever, produce patterns which are recognizably similar. "The complexities of this notation are directed less at an arrangement of sounds resulting from the performer's actions than at the conditions under which there actions are to be produced."[10] Thus, the notated symbols never determine any particular melodic contour nor any other specific type of sonic configuration. All that is ever defined symbolically is a complex of interactions among the performers. As Wolff has explained: "People sometimes ask, why don't you just specify what you want and be done with it? I do! Actions are indicated..."[11]

What one hears are the gestures themselves, gestures which are usually taken for granted as the means to an end, but which are here drawn out as an end in themselves. Thus, for example, the idea of playing together takes on importance as an act in itself. Each performance is guided by carefully manipulated behavioral patterns which do not generate products and, as such, do not signify anything beyond their essential characterization as behavior. In this music, one ceases to distinguish between signs and signifiers – forms and the behavior which engenders such forms. The work is not so much a construction of sound as a situation of action and response defined abstractly through sound. What is perceived as form is the ensemble of these interactions while the aural result is merely one particular sonic projection of that form. That "dialectical interchange" by which form and meaning are engendered is, in this music, embodied within the very substance of its audible structure.

It is significant that, of the activities which Wolff has notated, the vast majority are activities of coordination. In his works actions are intimately tied to responses. In fact, by and large, the actions are themselves responses. In this way the composer identifies the notions of action and response as inseparable. Actions are themselves responses which, in turn, generate further responses from others. Acting affects and is, at the same time, affected. As expressed by Merleau-Ponty:

The enigma is that my body simultaneously sees and is seen. That which looks at all things can also look at itself and recognize, in what it sees, the 'other side' of its power of looking. It sees itself seeing; touches itself touching; it is visible and sensitive for itself. It is not a self through transparence, like thought, which only thinks its object by assimilating it, by constituting it, by

transforming it into thought. It is a self through confusion, narcissism through inherence of the one who sees in that which he sees and through inherence of sensing in the sensed...[12]

As does Nauman with his "corridor" pieces, Wolff shifts the focus of his artwork away from his own experience to that of the performer. In *For 1, 2 or 3 People* he externalizes the creative process itself. He distills the essential components of behavior and frees them from the subjugation of his own personal taste, leading the performer and, ultimately, the perceiver to a conscious awareness of his actions under diverse conditions. In a sense, in this music, the performer becomes his own *object trouvé;* the subject of his discourse is the mechanism of that discourse. What is revealed, then, are the ways in which patterns of behavior shape human experience. By abstracting the artist's actions from the creative process, Wolff transforms the artwork into a metaphor for the physical embodiment and expression of meaning which is both fundamental to, and inseparable from, the process of being in the world.

Footnotes

[1]Ezra Pound, *The Cantos* (New York: New Directions Books, 1948), pp. 518-519.

[2]Carla Gottlieb, *Beyond Modern Art* (New York: E. P. Dutton and Co., 1976), p. 256-257.

[3]Bruce Nauman quoted by Jane Livingston, "Bruce Nauman" in *Bruce Nauman, Work from 1965-72* (Los Angeles: Los Angeles County Museum of Art, 1972), p. 42.

[4]Marcia Tucker, "Bruce Nauman" in *Bruce Nauman, Work from 1965-72* (Los Angeles: Los Angeles County Museum of Art, 1972), p. 42.

[5]John Wild, forward to *The Structure of Behavior,* Maurice Merleau-Ponty (Boston: Beacon Press, 1967), p. xiv.

[6]*Ibid.*, p. xv.

[7]Christian Wolff, *For 1, 2 or 3 People* (New York: C. F. Peters, 1964), p. 1.

[8]John Cage, *Silence* (Middletown, Connecticut: Wesleyan University Press, 1961), pp. 38-39.

[9]In contrast one might consider a work such as *Edges* (1968) which is concerned with gestures of initiation.

[10]Dave Behrman, "What Indeterminate Notation Determines" in *Perspectives on Notation and Performance,* Benjamin Boretz and Edward Cone, eds. (New York: W. W. Norton Co., 1976), p. 89.

[11]Christian Wolff, *John Cage/Christian Wolff* (Mainstream Records, MS 5015).

[12]Maurice Merleau-Ponty, "Eye and Mind" in *The Primacy of Perception* (Evanston, Illinois: Northwestern University Press, 1964), pp. 162-163.

On For 1, 2, or 3 People

by Christian Wolff

This music is drawn from the interaction of the people playing it. It requires for its performance independent self-discipline (unpoliced by a score defining fixed relationships and timings) and a capacity and special alertness for responding to what one's fellow performers are doing, the sounds they are making or changing and their silences. The responding can be variously deliberate (there is time and you are free) or must be quick and sudden (there are precise requirements which appear unpredictably). At the time (1964) I was concerned to make a lively situation for the performers, and shift about the difficult and the free areas of their playing (for example, the more unusual difficulty of articulating timbre changes in a situation where you are busy coordinating with others' unpredictably appearing sounds; or, the freedom to choose any pitch at your leisure). The resulting sounds and silences were to be the music, and the fact of its emerging in this way was to be the source of its expressiveness. In the meantime, others pointed out the pedagogical character of this activity and some social implications (for instance, a kind of democratic interdependence). Where the presence and internal activity of the players can only be imagined by the listener, these latter aspects of the music are evident only to the experience of the players. For the listener the sounds can only speak for themselves and for the devotion and skill of the players.

Two further thoughts: the score and its requirements for making this music is such that anyone seriously wishing to, whether or not musically trained or professional, can read and use it; the music might be an incentive to do that; that is, to make performers of listeners. And, a more general thought, the movement of the music (and, I think, just about all the music I have worked on) is towards melody in its largest sense (as well as, sometimes, its familiar sense of the singable line). This may not be always obvious, but then the times are not conducive to easy optimism.

My goal is to turn the making of music into a collaborative and transforming activity (performer into composer into listener into performer, etc.), the cooperative character of the activity to be the exact source of the music. My hope is to stir up, through the production of the music, a sense of the political conditions in which we live and of how these might be changed, in the direction of democratic socialism.

The Percussionist and For 1, 2, or 3 People

by Allen Otte
The Percussion Group/Cincinnati

What can all of this mean for the percussionist? What reasons could a percussionist have for wanting to look at this piece to begin with, and for wanting to know it as well as Mr. DeLio does? If one did become interested, how does any of the preceding information and analysis apply to us?

First of all, there are many good reasons why a percussionist should want the experience of working on and learning from a piece of this nature. Most any composition with an unspecified instrumentation will provide the opportunity for a percussionist to be creative and experimental (or simply to have fun) working with his favorite instruments.

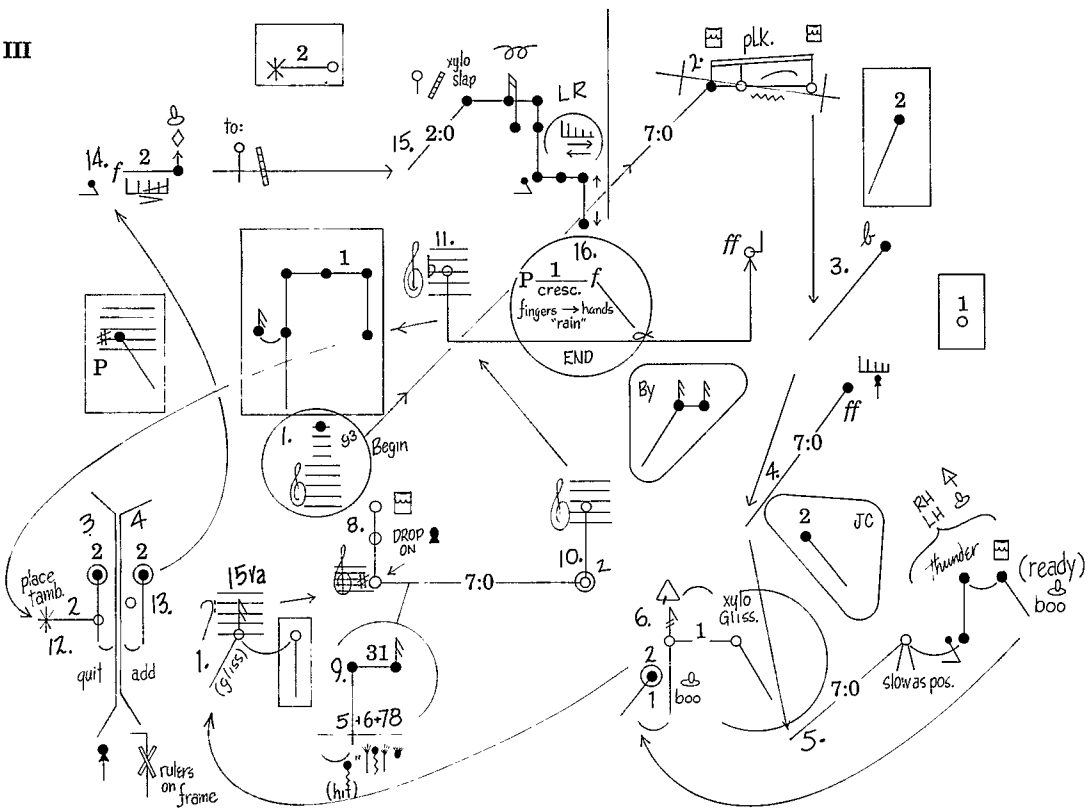
Over the years The Percussion Group/Cincinnati has always had in its repertoire some piece which offers us the opportunity to devise the instrumentation. We have sought scores wherein the composer – whose skill is in the design of systems and structures, situations and contexts – makes allowance for the contribution of the percussionist, whose skill should be in the exhaustive knowledge of his instruments.

Each of us will often have ideas for new instruments which we would like to play; often the design and construction will be a matter of some skill; sometimes it is simply a great sounding skillet found in a junk shop on some tour. Many of these new creations and sound-producing items will have to wait months or even years for the right context – the score

of some composer – before it can be put to its intended use. This was probably the primary impetus for our taking up *For 1, 2, or 3 People*. We were also aware of the ensemble sensitivities which this piece would require of us, and thus knew that we could grow as a performing group through our contact with this piece.

As is often the case for us with such endeavors, the piece took many months in its evolution – the final (or current) stage being relatively "fixed" and bearing little resemblance to the earlier stages. Each of us developed a "set-up" prior to first rehearsals, and then began rather extensive modifications of these instrument groups (both individually and collectively) in response to what over-all collection of instruments and sounds would, beyond being individually desired, be collectively desirable, and as the requirements of our realization of the score became more apparent. Certain instruments may have sounded great, but proved insufficient or unwieldy; others needed not to be duplicated amongst us; still others had to be found just because of the need for certain correspondences between us. Thus, the evolution of the sounds heard here, completely apart from the actual musical events, was treated as a non-trivial compositional task, worthy of much time and thought.

Our approach to the music itself took into account a certain historical perspective. Given that this piece was written nearly twenty years ago, we found it imperative to ask ourselves which of Christian Wolff's experiments and notions were still significant, or once again significant, or not yet sufficiently addressed by previous interpreters, or no longer – or at least not currently – of the provocative nature they were at the time of the work's inception. What elements could we bring to such a piece now, which, though they may not or could not have occurred to the composer in 1964, are neverthe-



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less relevant to a performance today. And finally, what things must any performer bring to *For 1, 2, or 3 People* no matter when he addresses it, or is addressed by it.

Briefly – our realization of the sequence and flow of events was developed through many weeks of rehearsal, quite by trial and error, being careful to preserve things – or "kinds" of things – which we found exciting, unusual, provocative, fun, funny, etc., and finding ways to avoid, or simply rejecting, others. Though no two performances are quite the same, they are now quite similar. Thus the recorded version of our rendition actually loses not so much in its being one fixed version. A more significant absence is the visual element, which, though important in performances of all percussion pieces, is particularly integral here because of the special interactiveness required by this score. We watch one another certainly more than we look at our printed scores, and this clarifies for the viewer just how it is that many of the events actually come about. Repeated hearings of one recorded performance, along with the information included in these articles, will begin to bring to life some of those dimensions which might be more immediate in a live situation.

Any composition which requires the creative input of the performer implies a collaborative working relationship between the composer and the performer. But the composer is not present. All we have, to begin with, is the printed score and maybe some instructions. In order to bring about this mutually supportive relationship, it is necessary to understand, as best we can, what it is that the composer wanted, and how we as performers of percussion instruments can join our wants, needs, and desires with those of the composer. Herein lies the importance of studies such as the one which Mr. DeLio has provided for us.

A Catalogue and Some Comments

by Barney Childs

I

Since I was largely self-taught in music, I never had a real orchestration course; I therefore escaped all the clichés about percussion instruments and how one scored for them. As far as I was concerned they were independent sound sources just like all the others, with a full dynamic range, a variety of sonorities, and a similarly potential expressive power. I learned first-hand about the instruments from inventive performer friends and not from books: Jack McKenzie, Tom Siwe, Tele Lesbines, Stan Lunetta, Ron George.

The first piece I wrote with substantial percussion parts was the *Concerto for English horn, strings, harp, and percussion* (1955). Most of the writing in it is straight ahead, but the lively middle movement, backing up an American Indian tune, brings in one percussionist at a time with the first playing a steady beat on one drum; the second, likewise but in a slightly slower steady tempo; and the third, likewise but in a slightly faster steady tempo. The *Septet for instruments and voices*, commissioned by Bennington College (1958), includes solo percussion, but the writing has no startling innovation, and the difficulties of performance have kept the work unheard since its premiere.

In 1961, I was commissioned by the University of Illinois percussion ensemble to write a big piece. I wrote asking for a list of everything they then had in the shop, and, on receipt of

the considerable catalogue, I divided it all up among nine players. The result was *Welcome to Whipperginny*, I believe one of my best works and, as far as I know, the first percussion ensemble piece conceived almost completely horizontally and using indeterminate approaches. In it I developed a compositional idea I have drawn upon often since, that of each player's having the same kinds of events (big solo, subsolo, ostinato choices, etc.) but each playing them in different order. The piece was sketched out during my honeymoon in Yarnell, Arizona, on a six-foot strip of adding machine tape, the only suitable paper I could find in that tiny town. In the free lines I worked with my enthusiasm for what Rudhyar calls "talking music" (as opposed to "dancing music"), with instruments often forgetting about any kind of steady tutti pulse and presenting shapes, gestures, lines. Players move in and out of the conducted tempo, often depend upon ear-cues for entrances, exits, changes, often have choices among given alternatives about what to play and when. This shifting, ongoing continuum is cross-woven through nine brief tuttis, each using similar instruments and colors. Here also I was for the first time careful in selection of sonorities and stickings (almost always successfully, but a few changes had to be made in rehearsals), as, for example, the spinning of a large coin on a timp and allowing it to come to rest, and calling for snare drum rim shots played by a hard rubber dog-chewing bone (color immaterial, as I was assured by Jack McKenzie on the occasion of the sparkling premiere of the work in 1963). I was enough of a rookie then to assume that, when the work was accepted for publication, it would get other performances right away; in fact it sat uncirculated with the publisher for more than a dozen years before finally seeing the light.

The Hartt Chamber Players commissioned the *Quartet for flute, oboe, bass and percussion* in 1964. The percussion part is scored for drum set; I have never seen any reason to regard any style of playing or music as mutually exclusive of any other. The part moves about in a continuum bounded by furious improvised jazz solo work at one limit and totally-notated precision "legit" playing at the other. There are four movements, each with ten parts; the ensemble plays as many movements, each with as many sections, as they may please, with the movements performed in any order they feel to be suitable. My experience has been that performers are fond enough of the piece that they tend to play more of it than one might expect, but why ever not? By curious coincidence Tele Lesbines, the Hartt percussionist, was in Milwaukee during my two years' stay there, and brought his expertise from earlier performances to animate a powerhouse version of the *Quartet* there. I am very fond of the piece; I'm sorry that it must be played from individual full score, since the purchase expense is thus probably a deterrent.

I was fooling around one day with a bass drum, working out just how extensive a variety of sound could be made for it, and decided to do a piece with this material. The result was *Music for bass drum* (1964), for three players, hands only. Each player has a sheet of sounds and rhythms which are his own, and he improvises his part from this. If the drum is big enough, theatrical elements can be introduced, since players must move here and there about the drum to explore their varied sounds, and this was done effectively at a performance at the University of Illinois. The drum has also been amplified for performance at the University of California, San Diego, the result suggesting an entire percussion ensemble.

The three pieces, *Any Five* (1965), *Jack's New Bag* (1966), and *Nonet* (1967), are related in that each is a step toward developing a self-generating musical structure. The first, commissioned by Phillip Rehfeldt for his colleagues at Northern Michigan University, provides eight parts (strings, winds, brass, keyboards, voice, percussion), any five of which may be used for performance. Each part involves complete performer choice from a considerable range of sound events alternating with timed silences. These in turn are interrupted at any time a performer may choose; using a spoken cue word, s/he requests thus a specific tutti or solo and, after this has been played, all return to choosing and playing. It should be evident

from this that performer choice will be highly dependent upon close listening: *what* is played will be selected to fit with – or go against – what else is going on at that moment. The percussion part leaves instrumentation up to the player, calling for minimum one mallet pitch instrument, three hides, three metals, and three woods. The work is probably the most often performed of my small-ensemble pieces, and, given enthusiastic personnel who enjoy "new music," produces excellent results with college-level players.

Jack's New Bag, commissioned by Jack McKenzie's contemporary ensemble at the University of Illinois and published in the first issue of *Source* Magazine, uses ten players, including one percussionist playing set and the other "legit." Its ten pages are played in predetermined order and call for an extended variety of sound sources, one of these being a wind-up hopping or jumping toy which is placed on top of a large drum. Less improvisation is present than in previous works, but when material is to be played during a specific page is often dependent on the player's sense of context.

The *Nonet*, written on request for a subsequent issue of *Source*, is set up so that each of its nine parts is assembled individually by the player using lists of alternatives and durations and the "event machine," transparent and opaque rotating discs which are used to assign and order performance material. Minimum instrumentation for the percussion part calls for three woods, two sharp metals, two resonant metals, snare drum, and three hides. No part has anything to do with any other part; the piece is nine independent simultaneous lines. Because of the nature of the material, however, the piece is far more open, coloristic, evocative than one might expect, including spoken and whispered words for all players.

At that time, the UC Davis New Music Ensemble included briefly among their resources an E♭ contrabass sarrusophone, and, when the group's percussionist, Stan Lunetta, told me about the instrument – you write it, we'll play it – I composed probably the most implausible work in my catalogue from the standpoint of performance frequency, *The Golden Bubble* (1967). The work is for the sarrusophone and solo percussion; its title is the name of a slightly seedy casino-bar-restaurant in western Nevada on Highway 395. Unfortunately, the sarrusophone packed up mechanically before the work could be performed, and apparently the Ensemble's local instrument repair man, faced with the choice of fixing it or keeping up with his quota of high school band instruments to be overhauled, made the sensible choice. Remarkably, however, the work has been performed at least once that I know of; even more remarkably, it is published, an astonishing act of faith in view of most publishers' concern with quantity sales.

Four Feathers, for percussion quartet and tape, was composed in 1968 at the request of Steve Silverman for his New York-based quartet. It is a kind of compendium of previous practice: players choose what they wish to play from the material provided when they wish, all manner of sound sources from street beats to "new music"-sounding licks to ostinatos to speaking and reading aloud, with tutti cues which may be used at any time. The accompanying tape includes intermittent bits and chunks of sound – a poker game, a bad junior high school string orchestra, interrupted readings of texts and bits of music – and, at four points, maybe 30″ each of tape solo, electronically generated random-pitch lines in catchy rhythms. Each of these is backed by one of the players. The four parts are slanted toward the specialties of the four original performers – Latin, jazz, etc. It was premiered with special lighting effects which, I am told, worked well.

Two percussion parts are included in *The Bayonne Barrel and Drum Company* (1968; commissioned by Wendell Logan, then directing new music at Ball State), my usual (by now!) set and legit pair. The work is for improvising wind instrument (who ideally plays in post-Coltrane style), 13 solo winds, and piano as well as the percussion; as such, it is a kind of chamber concerto, and probably, therefore, doesn't need further discussion in an article limited generally to small ensembles.

In 1970 I began a series of etudes for solo

snare drum, *Out Back of the Drum Shop*, originally planned to include a dozen or so. Unfortunately, the pressure of sloth and other commitments set in, and so far there are only four, the first three of which appeared in an earlier issue of this journal; dig through your files!

The *Quintet for winds, harp, and percussion* (1974) was commissioned by Richard Moryl for his ensemble. Only about eight minutes long, it is *almost* a slight piece. At one point, one of the percussionists is asked to improvise in a style similar to that of Sunny Murray, whose work I have respected and admired for some time, and whose views on what can – and should – be done in music should be read by other percussionists. For example:

So many people believe that to be avant-garde is to furiously beat the drum set as fast and hard as you can, which isn't so....I've been trying to get away from beats. It's very hard. But something comes to me and tells me there are other ways. Most avant-garde horn players and lightweight piano players relate to the beat on the drums, which only brings them to one understanding. But it's about understanding the meaning of acoustics – how not to relate to beats so much because beats is just a hereditary force that has followed us all these years.

Like, to get away from beats is to get away from poverty.

(Quoted by Robert Levin, "Sunny Murray: The Continuous Cracking of Glass," *Giants of Black Music* [New York, 1979], p. 63.)

The work is not particularly difficult but requires very sensitive listening by the performers.

Some years ago, a contest was announced for a work for mallet instrument and an accompanying instrument. Why not, I thought, have a voice for accompanist? *Lanterns and candlelight* (1975), for marimba and soprano, was finished too late for the contest, but that was no bother: who wins contests? Some sopranos don't much like the idea of being accompaniment, of sitting to one side of and behind the marimba solo, but I figured those people wouldn't want to do the music anyway. The only text is from Orlando Gibbons' "The Cries of London": "Lanterns and candlelight,/ Hang out maids for all night," which dissolves and blurs into varieties of vocalise, including microtonal inflection and a genteel sort of scatting. The work includes brief variations and "shadow variations" on the Crusaders' "Freedom Song," as well as a virtuoso marimba passage based upon part of a 1940s recorded performance of "Stardust" by Lionel Hampton.

Bowling again with the champs (1976) is for six-player improvisation ensemble and tape. The tape part is a half-hour regional bowling show, recorded in 1970 or 1971, for some then as yet unknown future use, as surely the dullest show I had ever heard and hence well worthy of being memorialized in a composition. The opportunity came with the growth here in Redlands of the Improvisers' Orchestra, directed by Jim Fox (cf. Advance Recordings 2FGR-2AS). The work is for their instrumentation, four winds and two percussion, with the option of any or all performers doubling or – is there multipling? The tape runs throughout; the players have previously decided in what order they will deal with a number of sections, almost all verbal instruction, telling what sort of thing should be done.

A confection written in 1978 is
Featuring: "Mighty" Joe Nowhere
und die
Greater Wairopi All☆Stars.
The work is for seven similar instruments (seven flutes, seven trumpets, whatever). It can also be played by seven percussionists, each with one item to strike. The piece is simplicity itself as far as percussion technique is concerned, and can even be played by amateurs, but it requires extremely careful counting; each part is a different extended grouping of lively repeating eighths and rests, all players at the same snapping steady tempo. It's trickier than it looks! (Wairopi, by the way, is a trailsite in the Owen Stanley mountains of New Guinea, so-called because at one time there was a bridge there made of wire rope.)

From the same year, at the MacDowell Colony, is the *Overture to "Measuring a Meridian,"* for wind sextet and solo percussion. The percussion part has a separate existence as *Seven quiet studies*, useful pieces, I would think, to

initiate students into playing in a simple multiple-instrument setup. Each is in a different tempo, uses a different four instruments of the seven present, and explores different compound and additive rhythms in or outside of the beat.

I also wrote, during that Colony stay, the *Six gamut studies* for solo marimba. Each explores a different limited gamut of pitches, each presents quite a different mood from the others, and each attacks particular technical problems. As few or as many can be performed as wished, and in any order. I wrote the piece for the young percussionist Deedee Schwomeyer, whom I had heard – and been impressed by – previously on a visit to Indiana State University at Terre Haute. She was later able to premiere the music, which is a situation all composers can wish for.

II

That ought decently to be enough, but the editor wishes yet more: analytical/philosophical, sayeth. Writing about music: "what has the world of verbal discourse to do with the activities of musicians?" (Maria Rika Maniates), or, from a G. K. Chesterton short story, " 'Something might be done with music,' murmured the Count dreamily. 'It would be better than all these words.' " Writing about one's own music: ACHTUNG MINEN! a delightful snare; the confessional booth, the psychiatrist's couch, the encounter group: indulgence goes forth unrebuk'd, vanity unscourg'd. Lookyere, folks, thisyere's how I done it!

Percussionists are generally a fortunate lot (setting aside the necessity of transporting a small truckload of instruments). They are not bothered by a heritage before which to do obeisance, on Meisterwerke by the powdered wig set to be memorized and made obligatory. They are the only instrumentalists who have sounds and sound sources available from everywhere for study and enjoyment; there aren't Javanese violin sonatas, South Indian oboe concerti, Yoruba organ voluntaries. They may draw upon a vast range of instruments, of every degree of sophistication, with the only real build-your-own capacity available to serious performers. They work in a greater world of dynamics, from the fraying edge of inaudibility to apocalyptic chaos. They have a treasury of colors, not just what you hit but what you hit it with, and where, and how.

The first percussion solo I heard, as a child, was *Nola* for the marimba. This is exactly as it should have been.

Our percussion tradition has been peculiarly our own: Europe had no symphony band and marching band tradition, and I can't call to mind any great past European jazz drummers. I have suggested elsewhere that America's unique contributions to music in our century have been jazz and indeterminacy, similar in that performances in both of a given work are unique, shaped by the performers, and (until the advent of sound recording in the first case) ephemeral: they matter in the act, in the doing. And the history of proscription of both by musical Authority is certainly by now familiar. Only in the last thirty years have we come to recognize that sound no longer has to have something invented for it to be *about*, some special justification. Why keep everything tied to a beat? why is music only tune-and-accompaniment? why are rhythm and timbre merely parameters to be serialized? who needs hierarchies?

With the development of a literature, however, has also come the seemingly inevitable creeping miasma of critical pronouncement, that plague germinated by the assumption that esthetic validity is somehow a direct function of scholarly analyzability. David Schiff uses the term "High Modernism." *This movement produced works such as Schoenberg's Third Quartet and Bartok's Fourth, Webern's Symphony and Stravinsky's* Apollon Musagete. *Although these pieces once seemed stylistically antagonistic, they now appear to share progressive concerns more profound than the merely stylistic elements of neo-classicism, folklorism, or serialism. The High Modernist composers sought an autonomous, non-referential musical language. If the goal of the experimental composers was transcendence, the goal of High Modernism was immanence.*[1]

For both composers [Carter and Ives] any music that is reducible to a few easily imitated

tricks fails to achieve the full potential of musical expression. Music has to have the complexity of natural phenomena – or of cities. And it has to be as intellectually challenging as the best poetry or philosophy.[2] Schiff's other "tradition of advanced music in this century" is "the experimental tradition": *Experimental composers have sought a total break with the European musical past. They have been interested in using sound* per se, *sound stripped of its cultural history, and breaking down the barriers between music and the other arts.*[3] This binary division, incidentally, is symptomatic of a problem I will mention shortly.

Classical indeterminacy has very recently been awarded the scholarly imprimatur as legitimate for research and investigation, dissertations, honors projects: the academic bar sinister would appear to take about twenty years to remove. A dramatic parallel of this was surely the 1982 glossy hi-tech New Music America, in Chicago, in which many of the hitherto proscribed old masters of indeterminacy and its stepchildren were suddenly revealed in the role of old guard; the same music published years before in such periodicals as *Source* and played rarely, if at all, became overnight everyday historical backdrop for the current New. Peter Gena's recent article in *TriQuarterly*[4] is an excellent example of this historical remove in action. A direction suggested is, of course, the re-interest in the philosophizing, the attitudinizing, behind the music: Thoreau and Joyce, among others, have now become of re-awakened esthetic interest, and any gathering of remarks by younger European composers (as, for example, that in the December 1980 issue of *Interface*[5]) furnishes, maybe predictably, captivation with the latest critical Crackerjack-prize novelties. This whole swarming inevitably reminds me of Yvor Winters' epigram at the time of Melville's critical re-discovery:

To Herman Melville in 1951
Saint Herman, grant me this: that I may be
Saved from the worms who have infested thee.

And even a mention should be more than enough about recent scholarly work on jazz.

I have spent some time on this because I think that it's important in any approach to contemporary percussion writing. Jean-Charles François' article in *Percussive Notes* puts the case well for the movement of immediate percussion thinking away from "a tradition in which a musical discourse is unfolded with a formal identity and an ultimate signification."[6] Schiff cites Varese's "exploration of percussion," but *Ionization* is certainly informed with such identity and signification, in connection with the composer's presumed assumption that the musical analogue of ionization would be best presented by percussion ensemble. And a look at some of the solo and chamber work, a particular genre of "monuments," shows that it's not often percussion as itself, affirming itself, but percussion animated by the ongoing requirements of some extra-percussion assumptions or structure or operation: *Histoire* (right on, Martin Luther! the Devil DOES get the good tunes!); Stockhausen's *Refrain* (mannerist confectionery) and *Zyklus* (the music as audible working out of process); Boulez' *Marteau*...Yet somehow New World composers, regardless of the degree of animating process or structure, seem closer to the material, the very stuff of sound from which the music grows: the Chavez *Toccata*; Wuorinen's *Janissary Music*; Feldman's *The King of Denmark*; music by Harry Partch, by Warren Benson, Edwin London's extraordinary *Poebells*...

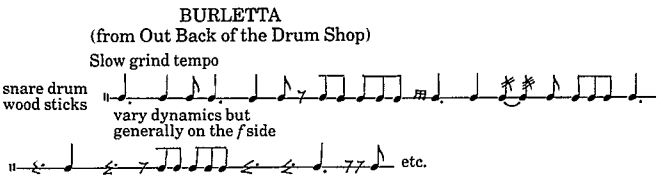
It's disastrously easy to accept the assertion, often still found in critical and instructional writing on music, that the 50s and 60s provided two competing and inimical directions in serious music, the movements away from order and toward order. This is yet another example of the Western intellectual heritage's apparent necessity for binary thinking, the popular shape being either you are an X (hence a good guy) or a Y (therefore a bad guy), reasoning whose immediate next step is "Therefore, hurray for X and stamp out Y!"

The endless dualisms, of spirit-matter, imagination-fact, even down to that of class, have led to a position psychologically where modern man is already born into division, and his capacity for balanced life seriously weakened.[7]

In actuality, these supposedly divisive decades were those of the dissolving of the High Modernist barriers not only in musical function – one wasn't simply a composer or a performer or a dancer or an audience member – but also among previously rigorously compartmented musical "styles" and genres. An audience now exists for new music (largely through recordings and radio/video) which is equally at home with Anthony Braxton, George Crumb, Talking Heads, Lester Bowie, Charles Amirkhanian, Fear, Robert Marley, Meredith Monk, Harold Budd, the Residents, Philip Glass. And many of this audience are not necessarily musicians – rather, they are painters, dancers, performance artists, film-makers, all of the above, none of the above...Developments of these decades have been coincident with those of percussion.. With its fortuitous lack of heraldic tradition, its international resources, its range of capacity and continuing exploration, and its laissez-passer to all manner of musical genres, it provides the performer the opportunity, unmatched by other instruments, to have at hand a wondrous variety of musical hats to wear, of ways to be heard, to affirm, to create.[8]

I'm all for co-existence, and my view is MORE MUSIC MORE OF THE TIME. Should one wish to compose in any of the high-culture bags, fine and dandy – Leonard Ratner, my first composition teacher, once remarked to our class, "Let him who is without synthesis among you cast the first stone" – but it has never suited me to do so. I guess I've always felt that performers ought to be given something to play which they can enjoy, else why put in all those years of practice and study? Give 'em music that is fun to play rather than mere technical or intellectual challenge. I'd much rather be told by a performer, "Hey, man, playing your tune is a blast," than reading something, even similarly directed, by a reviewer. I write whatever sound, or choice of sounds, that I think will work at that particular moment (but don't we all?), including, of course, citation, echo, parody, the image as *image*, surprise, whatever. Limits, after all, to cite Charles Olson, "are what any of us/are inside of."

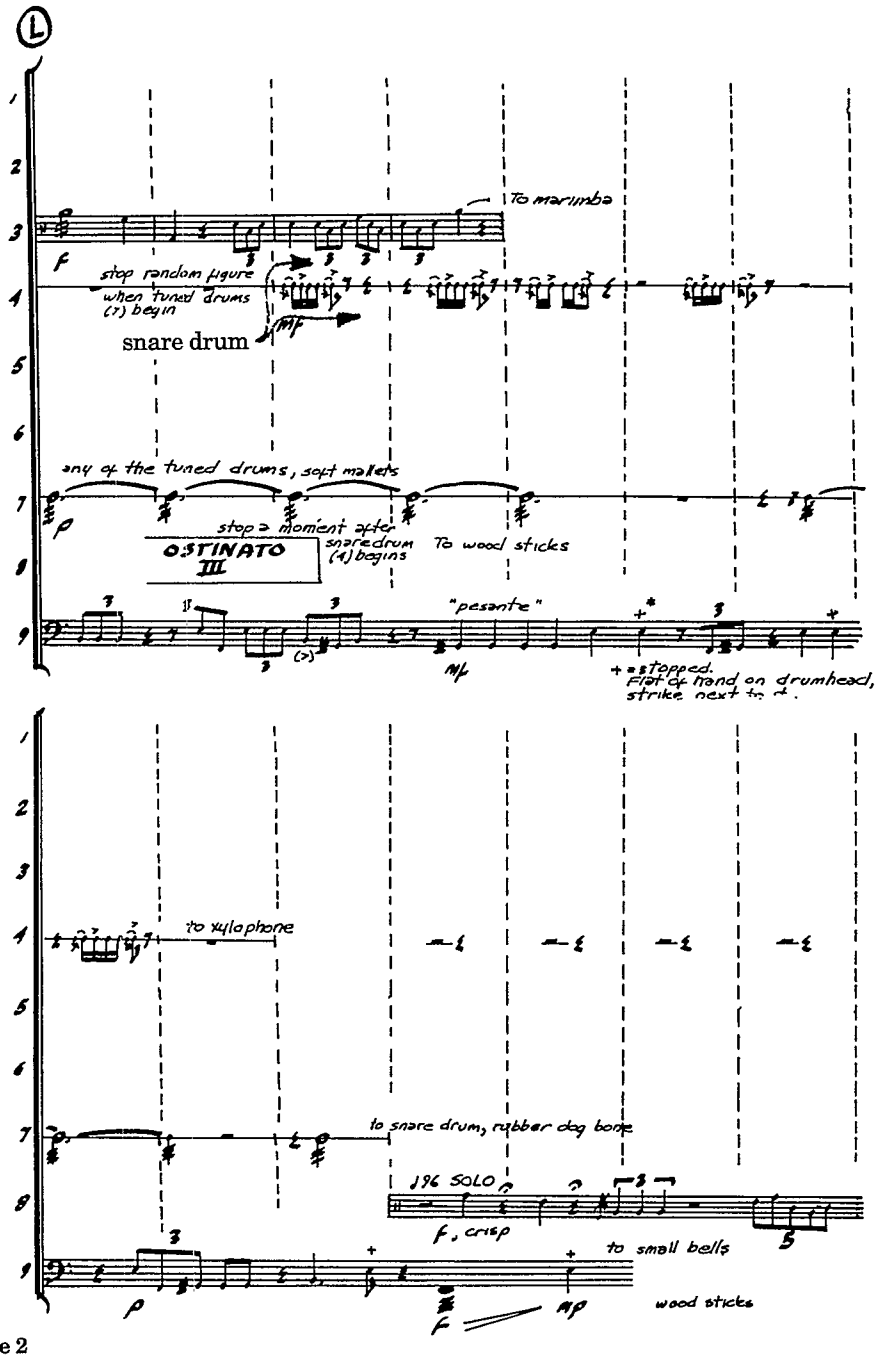
One of the reasons writing for percussion is special is that one doesn't have to bother with pitches except by choice. Many of my composition students become extremely self-conscious about pitch, fighting their way through its enormous swathing web of implications and associations, and at this point I find assigning them a work for, say, percussion trio, NO PITCH INSTRUMENTS, can be usually therapeutic. Further, the conventions of percussion present themselves ideally suited for fooling with, openly and affectionately, as such. Percussion instruments have for me an immediate capacity for being themselves; listening to (and watching) someone playing the snare drum is different from listening to (and watching) someone playing the violin, or piano or clarinet or whatever.



Example 1

The instrument here affirms itself as it is, and, further, the music is clearly also about the instrument and about someone involved in playing it. In a similar vein, the next extract is not only about the snare drum being about itself in the convention, but is also an example of fooling with expectation – when will it next happen, or will it happen at all? (Example 2)

As I began to have opportunity to hear percussion music, I was bothered by what seemed its extensive subservience to steady pulse. I finally realized that percussion instruments had had to outgrow their role in Western tradition as providing *useful* music, for people (military or otherwise) to march to and, in some cases, to dance to.[9] The instruments had to be discovered by composers as being capable of self-affirmation in their own terms, and with this discovery came, of course, the ability to draw upon the tradition as a tradition (I enjoy, for example, the moment in *Any Five* at which the player decides to carry out the instruction to read aloud from any pedagogical work on



Example 2

percussion). Once this happened a new perspective on rhythm also became available.

When I wrote *Welcome to Whipperginny* ("the land where none grows old") in 1961, I didn't have a clue about the doctrinaire nature of the various rationales summoned up for indeterminacy. I thought that turning various rhythmic lines loose against one another would provide an exciting counterpoint not only of lines but of timbres, the nature of each instrument gener-

ating the kind of music that I felt best expressed it, capitalized upon its being itself. Each line would have not only its own governing pulse (and this could alter, getting faster or slower) to the player's own guidance but also to this guidance in its sense of rubato and gesture, of "expressivity" both implied in the individual line and composed into it. These strands would run through a number of sonoric tuttis scored by timbral or obvious similarity (three gongs, three bass drums, three snare drums, the mallet instruments plus celeste, etc.) and extended at the conductor's discretion. The tuttis would not be interruptive, furnishing instead a sort of brief translucent illumination, so to speak, over and through the ongoing linear activity.

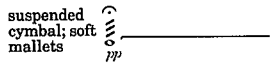
In considering this and other recent approaches, I'm led to provide a rumination about musical perception and temporality that has developed along with the music of the last three decades.

III

The present preoccupation of music criticism and analysis may be neatly sketched by substituting "musical" for "literary" in this passage from a work on literary criticism by Frank Lentricchia.

The crisis is generated – I can put this only in crude fashion here – by, on the one hand, a continuing urge to essentialize literary discourse by making it a unique kind of language – a vast, enclosed textual and semantic preserve – and on the other hand, by an urge to make literary language "relevant" by locating it in larger contexts of discourse and history.[10] Only occassionally have there been expressions of dissatisfaction with this bias, as, for example, David Epstein's concern that *musical structuralism has...become the predominant mode of discussion within the field of music theory. Other approaches to content, particularly those concerned with affect or expression, have been consigned to the passe. The nonverbal aspects of those approaches and the inability to discuss them with clarity or precision make them unproductive topics and at times embarrassing ones.*[11]

Immediately involved is the problem of aural continuity. Sound–frequency, pitch–is discontinuous pulses that appear to impose themselves as a continuous event, despite our demonstrable knowledge that it *is* discontinuous.



Example 3

Likewise, a motion picture, a TV program, is really a rapid succession of single pictures, but we invoke " willing suspension of disbelief " and go with the illusion of motion, even as we usually accept without concern the status of each of us as minute electrical impulses. As humans, we are stuck inside built-in acoustic limitations, reaching beyond these only by ornate conventions. Recent grumbling about the inadequacy of these conventions, and about the language we use to discuss them, should be dismissed: the game may appear rigged, but it's the only game in town.[12]

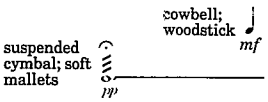
One of the illusions we can consider here is that of musical "motion." A fairly representative sample of recent critical activity so directed is Christopher Hasty's article in *JMT*.[13] *Since it is not the material world itself but our mode of cognition which creates temporal relations [obvious, since the idea of relationship is our invention] let us locate continuous change in the activity of our attention. (191)*

Instead, if we are able to perceive the two tones as a unit (that is, as a duration), the immediate qualitative change introduced by the second tone must be thought of as permeating or "spreading through" the two events as a mutual conditioning or relationship, imparting to both tones an order. (191) I have paraphrased this sentence to eliminate what appears to me to be a fuzziness in conception.

Instead, if we choose to perceive a tone and its immediate successor as a unit of duration, we can if we wish attribute to the second tone some influence in its nature as *the second, as* after, *which permeates, "spreads through" the two events as a mutual conditioning, establishing to our satisfaction such relationship as a way to order beyond simple succession.* Hasty proceeds to a discussion of music by Webern and Wolpe, using the familiar analytic conventions to illuminate his thesis that *chromatic music*

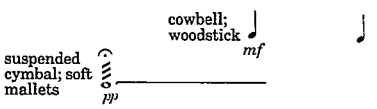
with its ultimately undifferentiated twelve pitch-classes, in order to establish its own form of motion, requires a more highly differentiated or fragmented treatment of duration. (194)

The phrase "order beyond simple succession" leads easily to another matter for discussion. Although not a psychological limit or "built-in," certainly what Wallace Stevens calls our rage for order seems to be an apparently inescapable human desire. Not only do we regard some phenomena as more important than others, but we seem inevitably to need to qualify, to arrange, these events into relationships and categories and hierarchies.



Example 4

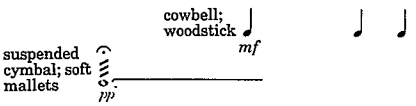
The single different event snaps our perception into action; we recognize it as somehow special, maybe important, by its singularity, against the generally undifferentiated and probably ever less arresting background sound.



Example 5

Now our perception has another level at which to operate. The fact of reappearance of the cowbell sound is particularly important to us because it *is* a re-appearance; it may, as well, lead us to speculate about the possibility of, maybe even the nature of, some relationship, one to another, of the two cowbell sounds. Is it of any satisfaction to state merely that one is before the other? without saying how much before the other? Our own orientation can say "a long time" or "a short time," but is this sufficient? *how* long? *how* short? can we resist man's enthusiasm for assuming some kind of continuum decided by the consideration of any two phenomena? and thence to the appeal for some manner of measure to quantify the relationship?

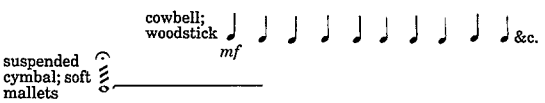
We do have available some built-in scales for this, the presence of natural periodicities, most immediately our own pulse, which we can use should we so wish, but for many this will be dismissed as relative and imprecise. Some dependable external pulse must apparently be sought, perhaps a natural feature such as the steady dripping of a faucet, to satisfy our wish to quantify. What we will probably end up with will be "timing" the duration in seconds, with watch or metronome.



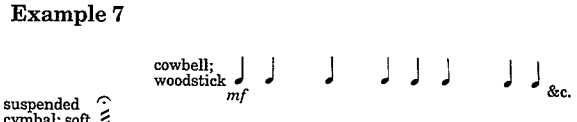
Example 6

Now we have not only a "shorter" and a "longer" time, but also if we wish we may use the first to relate quantitatively to the second in a ratio: the longer duration is so many times the shorter one.

At this point it has perhaps become obvious to some of you that what I have been doing is empirically developing that range of scales for measure explained by S. S. Stevens and applied to the discussion and composition of music in the pioneering work of Ben Johnston. *A nominal scale distinguishes only* same *and* different. *An ordinal scale also distinguishes* more than *and* less than. *An interval scale distinguishes equal increments of changes between greater and less. A ratio scale provides relationships between different scale positions.*[14] To complete the exposition of this material we need two more examples.



Example 7



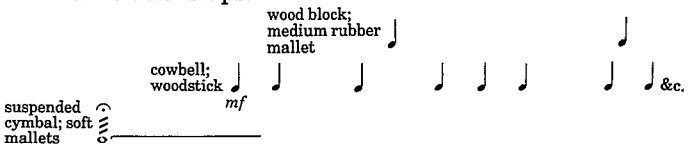
Example 8

We no longer need speculate upon the nature of external measuring scales; the musical work now provides, in terms of the composition itself, those scales ready-made, comfortably establishing relationships which generate the piece, which, in a sense, define the piece.

But the retroaction of musical things on each other is not merely replacement by different things – the syntactical landscape is at all times connected, and ordered by the uniform projection of quantized qualities; so that everything possible in a musical landscape at any moment is or "can be made to be" commensurable *with everything else.*[15] Outer world sounds suddenly become un-listened-to. We hear now within the piece; we pay attention in terms of the "syntactical landscape," often with a regularity that can enable us to tap our foot. The music becomes its own set of relationships, and we can then speak of "musical time."

But which bell-sounds are important? is there any focus of "value," of "making sense"? Determining this in terms of musical structure has been a matter of contention.[16] Importance has been variously related to the coherence or validity of the structure, to implicit compositional apparatus or intention, to style, to convention – even, on occasion, to the machinery of analysis itself beyond the listener. Each new bell-sound is of immediate focusing importance, assuring us at the moment of hearing that there *is* that sound available to us to relate to our previous experience and furnishing implication that there may well be other such sounds to come. The first bell is "important" because it is a distinctively different sound from any yet heard; the second because as a repetition it places the first in a new perspective, providing the possibility of re-repetition and occurring after a specific fixed duration; the third in that it further settles the possibility of repetition, affirming that it may be at a specific temporal interval, and may also suggest to us, given a scheme of repetition, the possibility of a bell sound *not* happening when we expect it may, etc. None of them is *the* sound; we think at each now (Hasty's term "perceived present" seems redundant to me: can there be any other kind?) in terms of what has happened over the immediately remembered "past."

And yet some events seem, for each of us, particularly to focus, to organize, to shadow, other events, polarizing[17] what we have heard in terms of what we are hearing: *now*, continuously, what each of us has heard is being recast, perhaps re-ordered, and we thus come to regard it with not just a sense of ever-"changing" but also with an accruing complex of assumed relationships.



Example 9

We never feel the same about the first wood sound after we have heard the second. The perception of these relationships also enables us to develop such ideas as "time streams"[18] and suggests some of the in-house ways, as ornate as we wish to make them, of assembling these relationships.

What we hear in music is, of course, conditioned by the degree of familiarity we may have with the convention which the composer has drawn upon, with musical "style" or genre. We're generally taught to regard particular sound-events within a style (as, say, a cadence in work based upon tonal-functional harmony) as being of paramount organizing importance.[19]

I have already suggested that we listen also with anticipation, extrapolating the appearance of sounds to project a possibility of further appearance or reference. As Hasty says, the illusion of musical motion "takes on a special quality of tendency or direction – 'toward' or 'away from.' " (192) Certainly one of our built-ins, while not physiological, is, in Paul Fussell's words, *the fundamental intellectual and emotional figure of thought, by which the past is conceived as back and the future as forward...the whole alliance between temporal and spatial that we use to orient ourselves in time by invoking the dimension of space.*[20] In music, and in its notation, this is obviously augmented by a similar conception of spatial "high" and "low" applied to pitch (frequency), hence apparent motion "up" and "down," and, in certain analytic apparatus, the "foreground" and "background" of visible perception have been adapted to discuss musical perception. All this provides a conventionalized "field," the obvious theater for the concepts of musical narration and even action.

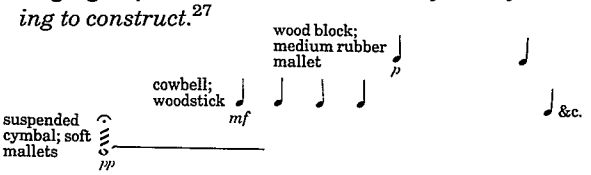
Visual space and acoustic space are, however, quite unalike. The latter places us in the center of a perceptual sphere "without fixed boundaries, space made by the thing itself, not space containing the thing."[21] I have cited elsewhere examples of the adoption of acoustic space perception as perceptual order, with obvious examples in the work of John Cage and Wallace Stevens.[22] With this viewpoint we are removed from the confusions which clutter working from the model of visual perception, in which the "framing" nature of our seeing led artists to the problem of inventing perspective and then to the even more pesky eventual compulsion to un-invent it. We have available a mode of hearing in which we may regard, analogically, the present as a center of personal acoustic space. Our attention to the present event includes that power, ever renewed, of focus, of altering, shadowing our perception of what we have heard and what we are hearing.[23] Musical line or gesture or "gestalt" now "makes sense" only in terms of that immediate present event: "time made by the thing itself, not time containing the thing."

Thus far I have been discussing the music in terms of our first hearing. Certainly the integrating and assembling totality of how we are thus hearing it affirms our anticipation of being able to deal with the work when we hear it again. We will know then what's coming, and each moment as we listen is tinged with certain anticipation of what we may surely expect yet to be heard. We may regard the whole piece now as an entity in terms of known relationships; we can slip back into the piece as into a well-fitting shoe. The individual event is heard and anticipated and remembered in terms of its being part of an inter-related known totality of such relationships: the piece as a whole assumes an internal consistency. It becomes a world we know our way around in. Surprise is gone; convention is deepened.

But what happens if we hear it again and it isn't the same? Analysis has tried but feebly to deal with situations having variable relationships.[24] Present-event listening, as I have described it, can be of much help. The growth and nature of indeterminate music is by now well documented. More pervasive, however, is the general direction taken from empiricism's affirmation of associational principles as organizing force in the arts, and I have demonstrated elsewhere[25] how the interchangeability of material in Whitman's catalogues is a step in the direction to the poetic of Williams, Pound, and Olson in affirming surface as structure. Interchangeability of musical material, dependent on composer or even performer choice, produces an unpredictability leading to such convention-oriented terms as "suspended" time or "fragmented" time, and the like. What is being fragmented? doesn't our capacity to remember constantly serve up perceptions whose only order and relationship is the sequentiality in which they occupy our attention? Any fragmentation that's being done is with a convention'd artifice, an invention of how we order perceptions. Where did the pre-fragmented original exist?

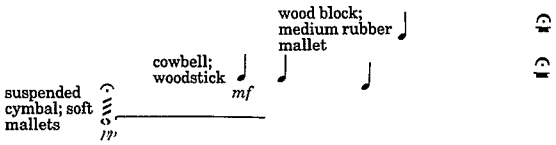
What we hear is what's there: "tangled with earth all ways we move." We assemble the piece for ourselves and form relationships as we please in any hearing, controlled by our choices, just as the performer, the composer, assembles it by choices.

In conceptual and performance art, the piece enacts its own rationale: surface is immediately and finally paramount. The musical activity, as the objects or actions, is its own documentation, or may include this, and its own "self-reference; often the artists define the intentions of their work as part of their art."[26] Greil Marcus points out that certain "post-punk" singers *are not exactly singing "as themselves," not in the way pop music has led us to understand the idea. They are not...singing to refine an individual sensibility, or to communicate personal knowledge, or to project a personality or a persona on the world. Rather, they are singing as factors in the situations they are trying to construct.*[27]



Example 10

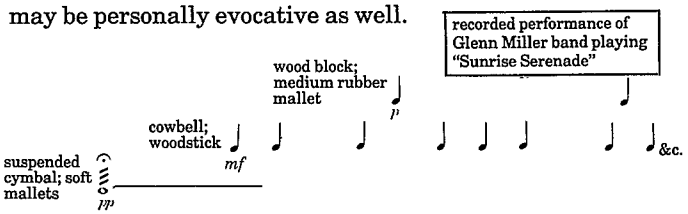
Again, this will provide surprise only on first hearing, in terms of something happening contrary to our expectation. Occasional omission can easily be accounted for in terms of our within-the-whole-piece concept.



Example 11

If our first tone lasts too long or is separated from the second tone by too long a silence (let us say 15 seconds) a unification of duration will not take place – we will in a sense lose interest in it and begin to perceive its duration externally against the background of our changing sensation or wandering thoughts.[28] It is this very background, dismissed by Hasty as a kind of trivial filler for our lost interest, which is vital. Cage's anechoic chamber anecdote and his composition *4'33"* help remind us that this is a substantial part of the experience of listening, a built-in that the tradition of Western art music has encouraged us to subdue. Our memory, while we listen, summons up anything it chooses, with equal ease, from the "past" or notices anything in the "present"; each of us hears uniquely in these terms. What is thus added to the variably demanding inside-the-music attention as we are imposing it is this personal reference, the connotation, if you wish – not merely a penumbra but a vital part of the experience of listening and, of course, to thinking itself.

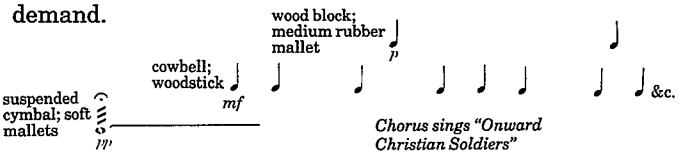
This should not only be familiar to you, but may be personally evocative as well.



Example 13

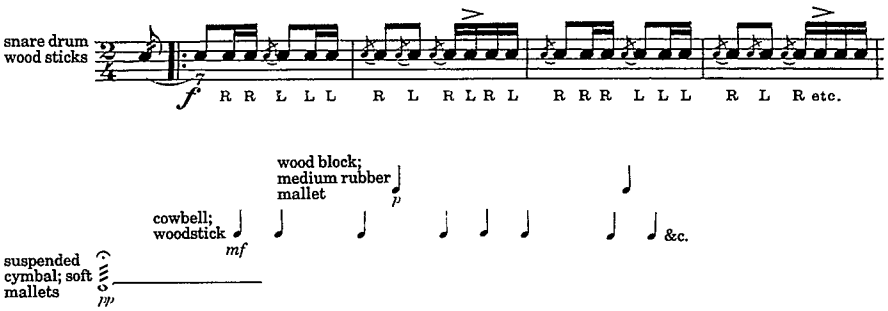
Here we have added something surely beyond the inside-the-piece limits, sound which will inescapably summon up to an American listener some kind of personal resonance, from the mild recognition that here's a citation of some kind of old pop music to "My God! I used to dance to that when...," with the attendant rush of immediate special responses, depending of course on our individual acculturation and convention. A native of the New Guinea back country will have none of our responses but plenty of his own.

We can, if we wish, deal with the "past" in terms of metaphor, still another of the manners of ordering which Western man seems to demand.



Example 14

The imaging *of aural – as distinct from "tonal" – comprehension (to derive specific* images, *as in dream, from aural patterns) is the condition of* deja-vu, *or time confusion. The effect gets watered down, but can be prolonged*



Example 12

better, as the aural patterns are more specifically tonal.[29] Furthermore, if we are listening in a present-event-centered fashion, all we have heard previously becomes, of course, regarded differently: the past is forever altering by each present event, thought, or hearing, and personal past is built in as an inescapable, inevitably included, part of how we listen. If there should occur a familiar event or "too long a silence," it is exactly Hasty's "background of our changing sensation or wandering thoughts" which fills up the immediate substance of our attention. Given such opportunity, we may wander and rummage as we please among our rememberings and perceptions, this becoming of course the stuff of the experience of hearing. Why, therefore, should it be ruled out – be, as Epstein suggests, confined to the passé – in discussion of how we listen to music?

The composer is, of course, drawing upon and working with this capacity in the listener.[30] He has available a number of metaphorical buttons he may choose to push, often summoning up what I. A. Richards called stock response. If Glenn Miller sound reminds us of the 40s, if, say, the Roy Harris 3rd symphony evokes response in terms of the 30s, it is into what we know of these times, the total 40s or 30s experience we furnish for ourselves, not just how they were but also how they should have been. *But the moment comes when, reaching for what* might *have been felt or spoken or heard, trying to re-animate the now-vitality of a past time, it is altered into "art" through application of our conventions. Then what is created may become far more "authentic" than the real thing might have been: what we have is the way we decide (or someone helps us decide) the real thing* should *have been – the Civil War, the Old West, the depression, hippies.*[31] And writing the music is done out of our conventions of what music ought to do: what sound DO you use to evoke the 40s? or 30s? or, for that matter, Elizabethan England or Homeric Greece or the year 2144? Historical past is conventionalized personal present. *Actually, what people have thought they were looking at, arranged in chronological order, makes up whatever consistent fairy tale that history can be imagined to illustrate.*[32]

Not only is the past solely as we make it, but it also changes. A glance at the mirror reaffirms that, yes, it's really you, it's the same familiar perceiving apparatus you've been seeing out of into every mirror. But look, on the other hand, at your high school yearbook. Those clothes, hairdos, faces look silly, contrived, faintly embarrassing: those people weren't that way when you were with them. I have a tape of my mother speaking, at age 70 or so, in a radio interview in the early 1960s. But it's changed; it's not her voice. What I hear is the voice of a stranger, an *old* person, with only echoes of familiar cadences and turns of speech, "romantic memories which are in themselves a kind of forgetting."[33] As considered in terms of acoustic space, "the past is a different country; they do things differently there."[34] All you have to do to affirm this is watch old home movies...

As we listen to music, we hear a present event not merely as an addition to the accruing in-the-music relationships we choose to recognize in terms of our past experience and conventions. These relationships outline for us an immediate field of perception, filled out by whatever we summon from the enormous store of instantly accessible personal remembrance, or "past." In terms of the analogy with acoustic space, we may consider any present moment as, first, a central focus of whatever we wish available to us from thought and perception, and second, in what might tentatively be termed feedback, the constant re-ordering of what we hear and think of *next* in terms of all we have in present attention.

Epstein's phrase "inability to discuss...with clarity and precision" highlights the problem many will have here: doesn't this view blur over, maybe render inadequate, quantification, measurement, accurate analysis? Of course it does. Why should what we hear and think of easily and naturally be ignored in talking about music because it defies "clarity and precision"? Why should we deny reference to what we bring to personal hearing above and beyond whatever captivation there may be in the con-

structional features of a musical composition? succumb to habituation and subordinate this reference to some kind of structure or flow or apparatus or process? as many European composers have done to invent validation for indeterminacy?[35]

This rich texture of hearing, musical imaging, evocative response, association, of curiosity, boredom, drowsiness, thought sequences with the music as background or not being listened to at all: this is what transforms music from merely a collection of sounds to which we are supposed to puzzle out an order. We may, if or predilection and training so incline, become sufficiently preoccupied with the gimmickry of periodicity and repetition and the illusion of musical "motion" to talk about time, often involving narrative models as a start, as though it had more than an abstract existence. This itself offers a proliferate and fantastical variety of analytic game playing, as any scholarly musical journal will demonstrate. And there's nothing really wrong with this: close analysis, as philosophy, even as chewing rubber gum, remains harmless, inconclusive, and mildly entertaining diversion.

But we can find ourselves too long bondservants to logic, two-valued thinking, labels, categories, systems, dynamics, paradigms, tropes, modalities. Much art of our time offers us another way to participate, and is conceived and made as such, providing the opportunity to be concerned with "the enjoyment of things as they come, as they happen, rather than as they are possessed or kept or forced to be."[36] And participating in this fashion can then be applied to not solely this music of our day but also to all music, even to all time art. We need not scrap our previous temporal illusions and conventions; recognized as such, they become simply a part of the total experience we provide without concern as the focusing moment of musical perception.

IV

Now go thou forth and do likewise....

University of Redlands
January 1984

The Percussion Music of Barney Childs

Any Five – Smith Publications
The Bayonne Barrel and Drum Company – Carl Fischer Facsimile Editions
Bowling with the champs – Composer
Concerto for English horn, strings, harp, and percussion – ACA
Featuring "Mighty" Joe Nowhere... – Composer
Four Feathers – Media Press
Jack's New Bag – Smith Publications
Lanterns and candlelight – Smith Publications
Music for bass drum – Berandol
Nonet – will have to be xeroxed out of *Source*. I don't know what to suggest about the event machine transparency.
Out Back of the Drum Shop – Composer
Overture to "Measuring a Meridian" – Composer
Quartet for flute, oboe, bass, and percussion – ACA
Quintet for winds, harp, and percussion – Composer
Seven quiet studies – Smith Publications
Six gamut studies – Music for Percussion
The Golden Bubble – Carl Fischer Facsimile Editions
Welcome to Whipperginny – Music for Percussion

Footnotes

[1]*The Music of Elliott Carter* (London: Eulenberg Books, 1983), p. 17. An extension of the criticism problem, far too knotty for more than this mention, is "the critic's substitution of his own discourse for the work of art." Craig Owens, "The Discourse of Others: Feminists and Postmodernism," *The Anti-Aesthetic*, ed. Hal Foster (Port Townsend, WN: Bay Press, 1983), p. 69.

[2]Carter, p. 19.

[3]*Ibid.*, p. 17.

[4]"Freedom in experimental music: the New York revolution," 52 (Fall 1981), pp. 223-239.

[5]9: 3-4

[6]21:3 (March 1983), p. 10.

[7]Michael Tippett, *Moving Into Aquarius* (Frogmore, Herts.: Paladin Books, 1974), p. 23.

[8]Even so, I confess to a few curmudgeonly biases: I am unhappy, for example, with cutesy pictures to indicate particular stickings, and I cry hold! enough! of those who continue to insist on bowing percussion instruments. The notation  is in the same league with plaid double-knit suits, silhouette folk dancers or leaping fish decorating the back of camper vehicles, and vanity license plates.

[9]"One family of traditional explications would assert an innate two-ness or even four-ness about our reactions to musical rhythm.... A second family of traditional explications would rely on the supposition that such binary processing, although not innate, is strongly conditioned into our particular culture...." David Lewin, "Foreground Rhythmic and Metric Patterning," *Music Theory: Special Topics*, ed. Richmond Browne (New York: Academic Press, 1981), p. 102.

[10]*After the New Criticism* (Chicago: University of Chicago Press, 1980), p. xiii.

[11]Cited by Arnold Whittall, review of *Beyond Orpheus: Studies in Musical Structure*, *JMT* 25:2 (Fall 1981), 324.

[12]Much of this is neatly pilloried by Hayden White, "The Absurdist Movement in Contemporary Literary Theory," *Contemporary Literature* 17:3 (Summer, 1976), 378-403.

[13]"Rhythm in Post-Tonal Music: Preliminary Questions of Duration and Motion," *JMT*, *ibid.*, 183-216. The opening of the article is marred by a confusion and under-defining of such terms as rhythm, meter, pulse. Again, "The term 'motion' is difficult to detach from spatial phenomena." (189) "Difficult" is hardly sufficient; what we define as motion is distance/time, and if $d = 0$, motion $= 0$.

[14]"Microtonal Resources," cited by Barney Childs, "Some Notes Toward a Philosophy of Notation," *Proc. ASUC* 7/8 (Spring, 1974), pp. 63-64. The material first appears in Johnston's "Scalar Order as a Compositional Resource," *PNM* 2:2 (Spring-Summer 1964), p. 57, but it is also dealt with in his later articles. I discuss application of it in the composer's own work in "Ben Johnston: *Quintet for Groups*," *PNM* 7:1 (Fall-Winter 1968), pp. 117-120.

[15]Benjamin Boretz, "What Lingers On(,When the Song Has Ended," *PNM* 16:1 (Fall-Winter 1977), p. 107.

[16]Two substantial recent articles suggesting approaches to this are by Lewin (cf. n. 9 above) and by James Tenney (with Larry Polansky), "Temporal Gestalt Perception in Music," *JMT* 24:2 (Fall 1980), 205-241.

[17]The word is Harold W. Watts'. Cf. Barney Childs, "Time and Music: A Composer's View," *PNM* 15:2 (Spring-Summer 1977), pp. 213-214.

[18]As, of course, Elliott Carter, "Music and the Time Screen," *The Writings of Elliott Carter*, ed. Else and Kurt Stone (Bloomington: Indiana University Press, 1977), pp. 343-365.

[19]The fact that even high-powered analytic apparatus invented for and from within a specific convention may produce different results from the same task (cf. Marianne Kielian *et al.*, "Analysis Symposium," *ITO* 2:6 (September 1976), pp. 16-43) is not necessarily a disadvantage. A brisk and provocative lambasting of the stuffier features of analysis is Joseph Kerman, "How We Got into Analysis, and How to Get Out," *Critical Inquiry* 7:2 (Winter 1980), 311-331.

[20]*Abroad* (New York: Oxford University Press, 1980), p. 210.

[21]Edmund Carpenter, as cited by R. Murray Schafer, *The Tuning of the World* (Toronto: McClelland and Stewart, 1977), p. 158. I discuss this in more detail in "Poetic and Musical Rhythm: One More Time," *Music Theory: Special Topics*, *ibid.*, p. 49 ff.

[22]Cf. Stevens' poems "Anecdote of the Jar" and "Ideas of Order at Key West."

[23]"Riding in an elevator, has one sometimes got the feeling that a given floor is a different floor when passed on the way up than when passed on the way down? At such moments a number, like *ten*, becomes a slovenly misnomer; for it means both *nine plus one* and *eleven minus one*, yet the tenth floor is not the

'same experience' when approached from above as it is when approached from below. And if, of course, some important incident had taken place between the time you ascended in the elevator and the time one descended again, you would feel all the more strongly that *eleven minus one* differed essentially from *nine plus one*. One would proceed from a different 'first' than the other." Kenneth Burke, *A Grammar of Motives* (New York: Prentice Hall, 1945), pp. 305-306. Surely this is one answer to Charles Olson's wish for a non-comparing, non-describing means of expression ("Human Universe," *The Poetics of the New American Poetry*, ed. Donald M. Allen and Warren Tallman (New York: Grove Press, 1973), pp. 164-165).

[24]See, for example, Terence J. O'Grady, "Aesthetic Value in Indeterminate Music," *Musical Quarterly* 67 (July 1981), 366-381. The process of applying the premises of traditional esthetics to indeterminate music and, when this fails, questioning the music rather than the premises, is full of pitfalls. The author entertainingly demonstrates how to fall into every one.

[25]"Surface and Surprises," unpublished MS. "By most accounts, collage is the single most revolutionary formal innovation in artistic representation to occur in our century." Gregory L. Ulmer, "The Object of Post-Criticism," *The Anti-Aesthetic* (Port Townsend, WN: Bay Press, 1983), p. 85.

[26]Ursula Meyer, *Conceptual Art* (New York City: E. P. Dutton, 1972), p. viii.

[27]"Liliput at the Cabaret Voltaire," *TriQuarterly* 52 (Fall 1981), p. 272.

[28]Hasty, p. 191.

[29]Robert Ashley, cited by Peter Gena, "Freedom in Experimental Music: the New York Revolution," *TriQuarterly, ibid.*, p. 238.

[30]The work of Ives comes immediately to mind. Also cf. the interview with George Rochberg in Cole Gagne and Tracy Caras, *Soundpieces: Interviews with American Composers* (Metuchen, New Jersey: Scarecrow Press, 1981), p. 340 ff.

[31]"Surface and Surprises," p. 40.

[32]Virgil Thomson, "Music Does Not Flow," *New York Review of Books* Dec 17:81, p. 47.

[33]Bruce Catton, *Glory Road* (Garden City, NY: Doubleday, 1952), p. 322.

[34]"One of our better novelists once said that the past is a different country; they do things differently there." Frank Ross, *Dead Runner* (New York City: Athaneum, 1977), p. 270.

[35]"Pousseur soon realized that the arbitrary application of the series to all parameters of the music that characterized 'total organization' produced a 'statistical' effect not unlike the similar use of chance determinants. He has written: 'Precisely where the most abstract constructions have been applied, it is not seldom that one has the impression of finding oneself in the presence of consequences of an aleatory free play.'" Richard Teitelbaum, liner notes, Columbia MS 7051.

[36]John Cage, foreword to Richard Bunger, *The Well-Prepared Piano* (San Pedro, CA: Litoral Arts Press, 1981), p. 6.

Lecture by Dr. Thomas DeLio

The following is a reprint of a lecture on Stuart Smith's music delivered on January 7, 1984, at the Baltimore Museum of Art, Baltimore, Maryland, as part of a symposium on this composer's Return and Recall. *The symposium was sponsored by the Maryland Council for the Humanities and held in conjunction with a concert of the Res Musica Baltimore new music series on which* Return and Recall *was a featured work. I offer this lecture to the readers of* Percussive Notes *to commemorate Dr. Smith's tenure as editor of this fine journal which terminates with the present issue. My praise of his work as a composer and scholar applies equally to his tremendous efforts as editor.*
– Dr. Thomas DeLio

I am especially pleased to be here today to present some observations on the music of an outstanding composer and, moreover, one who lives in our midst, here in the Baltimore-Washington area. I find that Stuart Smith's music and presence never fail to engage one in a penetrating examination of the very nature of expression and perception and forces one to come to terms with the conditions under which communication becomes possible.

For centuries, the music of Europe – and more recently that of America – has resonated with the classical western notion of the separation of mind from matter. This traditional focus on the artwork, rather than the process by which that object is engendered, evolved from a philosophical position which divided one's field of perception into two poles–that of the self, and that of the physical world; or in aesthetic terms, the creation and perception of art (the activities of art) vs. the artwork itself. The music which supports this position stems from a philosophical tradition which views *being* as an actor located apart, somehow, from the field of objects and other beings which are acted upon – a position which the arts of our time have rendered untenable. It is precisely this historical separation of action from object which Stuart Smith's music challenges and, ultimately, rejects.

Most impressive is the diversity of media through which this composer's ideas have taken shape. Whether it be through sound poetry,

graphic composition or jazz-inspired music, he has succeeded in directing the listener toward a greater sensitivity to and awareness of the world in process and as process. As does much of the best new music, his works seem to epitomize the dictum of the great American poet Charles Olson: "The motive of reality is process...not goal."

Nowhere is this more evident than in the work to be presented this evening, *Return and Recall.* It was created in 1975 for an experimental theater group called Kraken. As a composer, the request for a theater work posed special challenges. In the composer's own words: "How to proceed. My answer was to ask a fundamental question. What does a composer do?" One answer: ..."a composer invents a performance system." This type of thought process led to the development of what Stuart Smith has termed "trans-media" composition. I believe in your program notes you will find a statement concerning the nature of this type of work, supplied by the composer himself:

The term 'trans-media' refers to a concept or system that is performable by any type of performer, i.e. actor, dancer, musician, etc. Trans-media works are transferable from medium to medium while maintaining a recognizable pattern or structure. Therefore, making trans-media systems requires one to compose with elements and procedures that can be commonly utilized by all types of performing artists.

Clearly, one of the immediate problems facing a composer who has the creative vision to imagine such a work is that of notating his ideas on paper – to communicate them to a performer who will, in turn, communicate them to an audience. The solution to this problem requires a creative effort nearly as great as that involved in fashioning the work itself. However, the question of notation transcends the more practical matters of performance. The radical nature of many of the new notational systems employed by Smith and others throughout the 1970s sheds a great deal of light upon the character of their unique aural results. With respect to

Program Notes

RETURN AND RECALL PROGRAM NOTES – Stuart Smith

I am creating an art that one enters, not an art that unfolds and emerges.

I am creating an art that does not "move" people but engages them, (leaving the people to move themselves).

I am creating an art that does not call on associations, but is itself, no more, no less.

TRANS-MEDIA PERFORMANCE SYSTEMS

I describe Return and Recall as a trans-media performance system. The term "trans-media" refers to a concept or system that is performable by any type of performer, i.e. actor, dancer, musician, etc. Trans-media works are transferable from medium to medium while maintaining a recognizable pattern or structure. Therefore, making trans-media systems requires one to compose with elements and procedures that can be commonly utilized by all types of performing artists.

The compositional problem I set for myself in creating Return and Recall was to strike a perfect balance between flexibility and specificity. If it is too flexible, then "anything goes" and it has no identity; if it is inappropriately specific, then it is no longer a trans-media composition.

If the given is flexibility, then the challenge becomes specificity.

Return and Recall exists on two levels. First, it may be read and imagined as conceptual art by anyone. Second, it may be performed. If it is performed it is intended for a group of performers who rehearse regularly over an extended period of time. This performance system can be utilized by performers in various ways:

a) to break performing habits.

b) to explore a given set of information (art re: search).

c) to be performed for an audience.

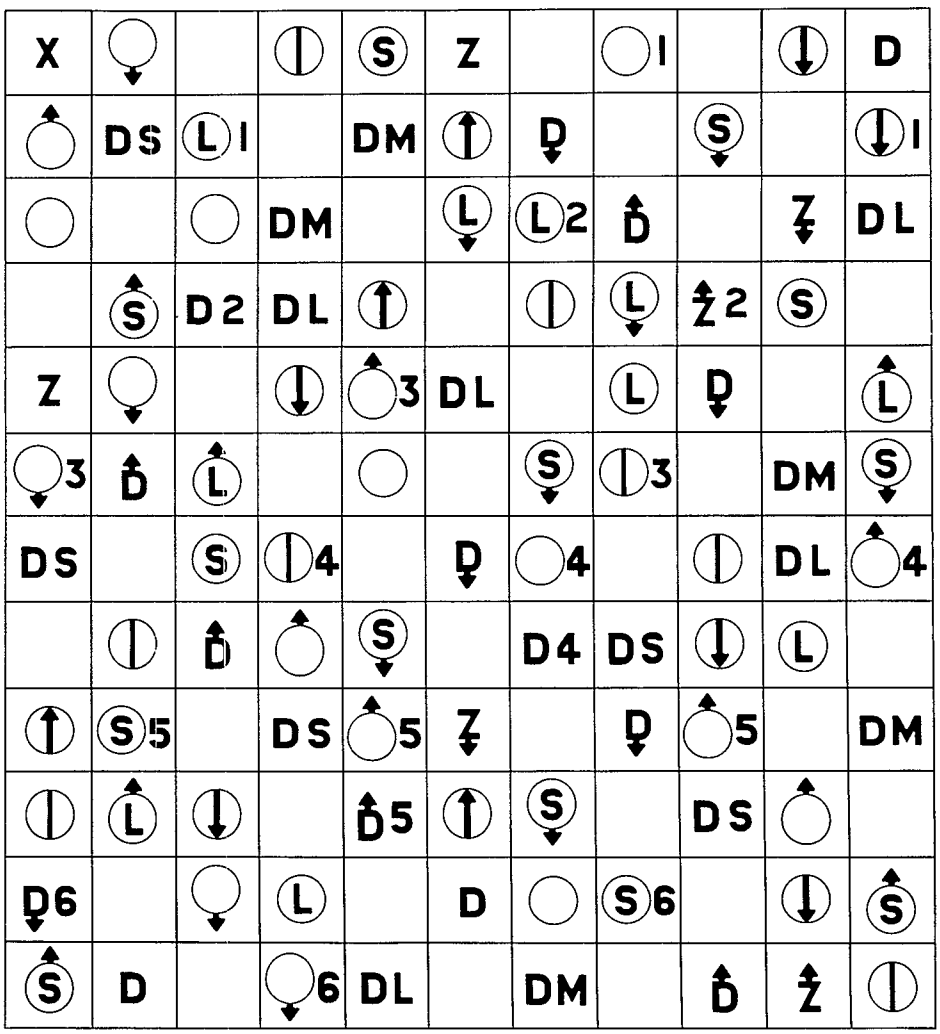
This performance system is not intended as a study in the spontaneous aspects of improvisation (although the spontaneous aspects of improvisation will undoubtedly be used as one step in the learning/exploring compositional process).

This system is intended as a study in group composition. Therefore, performers may arrive at a realization that is repeated verbatim in each performance.

much recent music including, as we shall see, *Return and Recall,* a study of the notation employed can often supply valuable insight into many of the fundamental premises upon which a composition's structure rests.

Let us now turn to the score of *Return and Recall* (which, I believe, is also printed in your program). Time does not permit a detailed explanation of each symbol but an overview will suffice. Any sonic, visual, or verbal materials may be used to realize the structure which is notated. Two basic symbols are employed: those

Return and Recall **Score**



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Return and Recall Definition of Symbols (excerpt)

Arrows mean ↑ more, higher, bigger; or ↓ less, lower, smaller. These symbols apply to dynamics, frequency, space, and/or theatrical gesture.

The letters **S** , **L** , and **M** apply to duration.

S = short and/or fast; **L** = long and/or slow; **M** = medium.

◯ = imitate an aspect of an event-gesture you experienced (heard or saw) within the composition. Therefore, if you choose to imitate the height of an event or gesture, all the other parameters, like color, frequency, dynamics, rhythm, are created by the performer to fit the context of the moment.

◯↑ = imitate an aspect of an event-gesture higher, more, bigger than you experienced it. (All other parameters are created by the performer.)

◯↓ = imitate an aspect of an event-gesture lower, less, smaller than you experienced it.

(S) = imitate an event-gesture or an aspect of an event-gesture you experienced, making it shorter in time.

(L) = imitate an event-gesture or an aspect of an event-gesture you experienced, making it longer in time.

Example of a possible realization of ◯↑ :

Dancer A imitates the movements of the right hand and left leg of Dancer B, making these movements exaggerated from the original. Dancer A can add other movements with the other parts of his or her body as the situation dictates.

D = develop an event that you are experiencing or have experienced. "Develop" means to explore and expand the material. I use the word "expand" to mean stretch out; enlarge upon an idea; develop in detail. I use the word "explore" to mean to look closely; investigate.

D↑ or **D**↓ = develop a ↑ or ↓ aspect of an event-gesture you are experiencing or have experienced.

DS or **DM** or **DL** = develop an **S** , **M** , or **L** aspect of an event-gesture that you are experiencing or have experienced.

◫ = blend-match an event as you experience it. Try to be in unison with another performer. Try to have no "lag-time" between the action and the blend-match of that action.

◫↑ or ◫↓ = blend-match an event as you experience it, modifying it ↑ or ↓. Try to be in unison with another performer but ↑ or ↓.

Z = make a repeating pattern from a fragment of a previously experienced event. These boxes should be c. 8" - 15" in length. The performer can change the speed of a **Z** event gradually.

Z↑ or **Z**↓ = make a repeating pattern from a ↑ or ↓ aspect of a previously experienced event.

Numbers **1** through **6** refer to the appropriate horizontal column of the Source Modifier chart.

Non-activities can be introduced freely in a performance of any box to give further possibilities of interaction between performers. The performers may change the focus of a symbol. For example, in an interpretation of ◯, one could imitate an aspect of an event of Performer X, then a non-activity; then imitate an aspect of Performer Y, then a non-activity; and then imitate an aspect of Performer A.

which tell the performers how to interact with one another, and those which tell the performers how to process (transform) their basic materials. These two types of symbols are inextricably linked throughout the composition.

The score itself consists of a grid of boxes to be read sequentially in either horizontal or vertical rows. The first box (upper left hand corner) contains an X. This signifies a simple, straightforward presentation of the basic source material of the piece (which is pre-selected by the performers) without any transformation or alteration.

The next box to the right ◯ consists of two interconnected symbols: The first is a ◯ which directs the performer to *imitate* some aspect of the material presented in the proceding box; the downward arrow ↓ directs him to render the imitated material in some way lower or smaller than it was originally presented. For example, if the material to be imitated is a dance movement in which one performer walks across the stage. Then, the imitator might walk across only half of the stage; or, he might walk across the stage using smaller (shorter) steps than those used by the initial performer; or, he might crawl across the stage (crawling, in a sense, a *lessening* of the mobility provided by walking). If, on the other hand, the original material were sonic, the imitation might be transposed to a lower pitch level, or might be played at a softer (lower) dynamic level. If the original material included a poem with an abundance of multi-syllable words one might replace each of these as much as possible with single syllable words while maintaining the content (meaning, if you will) of the original poem.

The box containing, Ⓢ↓, consists of three interconnected symbols: ◯ , S and ↓ . The first, ◯ , once again directs the performer to imitate some aspect of an event which he has experienced thus far in the course of the performance. The second two determine the parameters of that imitation. In this instance the S suggests a temporal shortening of the original and ↓ a lessening of it in some way. If the original were a sonic gesture consisting of a series of ascending glissandi, the imitating performer might play shorter and fewer of them than in the original. If the original were a poem, the number of syllables in each line might be reduced thereby both shortening and lessening with one change!

I would now like to mention, briefly, two of the most important issues raised by this music, as revealed by its notation.

Process – Through his notation the composer has designated with great precision the mechanism of composition without specifying any specific sonic or visual results. All that the composer had defined through his score is a very general procedure for evolving a structure from the interactions of the various performers. His own personal creative style is not responsible for transforming any materials. Rather, he has removed his style from the work and created a procedure enabling other styles to transform materials. As such, the composer himself remains apart from any direct interaction with materials and is replaced by each individual performer's style. Rather than create a structure which is the result of a specific interaction between himself and some particular sonic materials, he has created a blueprint for such an interaction through which others may create, each in his own way, a particular type of structure. As such, the work becomes more than just the product of a compositional process; it becomes process itself. Those things which are actually notated then, are not results but, rather, procedures; not ends, but, instead, the means to those ends.

Abstraction – As mentioned, the composer defines with great precision how the performers are to act but never specifies upon what they are to act. Thus the same symbol can, in one instance, refer to the movements of a dancer; in another, the sounds of a musical instrument (any instrument). The score is an abstraction. It depicts, quite vividly, an *image* of structure, movement and expression but never specifies *any particular physical* manifestation through which this image may take concrete form in the world. The composer has created a work which transcends the particularities of any specific materials and, indeed, any specific medium (another sense of the term "trans-media"). Accompanying this quality of abstraction comes the concept of pluralism. The notation

is abstract and, thus, is specific to no particular physical representation. As such, it embraces a multitude of such representations. *Return and Recall* is a striking vision of abstraction and of that sense of universality which such abstraction engenders.

These are only two of the many issues which are addressed by both the structure and notation of *Return and Recall.* The meaning and mechanism of an artwork are never really separable and the greatest challenge faced by the contemporary composer is to reveal their essential unity. In so doing, he also reveals new insights into the nature of human perception and the tremendous role which it too plays in the process of investing an artwork with meaning. The mark of any new work is the degree to which it moves the listener toward an awareness of the roles of both process and perception in the formation of his own particular understanding of things. *Return and Recall* is an exceptional example of such new composition and invites repeated hearings and extended exploration.

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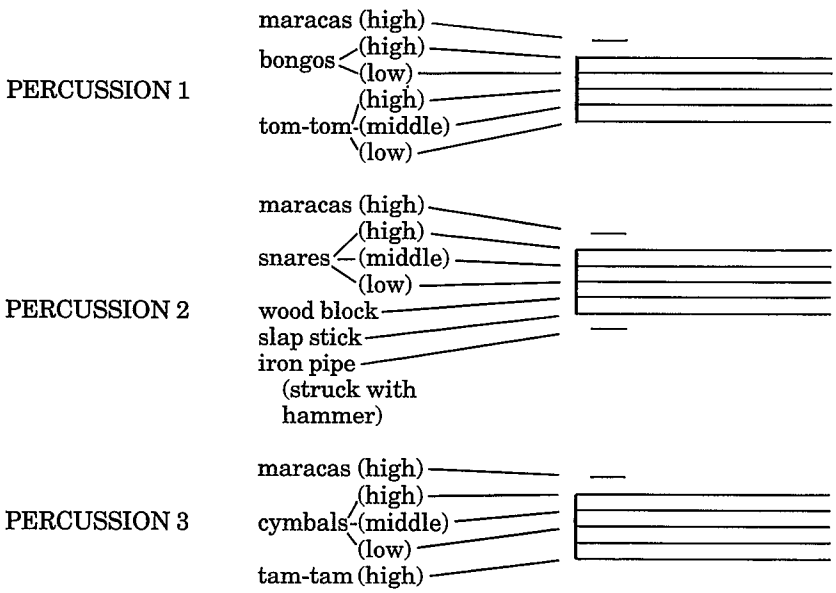
Instrumentation for A Draft of Shadows

by Wesley York

Pages 42-67, Volume 22, Number 3, March 1984

Soprano
Piano
Percussion (3 players)



With respect to the piano part, placement of notes on page is approximately proportional to their placement in time.

The above instrumentation was inadvertently omitted from Wesley York's article in the March 1984 Percussive Notes Research Edition *(Volume 22, Number 3, pp. 42-67). which was a comprehensive study of* A Draft of Shadows *by Thomas DeLio.*

We hope that readers experienced no inconvenience as a result of this omission.

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