Survival Guide

A concise overview of performance issues confronting conductors of the Ives Fourth Symphony,
Or: Everything you always wanted to know about conducting the Ives Fourth Symphony but were afraid to ask!

Number of Conductors

Ives conceived the Fourth Symphony as a work requiring assistant conductors (see the entries on mm. 43–51 and mm. 141–145 in his Conductor's Note to the second movement.) With sufficient rehearsals and a clever conducting strategy, a single conductor may succeed in coordinating the forces in these and similar passages, but it would be difficult. Part of the drama of a live performance of this work is the use of additional conductors, so the interpreter is encouraged to embrace this aspect of the score.

Where an additional conductor is needed is something each principal conductor will need to decide on a case by case basis. See The "Collapse Section" and Other Non-Synchronized Temporal Effects below for a complete listing of all sections in the score that would benefit from the use of an assistant conductor. Notice that not all of the non-synchronized events require a separate conductor, but many would be difficult to execute without one.

The present Performance Score is designed to facilitate the execution of this work regardless of the number of conductors employed, whether a single conductor or multiple conductors.

Chorus in Movement I

Ives applies the instruction “preferably without chorus” at the entrance of the choir in m. 17. Here he likely expected the audience of his day to recognize the hymn-tune in the trumpet, and thus felt ambiguous about the necessity of employing a chorus in this movement. Modern audiences, on the other hand, will appreciate hearing the hymn sung by a chorus. Even more, the appearance of the chorus at the end of the fourth movement begs for a matching choral bookend at the front end of the symphony.

Distant Choir

The first and fourth movements employ a Distant Choir of 5 Violins and 1 Harp. The Distant Choir (D.C.) represents the “Heavenly Host” of the “Watchman” hymn in the first movement, and is best spatially separated from the main orchestra, preferably above the orchestra, perhaps in a balcony or a choir alcove.

In the first movement the Distant Choir is alternately synchronized and unsynchronized with the main orchestra. This may or may not require the use of a second conductor. In the fourth movement the Distant Choir is synchronized with the main orchestra throughout.

Because of the spatial separation, the 5 Violin players will not be able to rejoin the main orchestra’s Violin sections during the second and third movements of the symphony. It is suggested that three players from the first Violins and two players from the second Violins be assigned to the Distant Choir (See “Violin Distribution in Movement 4”, below.)

Harp Part in the D.C.

Properly respelled, the Harp part is possible for performance by a single harpist. The present part has been respelled and pedaled clearly, and it was checked and approved for performability by Anthony Maydwell, former principal Harpist of the Sydney Symphony.

String Division

This performance edition is mindful of the standard allotment of 8–7–6–5–4 desks in an orchestra's total string section. Because five Violins must be dedicated to the Distant Choir in the first and fourth movements, a desk distribution of 6–6–5–4 has been employed (with 2 players per desk; any additional players may be assigned to higher desk numbers as the concertmaster or conductor sees fit).

To assist the string players’ reading of Ives’s complex string divisi, the string music has been parsed into individual parts for each desk. Thus, Desk 1 will read from a separate physical part than Desk 2, than Desk 3, etc., with 6 parts total for Violin I, desks 1–6. Likewise, there are 5 separate parts for the Celli, desks 1–5, etc.

Violin Distribution in Movement IV

In the fourth movement Ives divides the Violins alternately into two and three large divisions, labeled Violins I, II and Violins I, II, III, respectively. To facilitate the division of the Violins in and out of these large-scale divisions, the following desk assignments are employed:

When the Violins are divided into two large divisions (I & II), the standard division is employed: all 6 desks of the First Violins cover the Violin I part, and all 6 desks of the Second Violins cover the Violin II parts.

When the Violins are divided into three large divisions (I, II, III), Violin I is assigned to the First Violin parts, desks 1–4; Violin II is assigned to the Second Violin parts, desks 1–4; and Violin III is assigned to both the First and Second Violin parts, desks 5–6 in each case.

When three Violin divisions are in force, the full score clearly indicates in the margin how desks are assigned among the three divisions.
Player Assigned to Extra Violin II in Movement II
The Extra Violin II part is intended for a back-section player. This is necessary so that a set of bells may be placed near the player for the duet in the “Vanity Fair” section in the second movement (mm. 149–161). (See The “Collapse Section” and Other Non-Synchronized Temporal Effects below.) In this edition, the Extra Violin II is assigned to Violin II, desk 6.

High Bells / Low Bells
Ives specifies that the Bells are of “a continuous scale and of like quality.” The complete range of the Bells is problematic, for it traverses seven octaves.

Glockenspiel has traditionally been used for the High Bells part, but Glockenspiel sounds two octaves higher than written, and thus cannot reach the lowest notes of the High Bells part. Orchestral Chimes have likewise been used in the past for the Low Bells part, but their low range is two octaves higher than the lowest pitches of the Low Bells part. Additionally, these instruments do not share the same timbre, and thus do not meet Ives’s timbral specification.

Modern Handbells cover the complete range of the High and Low Bell parts, and might be a good solution, except that they are incapable of projecting through the orchestra and are difficult to control.

A better (perhaps the best) solution has been provided with the rental materials: a Carillon sample disk that may be played on a modern electronic keyboard (best on a Kurzweil 2600). The Carillon fulfills Ives’s timbral and range requirements perfectly. The sample carries the added advantage that the dynamic range can be modified easily by the performer to match the requirements of the part.

However, for the duet between the Low Bell and the Extra Violin II in the “Vanity Fair” section of the second movement, a set of 4 suspended handbells would be ideal: they can be placed near the Violin player and thus allow coordination between the parts, and their sonic projection is not a problem in the thin texture of that section.

Ether Organ
In the late 1920s Ives took interest in the original electronic instruments by Leon Theremin. Apparently inspired by their sonic possibilities, Ives annotated the MS scores to Three Places in New England, Orchestral Set No. 2, and the Fourth Symphony with optional doublings of various instruments by “Mr. Theremin’s Ether Organ.” It had long been assumed that this name was Ives’s colorful term for the space-controlled Theremin, the most popular and successful instrument invented by Leon Theremin. Recent research has revealed that the “Ether Organ” was actually the Keyboard Harmonium: a large, somewhat unwieldy keyboard instrument, each of whose keys operated a separate Theremin. Ives perhaps saw in the keyboard control of this instrument the possibility of precise pitch control, and perhaps then chose to reference it, not the space-controlled Theremin, when annotating his manuscripts.

In the Fourth Symphony Ives suggests that the Ether Organ reinforce the Cornet part in the second movement (mm. 200–206 & 213–216) and reinforce various instruments throughout the fourth movement (mm. 7–10, 27–28, 32–34, 65–76.) These appear in the full score and in a dedicated Ether Organ part.

Notice that the Ether Organ in the Fourth Symphony is required to play quarter tones in measures 32 and 34 of the fourth movement. This is something that might be better realized on a standard space-controlled Theremin than the keyboard-controlled Keyboard Harmonium. However, using an Ondes Martenot would perhaps be the best solution for the Ether Organ part: It is keyboard operated, thus allowing for precise intonation (something often quite problematic for the standard Theremin), and it can produce quarter tones through use of its slider and ribbon.

Alternative Notations
In movements I and II, passages marked with a dagger symbol in the score have two different notations in the corresponding parts: the original notation, as presented in the full score, and an analytical renotation that may help the player parse the rhythm correctly.

Dynamics
Ives’s dynamics should not be taken too literally. In the Distant Choir especially, it is often unclear whether the stated dynamic is the perceived volume of the part, given its spatial separation from the main orchestra, or the dynamic the instruments must play unto themselves.

Complicating matters is the use of the lettered “Prominence Indicators” employed in the second movement (see section titled Prominence Indicators below). In some cases the spatial separation suggested by the Prominence Indicators may be meant to improve the projection of individual dynamics; in other cases they may be meant to create the effect of the stated volume at the distance implied by the Prominence Indicator (e.g. the effect of loud music at a great distance.) The distinction, and thus Ives’s intention, is not always clear, and thus it should be a matter of interpretation by the conductor.

Perhaps because of his experience with smaller ensembles (e.g. theatre orchestras), Ives was often overly concerned with the sonic projection of certain instruments. For example, Ives is repeatedly concerned that the Flute not drown out the strings(!) The conductor should be wary that Ives’s understanding of the projection of instruments in a symphony orchestra may not have been clear, and thus his dynamics and verbal instructions may require tempering as each case warrants.

Prominence (Proximity) Indicators
Encircled letters in the second movement indicate the distance from the audience where the affected parts
should sound. Ives added these to the score after he heard the first and second movements on a concert on January 29, 1927, performed by a scaled-down orchestra of just 50 players.

Ives was fascinated by the way that an instrument’s volume sounds at varying distances, and the application of the physical “Prominence Indicators” in the second movement is his most explicit and complex experiment in that regard. There are 7 distances, signified by the letters A through G.

A complete realization of this aspect of the score would require enormous forces (several hundred players, in fact) because the physical distance for a given part changes every few measures. For a standard performance these indications should be ignored, except perhaps for understanding the quality of the perceived sound at a given moment. (See the entry on Dynamics for more in this regard.)

Placement of the Pianos

As in a piano concerto, the Solo Piano should be at the front of the orchestra, either directly behind or in front of the conductor. The Orchestral Piano should be separated from the Solo Piano by a significant distance on the stage. To aid in sonic projection, the lid of the Solo Piano should either be removed entirely or propped open (depending on its location behind or in front of the conductor). The lid of the Orchestral Piano should be removed entirely, or else its sound will be lost within the orchestra.

Quarter-tone Piano

The quarter-tone piano mixes quarter-tones and regular tones. Thus it cannot be played by a piano that is simply tuned up by a quarter-tone. So that the quarter-tone piano part may be played by a single player, the present performance edition supplies a scordatura part and tuning chart, in which the notes of the quarter-tone piano are mapped to unique keys; the part is in turn renotted to match those key mappings. Either a standard acoustic piano adjusted to the scordatura tuning or an electronic keyboard will work. (The set of parts includes a MIDI programming of the scordatura tuning that may be fed into a standard electronic keyboard; please consult the publisher for more information.)

Quarter-tone Notation

For the 1929 edition of the second movement, Ives used square-shaped notes to indicate quarter-tones. Modern notational practice for quarter-tones is not uniform, but it typically employs accidentals with arrows. However, arrowed accidentals prove difficult to recognize in passages where quarter-tones and regular tones alternate in quick succession, e.g., the “Beulah Land” section (movement II, mm. 217–224). For complete clarity, the Performance Score employs both a square-shaped notehead and an arrowed accidental for each quarter-tone note.

The “Collapse Section” and Other Non-synchronized Temporal Effects

Several passages in the symphony divide the orchestra into different groups that either play at a tempo that is a fixed ratio of the main orchestra’s tempo or at an unrelated tempo. In order of presentation in the score:

1) The Distant Choir in Movement I, mm. 5–26

Here the D.C. continues the tempo established for it in m. 4, repeating the material if it reaches m. 26 before the main orchestra. Judicious cueing or an assistant conductor will facilitate this passage.

2) The first page of Movement II

Here there are three events to consider:

(A) The Bassoons play 2 measures of \( \frac{7}{4} \) against the 5 measures of \( \frac{6}{8} \) in the main orchestra. The Bassoon players should be able execute this alone—with the first Bassoon acting as the leader of the duct—once a good tempo can be established that allows them to finish the passage with the rest of the orchestra.

(B) Starting at m. 3, the Solo Piano must subdivide 5 unique measures against 3 measures in the main orchestra, accelerating and decelerating as it plays.

(C) The Bases are not synchronized with the Main Orchestra, and their material “controls the page” (as Ives writes), with one player acting as leader. The graphical alignment of the Bases in this engraving is misleading, because after the Main Orchestra reaches the fermata at the end of m. 5, the Bases should still be sounding their music. For this reason, it is essential for the Bases to play at a slower rate than the Main Orchestra (perhaps \( j = 65–70 \)) so that they do not finish first. A slow, tremoloed, whole-tone glissando in the Bases then leads the Orchestra to the downbeat of the next page.

The music of the Bases parses into 3, and the notation here employs dotted barlines to help coordinate the players. The Bass music is cued in the Cello part. If Cellos are used, the Assistant Conductor should be employed to set the tempo and coordinate the two sections.

3) Movement II, mm. 37–38

Clarinet, Trumpet 1, Secondo Orchestral Piano, Indian Drum, and Solo Piano perform through the first quarter note of m. 38 in the same tempo as the previous measure, resynchronizing with the main orchestra immediately thereafter.

4) The “Collapse Section” — Movement II, mm. 43–51

In this section the orchestra divides into an Upper Orchestra Allegro in \( \frac{3}{4} \) (comprising winds, brass, pianos, and timpani) and a Lower Orchestra Adagio in \( \frac{2}{3} \) (comprising the remaining percussion and strings.) Initially the Allegro \( \frac{3}{4} \) measure = Adagio \( \frac{2}{3} \) measure, with \( \frac{4}{4} j = 66.66 \) and the \( \frac{3}{2} j = 50 \). (Triplet within the \( j = 66.66 \) tempo articulate a 3+3+2 rhythm in which the triplet \( j = 100 \), wherein the Allegro truly resides.) Two measures later, at m. 45, the Allegro begins to accelerate to
\( \text{J} = 126 \), all the while the *Adagio* of the Lower Orchestra holds its tempo. Eventually the Upper Orchestra “collapses” its m. 51 some time before the Lower Orchestra plays its m. 51. The two groups resynchronize without pause in m. 52. The engraving of the score graphically illustrates the initial synchrony and eventual dysynchrony of the two groups.

A second conductor will facilitate execution of this section, although a well-rehearsed Lower Orchestra may be able to sustain its own tempo so that a single conductor might lead the Upper Orchestra during this passage. However, a single conductor would then be challenged to locate his place in the Lower Orchestra’s material to resume conducting. (This is an example of a passage where a second conductor might be necessary, and the visual drama of two conductors may create a more exciting performance than a tour-de-force by a single conductor.)

There is one additional complication to this passage: When the Upper Orchestra reaches m. 51, the Basses in the Lower Orchestra must jump ahead to their own m. 51. They must then sustain the tremoloed chord in m. 51 until the rest of the Lower Orchestra catches up with them, at which point they synchronize with the Lower Orchestra. Therefore, the conductor of the Upper Orchestra must cue the Basses when the Upper Orchestra reaches m. 51, and the conductor of the Lower Orchestra must cue them again when the Lower Orchestra reaches m. 52 so that the Basses may re-synchronize.

5) **Battle of the triplet groups, movement II, mm. 55–58**

A single conductor may be sufficient for this passage, but care should be taken to clarify the music to the groups so that they understand the material they are executing. The Performance Score divides the instruments into a main orchestra and three groups. Group 1 performs a triplet pattern on the main beat; Group 2 performs the same orchestra and three groups. Group 1 performs a triplet pattern group an instrument belongs.)

6) **Movement II, mm. 115–122**

The orchestra here is temporally synchronized, but two distinct subunits are articulated: The main group plays a treatment of “In the Sweet” in a repeating period of 11 eighth beats; for convenience in coordinating with the other players, however, this is notated in \( \frac{5}{8} \). Simultaneously a group of approximately 20 players play contrasting material that divides into 2 large beats for every \( \frac{5}{8} \) measure of the other group. While two conductors may be effective for this section, a single conductor may negotiate this by rehearsing the two groups separately, then employing a common beat pattern (perhaps 2) for the full orchestra. (Each part indicates to which beat-pattern group an instrument belongs.)

7) **Slowing of the train wheels: Movement II, mm. 141–145**

Ives depicts the train coming to rest at Vanity Fair by a technique opposite of what might be expected: Saxophone, Bassoon, and Percussion maintain the tempo of m. 141 and dissipate within that tempo (i.e., dropping notes until nothing is left) while the main orchestra decelerates independently. While the Percussion may be able to coordinate as a group here, it will be difficult for the Saxophone, Bassoon, and Extra Violin II (discussed separately below) to coordinate with the Percussion without help from a second conductor.

8) **Extra Violin II: Movement II, mm. 142–161**

The Extra Violin II joins the “Strict Tempo” group of Saxophone, Bassoon, and Percussion at m. 142 and continues that tempo into the “Vanity Fair” section (starting with m. 149). Through m. 145 it is synchronized with the “Strict Tempo” group, and thus may follow a second conductor leading that group, but starting with m. 146 (i.e., its own m. 146) it continues playing at the same strict tempo, independently of the main orchestra.

9) **Extra Violin II and Low Bells: Movement II, mm. 149–161**

Just after the initial flourish in the Solo Piano part at m. 149, the Low Bell must enter and coordinate with the Extra Violin II. (A cue from the conductor will be needed.) The Low Bell simply articulates the low structural tones of the Extra Violin II part in its pattern of 5 sixteenth notes. It is essential here that a special set of Low Bells (only the 4 pitches needed) be placed near the Extra Violin II player so that the two players may coordinate the combined part. (There is time for the Low Bell player to walk to this set and then back to the main set before and after this section.)

A set of 4 hung handbells struck lightly with a mallet should suffice for this part. (See the discussion of the High Bell and Low Bell part above for more information on the instrumentation of the Low Bell part.)

10) **\( \frac{3}{2} \) vs. \( \frac{1}{4} \): Movement II, mm. 200–207 & mm. 211–216**

In these sections half the players play in 3, the other half in 4. While two conductors would be effective (and dramatic) here, independent rehearsal of each group might allow execution by a single conductor, although no common beat pattern could support the rhythmic intricacies of many of the parts (e.g. the nested triplets of the \( \frac{3}{2} \) Violin writing in mm. 200–207 cannot be resolved to \( \frac{1}{4} \).)

11) **Extra Violin II: Movement II, mm. 217–224**

The Extra Violin II here plays approximately 5 of its quarters to the \( \frac{6}{8} \) bar, but not exactly, and so it performs independently of the main orchestra. It should repeat its
pattern through the end of m. 224, rejoining the main Violin II section on the downbeat of m. 225.

12) Primo Orchestra Piano: Movement II, mm. 250–254
The Primo player repeats its figure of m. 250 faster and faster until it is twice its original speed by m. 253; it is rather essential that the player be cued at m. 254 so that it may synchronize with the main orchestra.

13) The BU percussion in Movement IV
The relationship between the BU and OU in movement IV is discussed below in “BU vs. OU: Tempos in the Fourth Movement”

14) Orchestra Piano in Movement IV; mm. 29–31
Here the Orchestra Piano plays a subdivided pattern of 8 eighth notes against every group of 3 quarter beats in the main orchestra. While an additional conductor might be helpful, it may be simpler to have the player listen for the dotted-half beat pattern established by the Trumpet in m. 29 and simply continue the subdivided pattern independently. A cue for the Orchestra Piano player at the start of m. 32 will facilitate re-coordination.

15) Orchestra Piano in Movement IV; mm. 40–44
The Primo Orchestra Piano here maintains the tempo of m. 39, playing its subdivided quarter values in mm. 40–44 in the same tempo as the dotted quarter notes of m. 39 and prior to that. Because of this, the Orchestra Piano is in fact playing with the BU in an exact relationship. However, the upbeats of the Orchestra Piano are the downbeats of the BU, and vice-versa, so the player cannot simply look at the beat pattern of the BU conductor (if one is employed.)

It will be simplest for the Orchestra Piano player simply to extend the tempo of dotted quarter notes in m. 39 to the subdivided quarters of the quartuplet figures in mm. 40–44, and play independently through m. 44. (I.e., the dotted quarter of m. 39 becomes the quartuplet quarter of m. 40; the player only needs to think of the dotted quarter in m. 39 as a triplet quarter, and then employ that value for the triplet quarters within the quartuplets of m. 40.) A cue for the Orchestra Piano player at m. 45 will facilitate recoordination.

16) 3/2 vs. 3/2: Movement IV, mm. 59–63
In this section the Flutes, Oboes, Clarinets, and Violins play in 3/2 against the 3/2 of the rest of the Orchestra. The 3/2 parts contain the original notation as well as an ossia translation into 3/2 (difficult). Because reading these rhythms in 3/2 is much easier, this passage would benefit from an assistant conductor to help coordinate the 3/2 instruments.

BU vs. OU: Tempos in Movement IV
The BU (“Beat Unit” or “Basic Unit”) and the OU (“Orchestra Unit”) are related throughout the fourth movement by precise tempo relationships. In simplest terms, the BU plays at a constant tempo and the OU plays in contrasting tempos that are proportionately greater than the BU; at the end the tempos of the two groups align.

The temporal poetry follows a symmetrical bridge (or arch) form:

mm. 1–23: OU = BU x 1.5 (Tempo Primo)
mm. 24–26: OU = BU x 2
mm. 27–39: OU = BU x 1.5 (Tempo Primo)
mm. 40–49: OU = BU x 1.25
mm. 50–63: OU = BU x 1.5 (Tempo Primo)
mm. 64: OU = BU x 2
mm. 65–71: OU = BU x 1.5 (Tempo Primo)
mm. 72–88: OU = BU

If the BU is held constant, then a single conductor might succeed in coordinating the two groups, but only if the OU tempo relationships are precise.

However, Ives’s MS contains memos indicating a flexible swelling of the aggregate tempo at various points in the movement. For example, at m. 27 the temporal relationship between OU and BU is 1:1.5. If the BU has previously been at half-note=40, then the OU here should be half-note=60. However, if the conductor of the OU wishes to propel the OU to a speed greater than 60, then the tempo for the BU will have to increase in like proportion. So, if the conductor employs half-note=75 at m. 27, then the BU will have to increase to half-note=50 (because 50 x 1.5 = 75, which fulfills the 1:1.5 ratio at that point).

There is music in the OU that matches the tempo of the BU at key moments in the movement (e.g. mm. 40–44 in the Orchestra Piano, mm. 65–70 in the upper woodwinds and high bells), where Ives states explicitly that the OU parts play with the BU. Thus it is rather essential that the BU be coordinated with the OU throughout the movement. This in turn makes a second conductor indispensable: It frees up the principal conductor to make personal tempo choices without concern for the coordination of the BU; the conductor of the BU will simply modify its tempo so that the correct temporal proportion (1:1.5, 1:1.25, 1:2) will obtain with the OU.

Like the Distant Choir (of 5 Violins and Harp), it may be desirable to separate the BU from the OU spatially, perhaps offstage, or at some distance in the concert hall. The location of the BU should allow two conductors to maintain visual contact throughout the movement.

For simplicity, the Performance Score assumes a fixed tempo for the BU at half-note=40; the resulting proportional tempos for the OU are provided throughout. Deviations from this tempo scheme may easily be derived from the BU-OU temporal proportion equations, which are likewise provided throughout the movement.

Alternate Snare Drum Part: Movement IV, mm. A-G
Ives originally wrote the opening of the fourth movement as found on page 102 of the present score, with Basses
entering at the start along with the Percussion. Then Ives decided that the Percussion should play the first 7 measures alone, without the Bases. To do this he simply bracketed the Percussion part in the MS with a text instruction that the movement should begin first with the Percussion cycle sounding alone, then repeating with the Bases and onward through the movement as realized in this edition.

There’s a problem with this, however. The basic pattern played by the Percussion is in fact 7 measures long, except for the Snare Drum: its cycle is a half rest longer than the cycles of the other instruments. Repeating the first 7 measures twice as written will result in the Snare Drum losing a beat of its cycle between the first and second pages of the score.

The Alternate Snare Drum Part is a shifting of the Snare Drum’s first 7 measures so that its cycle is complete in the transition from page 101 to page 102 of the present score. Be aware that the opening two beats of the Snare Drum part have been dropped in the Alternate part to accomplish this.

**Thrush Calls: Movement IV**

In mm. 32–33, m. 64, and m. 72 the upper winds play quick figures that are marked “Thrush.” These are imitations of the Thrush, a bird whose trilling call Ives would have heard frequently in New England (the Hermit Thrush, for example, is the State Bird of Vermont). It is essential that the figures be played quickly, so that they sound like a bird call. Players might also add a flutttertongue to the final note of each three-note figure to imitate the Thrush’s trill.

Notice that in m. 32–33 the Thrush calls—Ives’s invocation of nature—and the interjection by the Distant Choir—the “Heavenly Host”—complete the directive of the final measures of the third movement, in which the Trombone quotes from the Hallelujah Chorus, “Let Heaven and Nature Sing...”

**Celesta Tessitura**

In the Fourth Symphony MS Ives indicates in places that the Celesta part should sound at the written pitch. This perhaps stems from his concern about sonic projection and his fears about instruments drowning out one another (see the entry above on Dynamics).

In the Celesta part the music is presented as Ives wrote it, with resulting pitches sounding an octave higher than written. If the Celesta is to sound at the written pitch, as Ives suggests in some places in the MS, then the whole part would need to be played an octave lower than written. The problem there is that at written pitch, the Celesta would become completely inaudible in Ives’s thick orchestral textures. It is therefore unadvisable for the Celesta part to be played an octave lower. Playing the part as written, sounding an octave higher than written, allows the part to project and to be audible.

**Dynamic Swell in the BU**

The initial crescendo swell in the BU in the fourth movement is apparently desired for the entire movement (evidence for this is found in the oblong MS score.) The performance edition realizes the crescendo and decrescendo wedges throughout the score below the Gong part, although it correctly applies to the entire BU section.

Care must be taken to attenuate the dynamics, however. In many cases the forte endpoint of the swell matches structural high points in the music of the OU. In other cases the forte (and/or the soft tapering) works against the character of the music in the OU. It is likely that Ives did not consider these occasional clashes of character, and so the conductor might instruct the BU to attenuate its swell and recession according to the character of the music on a section-by-section basis.

**Measure Numbers and Rehearsal Numbers**

Each movement in the Critical Edition and in the Performance Score uses standard measure numbers. However, because of the need to rework multi-metric passages (where, for example, 4 measures in the Critical Edition became 8 measures in the Performance Score), the measure numbers are different between the two scores. It is therefore important to keep this in mind when comparing the two scores, and especially important only to use the Critical Edition for scholarly reference, not for rehearsal or performance purposes.

The Critical Edition retains the boxed rehearsal numbers that Ives applied to the first and second movements, and they are carried over into the Performance Score. However, to avoid confusion between rehearsal numbers and measure numbers (e.g. rehearsal 12 is at measure 65), the letter A is pre-pended to the rehearsal numbers in movement one (thus [A1] [A2] [A3] etc.) and the letter R is pre-pended to those in movement 2 (thus [R1] [R2] [R3] etc.) Thus rehearsal [R12] is at measure 65, etc. (The letter R is chosen for movement 2 instead of B so as not to conflict with prominence letter B; see the entry on the Prominence Indicators.)

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