PART ONE

Thirty-seven ways to write a twelve-tone piece

1 "Ultramodern" composers: Adolph Weiss, Wallingford Riegger, Carl Ruggles, and Ruth Crawford Seeger

The first phase of twelve-tone serialism in America unfolded largely under the banner of Henry Cowell's New Music enterprises, including performances, publications, and recordings (Mead 1981). The small group of self-described "ultramodern" composers gathered around Cowell (Adolph Weiss, Wallingford Riegger, Carl Ruggles, Ruth Crawford) adopted Schoenberg's twelve-tone method because it intersected and amplified some of their own compositional concerns, including a linear/contrapuntal approach to music (reacting against a Romantic texture of melody and chords) and a commitment to "dissonance" (that is, non-triadic, atonal harmony).[1] They wanted to write "dissonant counterpoint," and Schoenberg's method, as they chose to understand it, permitted them to do so.

Adolph Weiss and "twelve-tone rows in four forms": Prelude for Piano, No. 11 (1927)

The history of twelve-tone music in America begins in May 1927, the month Adolph Weiss returned from studying with Schoenberg in Vienna and Berlin and composed the first twelve-tone pieces written in America by an American composer. During the three-year period from 1920 to 1923, Schoenberg had developed his "method of composing with twelve tones related only to one another" in a series of compositions: *Klavierstücke*, Op. 23; Serenade, Op. 24; Suite, Op. 25.[2] Schoenberg did not reveal his method publicly, even to his students, until February 1923, shortly before Weiss arrived to study with him.[3] In the almost complete absence of published descriptions, scores, recordings, and performances of twelve-tone music, Weiss became an important source of information for the group of "ultramodern" composers gathered around Henry Cowell (especially Wallingford Riegger, Ruth Crawford, and Carl Ruggles).[4]

Little trace remains of Weiss as a composer, but he has the dual historical distinction of being Schoenberg's first American student and of being the first American to write a twelve-tone piece. Born in Baltimore of German

immigrants, Weiss was bilingual in English and German.[5] He was an accomplished bassoonist, a member at different times of the New York Philharmonic, the Chicago Symphony, and the Rochester Symphony orchestras, among other groups. After some modest early success as a composer – he had an orchestral piece played at the Eastman School of Music's first American Music Festival (1925) under the direction of Howard Hanson – Weiss moved to Vienna to study with Schoenberg.

Weiss's studies began in the fall of 1925 with private lessons at Schoenberg's home in Vienna, and continued in Berlin in the winter of 1926 after Schoenberg assumed a position there as professor of composition at the Prussian Academy of the Arts.[6] It is not clear to what extent Schoenberg made his twelve-tone method a subject of his teaching in Berlin. Throughout his life, Schoenberg's teaching generally focused on the canonical composers and compositions of the tonal tradition, and his extensive pedagogical writings virtually ignore the twelve-tone method.[7]

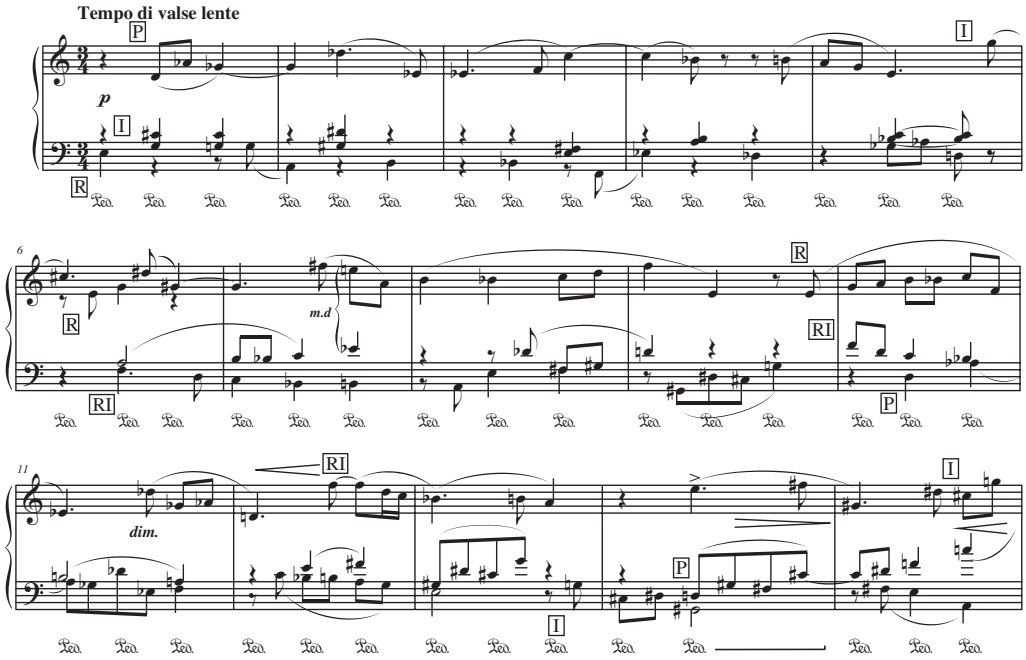
Weiss's published account of his studies with Schoenberg – "The Lyceum of Schoenberg" (Weiss 1932) – is almost entirely concerned with issues of form and motivic development. The few comments Weiss does make about twelve-tone composition are strikingly inaccurate as a characterization of Schoenberg's practice:

> The twelve-tone series is the "law" of the composition, the working material, not the theme but only the material for the theme … The series may be divided or sub-divided into smaller groups of related motives, and any group may be joined to any other to form new combinations. "Free" tones (those that do not belong in the strict sequence of the series) may be interpolated between tones of the series, or between the groups composing it. The twelve-tone series may be used in transposition and in all sorts of combinations. Often the tones are scattered among various voices. Sometimes they are only the first notes of a sequential figuration. Naturally the various methods of applying the series will not always be perceptible to the ear. This particular form of technic [has] possibilities [that] are unlimited, first because the choice of the series (which takes the place of the key, scale, or tonality) is arbitrary. (Weiss 1932, 102)

It would be hard to imagine a less helpful account of Schoenberg's method – too vague to be of much use and, where its meaning is clear, largely wrong. In a charitable mood, one might be tempted to imagine this as the first in a long line of creative misreadings of Schoenberg by American composers in the prewar period.

And yet Weiss's own compositions show unmistakable familiarity with the music of the master.[8] Example 1.1 reproduces the first fifteen measures of No. 11 of his Twelve Preludes for Piano (1927).[9] The rhythm, texture, and

Example 1.1. Adolph Weiss, Prelude No. 11 (1927), mm. 1–15.



phrasing of the work are clearly designed to evoke a waltz, as suggested by the tempo indication, "tempo di valse lente," with its strange amalgamation of Italian and French. Weiss apparently shared Schoenberg's impulse (most obviously in his Suite, Op. 25) to compose in traditional dance forms.

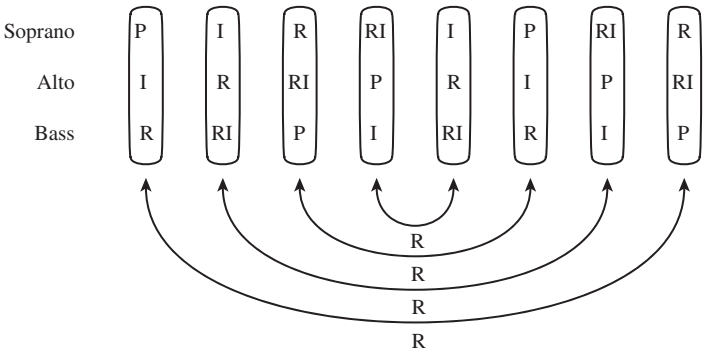
Weiss also seems to have followed Schoenberg in imagining a quartet of row forms as defining a basic harmonic area for a composition.[10] This Prelude involves three distinct voices – upper, middle, and low – each moving systematically through a basic, referential quartet of row forms: a series, its inversion, and the retrogrades of these (see Example 1.2). The music in Example 1.1 corresponds to roughly the first half of this array.

Weiss's own analytical comments on the piece call attention to this aspect of its construction:

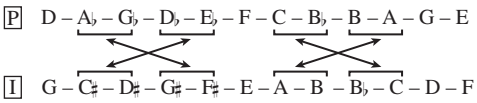
> No. 11 consists of twelve-tone rows in four forms, the first the natural form, the second the inverted form, the third the crab-form of the natural form, the fourth the crab-form of the inverted form. These various forms are combined simultaneously throughout, horizontally and vertically.[11]

With his "four forms," Weiss has created an ingenious design, one that bespeaks familiar serial impulses toward symmetry and combinatorial completion. Each individual part is retrograde-symmetrical: the first series

Example 1.2. Weiss, Prelude No. 11 (1927). Three-part array of row forms.



Example 1.3. Weiss, Prelude No. 11. P- and I- forms of the series.



form is the retrograde of the last; the second of the second-to-last, and so on. As a result, the columns of the array are retrograde-symmetrical around the midpoint: the entries in the first column are the retrograde of those in the last, those in the second column are the retrograde of those in the second-last column, and so on. Within each half of the array, the four possible three-voice combinations of the four series forms (P+I+R; I+R+RI; R+RI+P; RI+P+I) are each represented once. What is more, the order of the series forms vertically within each column – always a segment of the sequence P–I–R–RI (wrapping around to P) – corresponds to their order within each voice (again, always a segment, sometimes rotated and wrapped around, of P–I–R–RI).

In the music, the array is realized quite literally at first, with the first two columns of the array corresponding closely to the first two well-articulated phrases of the music. Thereafter, while the lower two voices remain closely synchronized, the top voice moves more rapidly ahead, and thus out of alignment. Only by virtue of a relatively leisurely statement of its final series form does the upper voice restore the alignment of all three voices at the end of the work.

The series for the work (P) and its associated inversional form (I) are shown in Example 1.3. As the example suggests, Weiss's basis for associating these two forms appears to be the pitch-class segments they share: both contain the whole-tone dyads G♭–A♭, D♭–E♭, B♭–C, and A–B. The first pair of dyads describes a segment of the circle of fifths: G♭–D♭–A♭–E♭. The

second pair of dyads combines to produce a chromatic tetrachord (A–B♭–B–C), a segment of the circle of minor seconds. In content (but not order), this corresponds to the familiar B–A–C–H tetrachord, employed by Schoenberg in his Suite, Op. 25, a work that Weiss was doubtless familiar with.

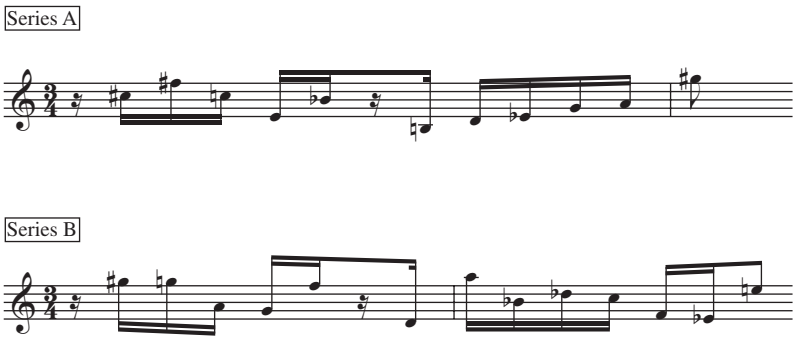
Because only these two series forms and their retrogrades are in use, these invariant dyads and these cyclic tetrachords are heard constantly throughout the work, and the contrast between the diatonic orientation of one and the chromatic orientation of the other is part of the rhetoric of the piece. Ironically, Weiss's twelve-tone commitment to the aggregate as a basic structural unit thus creates the condition for significant repetition of pitch classes. Despite its reputation, the twelve-tone method, at least as practiced by Weiss, might be better characterized as a system for creating rather than for avoiding repetition of notes. In its evocation of a traditional dance form, its close correspondence between serial structure and phrase structure, and its reliance on four basic forms of the series, Weiss's Prelude strongly recalls the early twelve-tone music of Schoenberg. In its elegant, retrograde-symmetrical three-part array, however, Weiss expresses his own distinctive serial conception.

When Adolph Weiss returned from Berlin in May 1927, his prolonged contact with Schoenberg and his own growing portfolio of twelve-tone pieces made him a central figure in American avant-garde circles. He joined with Charles Ives, Edgar Varèse, Carl Ruggles, Wallingford Riegger, and Henry Cowell in creating the new Pan-American Association of Composers, with Weiss as secretary (a position he held for the next seven years).[12] Through the PAAC and his own activities as a composer and performer, Weiss was in a position to inform his colleagues about contemporary developments in Vienna and Berlin, to act as a conduit for the twelve-tone method, and thereby to shape the course of modernist composition in America.

Wallingford Riegger and the serial/chromatic dichotomy: *Dichotomy* (1931–1932)

Given the paucity of other sources, it seems likely that Wallingford Riegger learned much of what he knew of the twelve-tone method from his personal contact with Adolph Weiss.[13] Riegger was already composing rugged, dissonant, atonal music in what was emerging as a shared "ultramodern" style, but he became increasingly interested in the possibilities of the twelve-tone method. In 1932, he completed his first piece that can reasonably be

Example 1.4. Wallingford Riegger, *Dichotomy*. Series A and B.

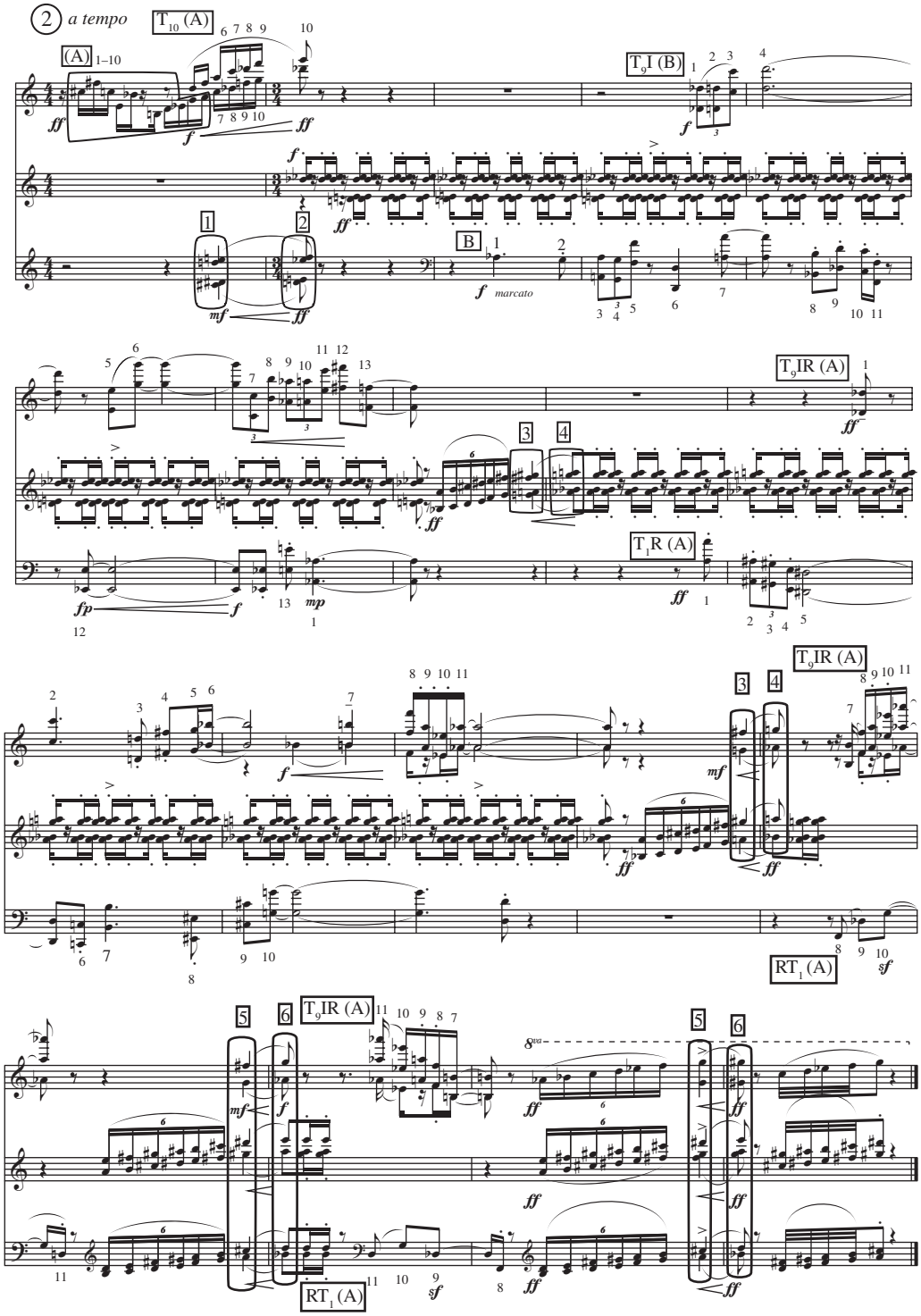


described as twelve-tone in significant respects (*Dichotomy*), and thereafter most of his instrumental music was serial at least in part.[14]

Dichotomy uses two series. In the published score, Riegger labels them A and B and identifies their occurrences and transformations (inversion, retrograde, retrograde-inversion) in the score (see Example 1.4).[15] Series A contains eleven of the twelve notes (F is excluded). Series B contains thirteen notes (F♯ and B are excluded; F, G, and A are each stated twice). The last three notes of Series A (G, G♯, and A) return as the first three of Series B – the two series otherwise share no segments. What they do share, however, are some of the characteristics of ultramodern melody: variety of interval and pitch (the latter, of course, endemic to serialism) and an avoidance of triadic outline or implication.

In the passage shown in Example 1.5, there are two distinct musical streams, one serial and the other not. Within the serial stream, we hear an ongoing duet, pitting either Series A or B against its own inversion. These are driving, craggy, widely spaced melodic lines. In the opening of the passage, Series B, played by the lower strings and bassoon, is heard against its inversion at T_9I, played in the upper woodwinds. The two melodies are mirror images of each other in register – this is a pitch, not a pitch-class inversion. Subsequently, the T_1 transposition of A (in retrograde) is heard against the T_9I inversion of A (also in retrograde). Again, the contours of the two melodies are largely mirror images, although this breaks down at the end of the passage, when each melody ruminates on its concluding four or five notes. Throughout these duets, and throughout the piece, Riegger maintains a concrete conception of the series as an actual melody with a specific contour. When the series is transposed or transformed (via inversion and or retrograde), its rhythms may change, but its registral shape

Example 1.5. Riegger, *Dichotomy*, Rehearsal 2–3: Series labeled as A or B by Riegger (additional serial labels added). Non-serial chords numbered 1–6.



generally remains the same. For Riegger, a series was primarily a line of pitches (not pitch classes), an actual melody with a determinate contour.

In the passage in Example 1.5, there is a second, non-serial stream. It consists of pairs of four- or six-note chords. These chords, sometimes preceded by ascending scales in parallel major sevenths, punctuate the passage, dividing the serial duet into discrete phrases. The chords are also extended into the driving rhythmic ostinato that runs through most of the passage. The resulting musical texture is about as far removed from Schoenberg's (and Weiss's) neo-Baroque dances as possible, showing a much greater aesthetic kinship with works like Stravinsky's *Rite of Spring* and Bartók's *Allegro Barbaro*. Apparently Riegger understood right from the beginning that the serial approach is not wedded to any specific style or texture; rather, it is a way of thinking about and organizing tones related only to one another (not to a tonic), permitting many different kinds of musical realizations.

The chords are identified with numbers in the score in Example 1.5. The first chord is a segment of the chromatic scale (which Riegger would have understood and described as a "cluster chord") arranged as two whole tones a minor ninth apart. The first chord is then transposed up a semitone to produce the second chord. Taking the first two chords together, we have a five-note segment of the chromatic scale: C♯–D–D♯–E–F. The third and fourth chords transpose the first and second up by a perfect fourth (but not in register), producing another, non-overlapping segment of the chromatic scale: F♯–G–G♯–A–B♭. The fifth chord repeats the notes of the third chord, adjoining to them the lower whole tone of the first chord. The sixth chord transposes the fifth chord up by a semitone, and thus consists of the content of the fourth chord to which the lower whole tone of the second chord has been adjoined. The fifth and sixth chords together thus project almost the entire chromatic aggregate (only B, C, and F are missing). The chordal stream in this passage thus involves the dissonant major seventh (or minor ninth) as a harmonic interval and a preference for verticalized segments of the chromatic scale.[16]

Riegger's way of writing a serial piece has two central features that remain consistent throughout the rest of his career, and typify serial music by other ultramodern composers, including Ruggles and Crawford. First, the series is understood as and presented as a melodic line. There are no fancy partitioning schemes, no dispersion of the series among different registers and instrumental lines, no verticalization of the series to form chords. Rather, a series is a self-contained tune, one that shares the qualities of non-serial melodic lines written by the same composers, namely rugged, jagged,

dissonant profile, avoiding both triadic outlines and rhythmic periodicity. Second, the series does not shape the entire musical fabric. Rather, the serial melodic lines are heard in opposition to non-serial music. In *Dichotomy*, the non-serial material consists primarily of "cluster" chords and other manifestations of the unordered chromatic scale. The fundamental dichotomy in this music appears to involve a contrast between serially ordered melodic lines and unordered chromatic collections.

Riegger's engagement with serialism was in part an expression of his left-wing political views. Like his fellow ultramoderns, particularly Cowell and Charles Seeger, the rigors of the Great Depression led him to adopt strong Communist sympathies: "Communism is the *only* way out of the whole mess."[17] According to Seeger, Riegger was a "block worker for the Party."[18] Riegger apparently understood the serial idea as a form of musical resistance to the prevailing order. Unlike Charles Seeger or Ruth Crawford Seeger, Riegger never changed his style in the interests of mass accessibility; he persisted throughout the rest of his compositional career in the belief that his radical musical style was an apt expression of his radical political views.

Riegger was active through the 1950s, and his music comprised a vital link between the prewar serial experiments of the ultramodern composers and the upsurge of serial composition in America after the war. His basic approach to serial composition – with serial melodic lines (not necessarily involving all twelve tones) pitted against contrasting, non-serial elements in a heterogeneous musical texture – remained consistent throughout his career and defines a persistent theme in American serial music more generally.

Carl Ruggles and "dissonant counterpoint": *Evocations II* (1941)

Like Weiss and Riegger, Ruggles was a central figure in the circle of ultramodern composers gathered around Henry Cowell and sustained by his New Music enterprises. Another member of the circle, Charles Seeger, had formulated a concept of what he called "dissonant counterpoint," and this became a defining characteristic of ultramodern composition generally, and of Ruggles's music in particular.[19] Dissonant counterpoint involves (1) melodic lines that avoid repetition of notes or intervals and avoid outlining consonant triads, but which nonetheless maintain a high degree of motivic consistency; and (2) independence of such melodic lines within a contrapuntal texture, with the traditionally dissonant intervals (especially minor seconds, major sevenths, and their compounds) formed between