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Interval Pairing in a Serial Context: Webern's Variations, Op. 30

ABSTRACT

Background

In post-tonal music, composers often emphasize a pair of interval classes and treat them as building blocks of structure, whether for a brief passage, a longer section, or sometimes even an entire piece. My own analytical work has focused largely on the combination of interval classes 1 and 5, particularly in the music of Shostakovich (Brown 2009), but also in pieces by Stravinsky and Bartók (Brown 2013). Others have also discussed ic1/ic5 pairing in various composers: for example, David Heetderks (2011) in Copland, Stephen Slottow (2009) in Ruggles and Joseph Jakubowski (2014) in Lutoslawski.

Certain factors make ic1 and ic5 a particularly natural combination. For one, they are the only two interval classes that can individually generate the aggregate (through the chromatic scale and the circle of fifths); thus together, they offer a uniquely flexible way to navigate pitch-class space. Moreover, ic1 and ic5 are opposites in terms of consonance and dissonance, and therefore can combine to create vivid musical contrasts.

Aims and repertoire studied

Despite the virtues of ic1/ic5 pairing, other interval combinations do occur with some regularity—as for example in the music of Webern. To take one instance from his freely atonal music, the third movement of the Pieces for String Quartet, Op. 5 opens by featuring two main trichord types, [014] and [015]. Both set classes result from combining interval classes 1 and 4; and thus these two interval classes serve as the common denominators that provide the foundation for the music. The opening of the second movement of the Concerto, Op. 24, furnishes a related example from Webern's serial music. In this passage, ic1 and ic4 once again underlie the music, but now even more clearly. In the melodic line, all the intervals belong to ic1 or ic4. In the piano part, each vertical dyad conveys ic1 or ic4. And finally, each of the vertical trichords formed by the melody and the piano conveys either [014] or [015] (again, the two possible trichords that result combining ic1 and ic4).

It is well known that Webern's twelve-tone rows often focus pitch resources in certain ways—for example, by limiting the number of set classes among the discrete (i.e., non-overlapping) trichords or tetrachords of the row. For instance, the row of Op. 25 divides into three [014] trichords and a single [015]; the row from Op. 24 is made entirely out of [014]s; and the Op. 28 row consists of just three [0123]s. On a related level, Webern also tends to limit the number of interval classes between adjacent notes in a row. For example, the row of Op. 18, No. 2, contains only interval classes 3 and 4 between its notes, except for a single instance of interval class 1 at the end. In the rows of Op. 20 and Op. 28, all of the adjacencies likewise belong to just three interval classes. This phenomenon culminates with the row from Webern's Variations for Orchestra, Op. 30, where every single adjacent interval belongs to either ic1 or ic3. As a result, an emphasis on those two interval classes is built into the piece on a fundamental level.

One might caution that though a musical feature could be prominent in a twelve-one row, a composer might not choose to highlight that feature in the music. In Webern's case, however, he tends to convey row segments as melodic gestures traded between different parts of the texture: one instrument takes the first few notes of the row, another instrument takes the next few notes, and so forth. As a result, if the row emphasizes certain interval classes, then those interval classes will emerge clearly within the melodic dimension of the music. This is the case in Op. 30: owing both to the row itself along with Webern's handling of it, the piece is pervaded by interval classes 1 and 3, to the extent that we could describe the entire work as an extended study in ic1/ic3 pairing.

Methods and Implications

Though the piece has received significant attention from previous analysts (cited in the bibliography), the issue of ic1/ic3 interaction has gone under-examined. Adopting and extending my previous work (Brown 2003), this paper uses a *Tonnetz* model to explore ic1/ic3 relationships in the piece. Whereas my earlier work has focused primarily on interval pairing in non-serial music, this paper carries my methodology more fully into the realm of twelve-tone music, shedding new light on a significant work of Webern as well as an important facet of Webern's compositional language.

A few brief examples can provide a preliminary sense of how this approach illuminates relationships in the piece. During the theme and first two variations, Webern forefronts the row's three disjunct tetrachords, presenting them as both chords and melodic segments. The first and third tetrachords of the row belong to set class [0134], while the second expresses set class [0347]. Both set classes occupy compact regions within an ic1/ic3 *Tonnetz,* but assume different shapes: [0134] takes the form of a square, [0347] that of a rhombus. Thus the tetrachords do not relate by a shape-preserving *Tonnetz* flip or rotation, but instead by a "shear" (or "rubber-sheet") transform. This tetrachordal approach is particularly evident in the second variation: it is almost entirely constructed out of four-note chords, all members of [0134] or [0347] drawn from adjacent notes of the row. In this variation, the shear transformation not only relates the chords to each other, but also accounts precisely for the registral placement of every note in each chord.

In the following variation, Webern proceeds in a new direction, now focusing more on trichords. Each of these trichords stems from a segment of the row and combines moves by ic1

and ic3, always resulting in a version of [013] or [014]. All of these trichords take the form of triangles in an ic1/ic3 *Tonnetz*, and can be related to each other with either flips or rotations in the *Tonnetz*.

In the sixth and final variation, the music emphasizes tetrachords once again, and in fact begins with a pair of four-note chords. During this variation, Webern presents four simultaneous row forms at a time, and these opening chords combine single notes drawn from each of the four different row forms. These opening sonorities therefore result not just from the internal structure of the row but also from Webern's choice of row forms. Of these four row forms, three are transpositions of the original row—specifically, P_4, P_6, and P_7. P_6 and P_7 are related by ic1, while P_4 and P_7 are related by ic3. Thus ic1 and ic3 not only saturate the row itself but also influence Webern's choices in combining rows with each other—making an ic1/ic3 interpretation all the more appropriate. In the case of the two opening chords, they can both be interpreted as compact T-shaped regions in an ic1/ic3 *Tonnetz*. These T shapes relate to each other by flipping about a diagonal axis in the *Tonnetz*, I relationship I refer to as "interval exchange" (Brown 2003).

In sum, Webern's twelve-tone writing in the Variations enables him to employ interval pairing in a particularly comprehensive and systematic way, and an analytical approach centering on the *Tonnetz* can illuminate this interesting facet of his compositional language.

Keywords

Webern, Twelve-Tone, Dodecaphony, Interval Pairing, *Tonnetz*, Transformational Theory.

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