

## *Tonal-Atonal Equilibrium*

### Reginald Smith Brindle's *Harmony of Peace* (1979) and *El Polifemo de oro* (1956)<sup>1</sup>

IN 1956, REGINALD SMITH BRINDLE became the first British composer to write a twelve-tone serialist piece for solo guitar. *El Polifemo de oro*'s subsequent cutting-edge reputation rests less on a lack of precedent, however, than on the fact that it was used to open Julian Bream's landmark 1966 album *Twentieth-Century Guitar*, the immense success of which, John W. Duarte suggests, "threw a stone into the almost unruffled pool of the guitar's classical/romantic image."<sup>2</sup> Smith Brindle did not see this work as following in the paths of the "ultramoderns," however. He "was not in the least attracted by Schoenberg, much preferring Alban Berg, whose Violin Concerto and *Lyrical Suite* seemed to have such deeply poetic qualities."<sup>3</sup> Indeed, his harmonic language suggests a jazz-like sensibility, despite its often-dodecaphonic nature.<sup>4</sup> Smith Brindle was thus both in touch with, and working at a critical distance from, Second-Viennese tradition. He was no epigone.<sup>5</sup> One of the critical contentions of this chapter is that his particular brand of dodecaphony, popularized by *El Polifemo de oro*, deserves further, technical investigation.

- 1 A shorter version of this chapter first appeared in *Soundboard Scholar* 7 (2021) as "Reginald Smith Brindle's Concept of Tonal-Atonal Equilibrium in Theory and Practice," <https://digitalcommons.du.edu/sbs/vol7/iss1/5>.
- 2 John W. Duarte, quoted in Graham Wade, *The Art of Julian Bream* (Blyden on Tyne: Ashley Mark, 2008), 100.
- 3 Reginald Smith Brindle, *Autobiography*, 177, <https://smithbrindle.com/biographies/>.
- 4 This arguably harks back to his early years as a jobbing clarinetist in the north of England. A notable formative experience he describes in his autobiography was his playing alongside the American trumpeter Louis Armstrong at the *Palais de Dance* in Bolton (!). Smith Brindle, 20.
- 5 Of course, the incorporation of popular idioms into freely atonal or twelve-tone serialist languages was not intrinsically new. Recall the distorted cabaret style of the tavern music from Alban Berg's *Wozzeck*, for example, or the *Schrammelmusik* inflections of Schoenberg's Serenade, Op. 24. Note that in both of these works the guitar plays an important role: it is an amphibious instrument, capable of navigating the divide between popular and elite cultures. On cultural hybridity in Schoenberg's Serenade, see Mark Berry, *Schoenberg* (London: Reaktion, 2019), 115–6.

Smith Brindle decided actively to explore twelve-tone technique after seeing the first performance of Dallapiccola's *Il prigioniero* (The Prisoner) at the *Teatro Comunale di Firenze* on May 20, 1950. He recalled that this work had “just the kind of sound I had long looked for—a mysterious, complex sound with an intangible, enigmatic harmony which I found intensely beautiful.”<sup>6</sup> When he subsequently approached Dallapiccola to request composition lessons from him—he had received instruction from him on orchestration at the Florence conservatory already—the older man was about to set off on his summer vacation. In preparation for future lessons, however, he suggested that Smith Brindle should read two books by René Leibowitz: *Introduction à la musique de douze sons* and *Schoenberg et son école*, both published in 1949.

After diligently finishing these texts, Smith Brindle set about writing a twelve-tone organ piece. He was appalled by the result. Rather than continuing to rely on theoretical abstraction, based on German models, he decided to make a study of the music that had so impressed him instead: namely, Dallapiccola's. The following passage from his autobiography is worth quoting at some length:

That summer, I not only read the Leibowitz books, but bought the score of Dallapiccola's *Il prigioniero*, and examined the work in detail from end to end. I found a very different brand of serialism than that described by Leibowitz. The music had a more conventional look, with a smooth and refined harmony which appealed to me very much. Though it had the total-chromaticism of serialism, the harmony was without the brutism which was all-too-common with the Schoenberg School. The actual musical styles in the opera were quite varied, ranging over Italian music since medieval times. Some voice solos seemed to derive from Gregorian chant, choral pieces from renaissance polyphony, while most of the atmosphere was very much in the *verismo* manner. In fact, the opening orchestral flourish was very similar to the first bars of *La bohème*. Altogether, I was much more favourably impressed by Dallapiccola's opera, than with anything I had found in the Leibowitz books.

But how was this “smooth and refined harmony” produced? How can “a strong aversion for obscurity, and a compelling desire for illuminating clarity” be actualized in a twelve-tone environment? These are the central theoretical questions that this chapter looks to answer. In the following sections, I suggest that some of the traditional limitations of pitch-class theory are brought into sharp relief by Smith Brindle's later ideas about post-tonal harmony, formulated in his 1966 textbook *Serial Composition*. I further argue that his way of thinking about music can be profitably compared with some of the most recent innovations in post-tonal theory and analysis. Ultimately, though, I suggest that it is Smith Brindle's *music*, as opposed to his

<sup>6</sup> This and the following quotations in this section are taken from Smith Brindle, *Autobiography*, 160–64.

theories, that demonstrates most clearly how he understood a “smooth and refined [twentieth-century] harmony” to work. My analyses aim to make these workings clear.

### Pitch-Class Set Theory and Smith Brindle’s *Serial Composition*

The richness of a piece of post-tonal music results partly from the dizzying number of associations that can be traced between its constituent materials: rhythms and timbres, but particularly pitches. Unlike in a tonal piece, in which a preexisting, enculturated, and well-defined system is responsible for determining in advance the meaning of any given note (even those that may seem ambiguous), many post-tonal pieces can be understood to have constructed their own syntax *ex nihilo*, and each piece is potentially unique.<sup>7</sup> It is perhaps for this reason that it proved difficult initially to quantify the pitch associations that give post-tonality its vibrancy. Such relationships between a composition’s materials could be heard or — perhaps more likely — sensed, but not necessarily described.

As Michiel Schuijjer explains, the development of pitch-class set theory in the latter half of the twentieth century gave one the ability to describe any grouping of pitches — “scales, motifs, chords, and harmonic-melodic progressions” — in terms of “their objective pitch or interval content.”<sup>8</sup> (As we review and elaborate on elements of this theory here and later below, the reader may find it useful to refer to the glossary of terms and symbols.) Sometimes, different tone collections, also known as *pitch-class sets*, can have the same abstract intervallic structure: that is, they can be categorized as members of the same *set class*. Thus, paths of transpositional and/or inversional connection can be traced between them; the analyst is able to demonstrate relationships between distinct groupings in a given musical structure.  $\langle D, C\#, D\# \rangle \{123\}$  and  $\langle A, G\#, G \rangle \{789\}$ , for example, are both members of set class  $[012]$ ; they transform into one another at  $T_6$ .

In many cases, however, the set classes manifested by a given number of pc sets are *not* equivalent: they cannot be related in terms of transposition and inversion; indeed, they may even be of different sizes (“cardinalities”), including different numbers of notes. How are we to account for these latter kinds of relationship? One possibility is to search for so-called “similarity relations” — often calculated on the basis of the relative number of shared interval classes or common-tones/subsets between any two sets. But, as Miguel A. Roig-Francolí argues, “these [measures of similarity] are based on abstract set relationships, rather than on relationships immediately observable on

7 This is no less true of twelve-tone pieces, on account of the fact that the matrix does not imply an *obligatory* ordering, content, or syntax, in and of itself. See, for example, George Perle, *Serial Composition and Atonality* (Oxford: University of California Press, 1991), 1–2.

8 Michiel Schuijjer, *Analyzing Atonal Music: Pitch-Class Set Theory and Its Contexts* (Rochester: University of Rochester Press, 2008), 43.

the actual music.”<sup>9</sup> For this reason, students, performers, and other music theorists tend to find them unpersuasive, particularly given the finely honed means we have for distinguishing between levels of structural significance in tonal music.

What is lacking from “classical” pitch-class theory, then, on Roig-Francolí’s view, is a “satisfactory way to connect [non-equivalent] pitch-class collections among themselves.”<sup>10</sup> However, simply being able to *connect* different sets is not enough. Readers and listeners are surely searching, more specifically, for an understanding of *why* one particular set might move to another — otherwise, one pitch-class grouping is just as good as another; compositional choice becomes arbitrary. In music of the so-called “common practice,” the series of nested functional relationships built around a given tonic accounts for the relative effect of a particular melodic-harmonic progression. The question thus becomes: Are there laws of motion that undergird harmonic progression in post-tonal music in a manner analogous to the functional and recursive relationships one finds in common-practice tonality? And can a modified version of pitch-class set theory help to make them clearer to us?

If one feels some sympathy, however fleeting or alienated, with the harmonic progressions of post-tonal repertoire, then one might feel that such an analogy must be possible. Indeed, as Reginald Smith Brindle put it, composers “combine sounds in such a way that whether they produce consonance or dissonance, stable or unstable harmonies, they should not only sound inevitable, they should make sense . . . however complex the result.”<sup>11</sup> Such a conviction is particularly appropriate when discussing Smith Brindle’s own music, which aimed at the cultivation of a fresh musical language, lying somewhere between tonal and atonal worlds.<sup>12</sup>

In an attempt to explain how post-tonal harmonic progressions might “make sense,” Smith Brindle suggested a theory of harmonic *tension flow* in his 1966 textbook, *Serial Composition*. In a system obviously indebted to Krenek and Hindemith, he proposed that chords might be described in terms of seven tensional grades, ranging from “strong consonance” (manifested by interval-class 5 at the dyadic level and [037] sets at a triadic level) to “very strong dissonance” (manifested by cluster-like entities).<sup>13</sup> Movement between chords should proceed gradually but variedly across this continuum if overall coherence is to be achieved. Smith Brindle’s theory, however,

9 Miguel A. Roig-Francolí, “A Theory of Pitch-Class-Set Extension in Atonal Music,” *College Music Symposium* 41 (2001), <https://symposium.music.org/index.php/41/item/2179-a-theory-of-pitch-class-set-extension-in-atonal-music>: para. 1. On the concept of similarity in pc set theory, see Schuijjer, *Analyzing Atonal Music*, 130–78.

10 Roig-Francolí, para 1.

11 Reginald Smith Brindle, *Serial Composition* (Oxford: Oxford University Press, 1966), 62.

12 Smith Brindle, 63–78.

13 Smith Brindle, 70–72. Larger-cardinality chords can only aspire toward strong consonance; they will necessarily contain at least some kind of “mild dissonance” (think of the whole tone in an added 6th or dominant-seventh chord, for example). But Smith Brindle notes that these will be heard as strongly consonant in contrast to more overtly dissonant chords (71). Context is all-important.

is more impressionistic than it is systematic.<sup>14</sup> For example, counting the relative number of consonant and dissonant intervals in a chord and judging their combined effect—taking account of distinctive voicings all the while—may give us little more insight than we can attain simply from playing or listening; or conversely, it may yield so many degrees of microscopic difference that its “results” are no longer aurally sensible. Smith Brindle acknowledged these problems, and indeed, the systems of Krenek and Hindemith suffer from the same limitations.<sup>15</sup> We will consider shortly how these limitations might be overcome.

Smith Brindle’s most interesting concept, perhaps, is that of *tonal-atonal equilibrium*.<sup>16</sup> Unfortunately, his textbook offers no definition but treats it as impressionistically as tension flow. The term implies the simultaneous activation and negation of a tonal intuition, but it does not specify what “activation,” “negation,” or even “tonal intuition” would mean in such a context. One of the aims of this chapter, then, is to develop a precise, working definition for this concept. What are the requisite musical conditions for such an equilibrium to be manifested? A simple account of movement from relative consonance to dissonance and back does not quite cut it, for at any one time, a single force will be in the ascendancy. For a state of genuine equilibrium to be manifested, *both* forces must be equally in evidence at *every* moment.<sup>17</sup>

As I will later argue, Smith Brindle’s sophisticated concept of equilibrium is manifested most clearly in his own compositional practice. That said, recent developments in post-tonal theory can help us to formalize both tension flow and tonal-atonal equilibrium in such a way that we can understand them both more precisely. In this way, we bypass Smith Brindle’s fuzzy “technical” analyses and gain a better understanding of the intuitive processes that animate his music.

## Tension Flow

Let us begin by attempting to formulate a more robust model of tension flow. In his article “Voice Leading in Set-Class Space,” Joseph Straus suggests that the field of post-tonal harmony—represented here by prime-form sets—can be described

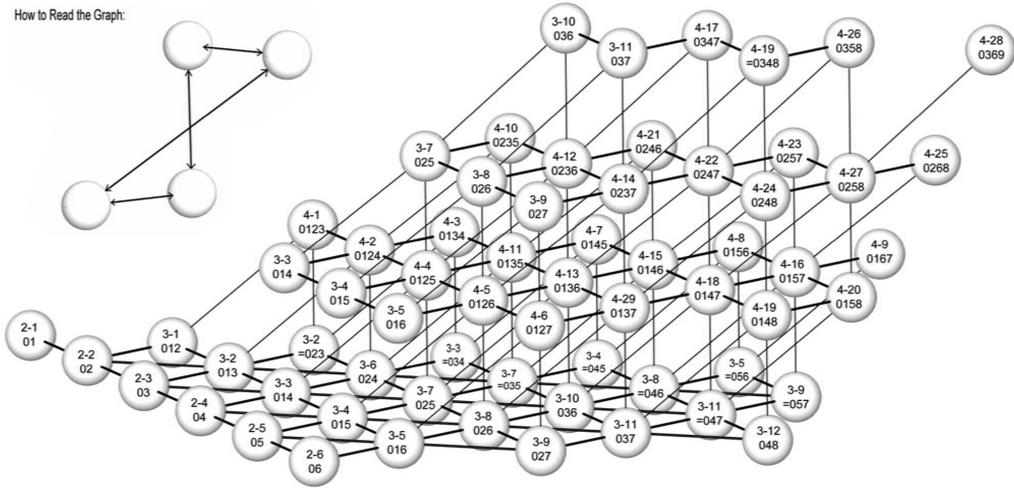
14 For summary, critique, and a theoretical finessing of these methods, see Daniel Harrison, *Pieces of Tradition: An Analysis of Contemporary Tonal Music* (Oxford: Oxford University Press, 2016), chapter 3.

15 Smith Brindle, *Serial Composition*, 61; 74.

16 Smith Brindle, 66.

17 I am following the *OED*’s definition here: “*Equilibrium*: In physical sense: The condition of equal balance between opposing forces; that state of a material system in which the forces acting upon the system, or those of them which are taken into consideration, are so arranged that their resultant [force] at *every* point is zero” (italics added). Given Smith Brindle’s training as an architect, it is not unlikely that he was thinking of this decidedly technical definition of the word when drawing on the idea of equilibrium.

**Figure 1.1** Straus’s representation of a four-dimensional set-class space.



in terms of a spectrum (**figure 1.1**).<sup>18</sup> On the extreme left-hand side are the most chromatic chords possible, the semitonal clusters: [01], [012], [0123], . . . . On the far-most right-hand side are those harmonies that are most intervallically spacious: [06], [048], [0369], . . . . Once plotted in a multidimensional space including up to four *dimensions* (by which Straus simply means four *notes*) same-cardinality sets can be seen to connect to one another through *minimum-offset voice leading*—that is, by means of the displacement of a single semitone: [012] becomes [01 $\underline{3}$ ] by means of the movement of a single semitone in set-class space; [024] can become [02 $\underline{3}$  = 013], [025], or [034 = 014], also by means of semitonal displacement, etc.<sup>19</sup> Different-cardinality sets can also move smoothly from one to another by virtue of *fusing* or *splitting* individual pitch classes: [024] becomes [0 $\underline{1}$ 24] by means of [0] *splitting* into [01]; [0237] becomes [037] by means of [2] and [3] *fusing*, etc.<sup>20</sup> In other words, directed tension flow can occur among chords of different sizes.

To model how a passage of music might traverse set-class space, Straus posits a series of “Laws of Atonal Harmony and Voice Leading.” He argues that “within a harmony, the notes seek to maximize their distance from each other, as the harmony seeks to become more spacious [i.e., less chromatic].”<sup>21</sup> Movement from relative compaction to dispersion is achieved most efficiently, he further suggests, by means of minimum-offset voice leading. To return to Smith Brindle’s earlier statement, this is how harmonic progressions might be thought to “make sense” in

18 Straus, “Voice Leading in Set-Class Space,” figure 8, 58. For clarity’s sake, this graph restricts itself to modeling a four-dimensional space; for a graphic representation of pentachordal and hexachordal set-class space, see Straus, “Voice Leading in Set-Class Space,” figure 13, 64.

19 Underlined integers here represent the modified pitch classes of a given prime form.

20 Joseph Straus, “Voice Leading in Set-Class Space,” *Journal of Music Theory* 49, no. 1 (2005): 100n10.

21 Straus, 72.

the atonal-chromatic universe. Straus's model gives Smith Brindle's intuitive theory a clearer theoretical basis.

Nevertheless, one might have reservations about the unidirectionality of the harmonic flow Straus describes. For example, why wouldn't harmonies seek to become more compact rather than more spacious? More broadly, why can't movement across this harmonic continuum proceed in both directions? Straus doesn't deny such possibilities. Rather, he suggests that the historically sedimented model of consonance/dissonance, inherited from tonality, exerts an undeniable force with which all composers must reckon. In flouting these "laws"—in composing progressions that become steadily more "compact" or by using sets that don't relate "smoothly" to one another—"modernist composers might be giving expression to an aesthetic iconoclasm, asserting their independence of the claims of the tonal tradition."<sup>22</sup> Alternatively, they might move toward tenser, more compact chords, in order to make an ultimate motion toward a relaxed, open sonority all the more satisfying. In other words, there is nothing *a priori*—that is to say, immanent, purely musical—that predetermines direction of harmonic motion; it is rather a historically contingent and contextual compositional choice.

## Tonal-Atonal Equilibrium

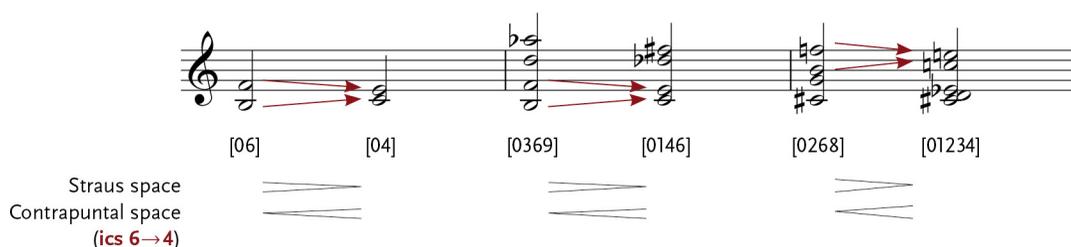
And yet there seems to be another tension in Straus's model of atonal harmony, similarly historical but also music-theoretical. I would argue that many maximally even chords—augmented, diminished, and whole-tone-based—have "dominant" functions, on account of their abundance in Western art music of the mid-to-late nineteenth century. Thus, while they might be the "most stable" harmonies in terms of their distribution of consonant intervals, they can also be considered to be *functionally unstable*.<sup>23</sup> Furthermore, progression toward chords with more tightly compacted intervallic structures might sometimes be considered to "resolve" the harmonic implications of more intervallically open (that is, dominant-like) simultaneities.<sup>24</sup> This is especially the case if the constituent tritones of some of the most "open" set classes—[06], [0369], [0268], etc.—resolve to a major third, in the manner of a perfect authentic cadence, *even if the latter interval is embedded within a more overtly*

<sup>22</sup> Straus, 66–7.

<sup>23</sup> See, for example, Smith Brindle, *Serial Composition*, 12n7; Paul LeBlanc, "Structure and Performance of El Polifemo de oro for Solo Guitar by Reginald Smith Brindle" (DMA thesis, University of North Texas, 1993), 15–16; and Oliver Chandler, "Tonal Dodecaphony and Sentential Form: Extracts from Humphrey Searle's Symphony No. 2, Op. 33," *Music Theory and Analysis* 8, no. 2 (2021): 296–307.

<sup>24</sup> To repeat an important point made in the introduction, even though Straus's terminology is intentionally "neutral," he goes on to state that "the relationship between consonance/dissonance or stability/instability and evenness/compactness is reasonably clear": Straus, "Voice Leading in Set-Class Space," 77.

**Figure 1.2** Contrapuntal resolution and set-class contraction.



chromatic set-class: e.g.,  $[01234]$ ,  $[0146]$ , etc.<sup>25</sup> Figure 1.2 models this theoretical idea using practical examples. Contrapuntal resolution — a move from dissonance to consonance, shown in idealized form in m. 1 — occurs simultaneously with contraction in Straus’s set-class space (i.e., a move towards a tighter, tenser harmony). Contrapuntal resolution is still perceivable, no matter how dissonant the chord in which the ultimate  $[04]$  subset is housed. Indeed, the more dissonant the chord, the more chance there is of a tonal-atonal equilibrium being manifested, as both melodic release and increased harmonic tension are discernible simultaneously.

Once a composer has returned to a state of relative chromatic compaction, movement back toward dispersion works in the manner Straus describes above — and so on, in perpetuity. This slightly adapted reading of Straus’s model provides a technical means of explaining bilateral movement in set-class space that does not rely on interpreting movement toward dissonance negatively (as does Straus in his account of a modernistic disruption of harmonic/voice-leading coherence). The system is not entropic; harmonic energy courses through it unendingly.

To demonstrate this point in practice, I will analyze two of Reginald Smith Brindle’s compositions: *The Harmony of Peace* from *Ten Simple Preludes* (1979) and the first fragment from *El Polifemo de oro* (1956).<sup>26</sup> The former demonstrates Straus’s argument perfectly, exhibiting a clearly directed tension flow in set-class space. Tetrachords (and cumulatively, hexachords) become increasingly even, often by means of parsimonious voice leading in set-class space. In the latter piece, by contrast, the most even pc-sets within the row, produced by harmonic movement from compaction to dispersion, “discharge” via means of ics  $6 \rightarrow 4$  or ics  $6 \rightarrow 3$  “cadential” voice leading into new row

25 More neutrally, and abstractly, we might describe this as ics  $6 \rightarrow 4$ , or as a contraction from sc  $[06] \rightarrow [04]$ . (Obviously, pitch space is distinct from set-class or interval-class spaces: a move from ic  $6 \rightarrow 4$ , or  $[06] \rightarrow [04]$ , for example, might not actually resemble a cadential resolution, e.g.,  $\{C, F\} \rightarrow \{B^b, D\}$ . But I use these abstract designations as generalized short-hands only for those resolutions that *are* cadential, obviating the need to write out their actual pitch content.) See Neil Newton, “An Aspect of Functional Harmony in Schoenberg’s Early Post-Tonal Music,” *Music Analysis* 33, no. 1 (2014): 1–31.

26 My analysis is based on the edition published by Aldo Bruzichelli in 1962. The revisions found in the later Schott edition were made in order to get the piece republished after Bruzichelli’s death. Smith Brindle wrote in his autobiography that “unfortunately, some parts of the revised version are not as good as the original” (p. 189).

forms, often beginning with relatively tightly voiced tetrachords. The resolution of “French sixths” [0268] to all-interval tetrachords [0146] and [0137], for example, is a compositional fingerprint throughout *El Polifemo de oro*. This, I propose, is a practical example of Smith Brindle’s concept of tonal-atonal equilibrium. Dissonant harmonies might be consonant in terms of their voice leading (embedding ics  $6 \rightarrow 4$  discharges), while consonant intervallic structures might be *functionally dissonant*. (As I will show in a later analysis of *El Polifemo de oro*’s third fragment, however, this is not the *only* means by which tonal-atonal equilibrium might be manifested.)

Given this paradoxical “feedback loop,” Smith Brindle attempts to achieve closure by other means: that is, by demonstrating that both relatively even and compact chords are subsets of various octatonic verticals later on in the movement. Indeed, these chords synthesize aspects of the three distinct conflicting sonorities articulated by the movement’s opening row: an all-interval tetrachord [0146], a minor triad [037], and a whole-tone pentachord with one errant semitone [02368]. This opposition is what I refer to as the music’s defining *problem*. Such synthetic potential, however, often leads to the breakdown of row order; resolution in one parameter provokes conflict in another — an *elaboration* of the music’s problem. In the piece’s final section, however, linear row order is restored, and the movement’s problem is *resolved*. The opposed sonorities articulated by the opening row are now revealed as relating to each other through parsimonious voice-leading transformations in set-class space. This overall narrative of problem, elaboration, and resolution plays itself out within a palindromic form, which gives it a more palpable arc.<sup>27</sup> The *perpetuum mobile* of post-tonal *harmony* is harnessed and contained by post-tonal *form*.<sup>28</sup>

### Tension Flow in *The Harmony of Peace*

Smith Brindle was a pioneer in the pedagogy of modern musical languages, and in 1979 he published a series of ten preludes to introduce students “to the sounds of [twentieth-century] music without a herculean effort to produce the notes.”<sup>29</sup> The first prelude exemplifies Straus’s laws of atonal harmony and voice-leading, just as its title might suggest: *The Harmony of Peace*. Chords articulated at the beginnings of phrases melt seamlessly into more euphonious intervallic arrangements by their ends. While not regulated by the essential diatony of Schenker’s “Chord of Nature,” Smith Brindle’s *Harmony of Peace* fulfills a comparable structural function, regulating

27 This narrative of “problem,” “elaboration,” and “resolution” may be indebted to Schoenberg’s concept of “musical idea”: see Jack Boss, *Schoenberg’s Twelve-Tone Music: Symmetry and the Musical Idea* (Cambridge: Cambridge University Press, 2014).

28 While Smith Brindle wrote that “the formal design of palindromes remains audibly imperceptible” (*Serial Composition*, 107), I think there are good reasons to suggest the *felt* palindromic quality of this movement: The marked pc-sets of  $P_4$  make it easy to sense the overall reversal manifested by  $R_4$ , and the movement’s palindromic “ideal” is reinforced by a number of smaller palindromes throughout.

29 John W. Duarte, preface to *Ten Simple Preludes*, by Reginald Smith Brindle (Australia: Universal Edition, 1979), iii.

movement from dissonance to consonance across a number of structural levels. Similarly, while there is nothing quite comparable to Schenker’s concept of a metaphysical counterpoint between *Urlinie* and *Bassbrechung*, the post-tonal *Harmony of Peace* still implies voice-leading constraints: compulsory movement from relative semitonal compaction to consonant dispersion, often via the shortest possible intervallic path. In a nutshell, Schenker’s *Ursatz* implies a closing down of intervallic space *within* a consonant triad; Smith Brindle’s *Harmony of Peace*, a more indiscriminate “opening up” toward a triad-like entity—diminished, consonant, or augmented.

This play between contraction and expansion is explored in **figure 1.3**. The prelude begins with a model example of pitch-class-set expansion: [0126] expands to [0237] (mm. 1–2; refer to figure 1.1 to see where these sets lie relative to one another on Straus’s chart). A more conventional method of harmonic labeling helps to confirm the quasi-traditional functionality Straus ascribes to such progressions, whereby expansion means increased stability: a B7 chord (with an upwardly passing major 7th) resolves to E $\flat$ 7<sup>9</sup>. While the following tetrachord {0147} [0147], articulated horizontally between mm. 4 and 5, might also be read as a pc-set expansion—it is offset by six semitones from the cluster [0123], whereas the preceding [0237] is only offset by four<sup>30</sup>—this claim is perhaps overly abstract, at least without further argument. Compare, for example, how each tetrachord presents its dissonant ic 1. In the first tetrachord <3E46>, the two notes {E $\flat$ 4} and {E $\flat$ 2} are spaced out in time and register, separated by an intervening attack and by 23 semitones. In the second tetrachord, <4017>, {D $\flat$ 4} and {C3} are attacked in succession and only 13 semitones apart. The effect is euphonious in the first tetrachord, piquant in the second. Thus the intervallic openness of the second tetrachord (manifested in its C-major subset) is upset by its minor ninth.

This characterization of the {0147} tetrachord provides a useful means of explaining the set-class progression that follows: namely, from [0147] to [036] to [026]. In order to rid {0147} of semitonal interference, {0} and {1} are fused almost in the way that a suspension resolves in tonal composition, yielding {147}. Crucially, the set {147} isn’t present on the surface of the music: it becomes audible only when it is transposed up a semitone to produce the {258} trichord in mm. 7–8. This pitch-class progression is represented in diagrammatic form below:

$$\{0147\} \xrightarrow{*fusion} \{147\} \xrightarrow{T_1} \{258\} \xrightarrow{T_3^{*(1)}} \{59E\}$$

However, one problem is solved only for another to manifest: the original goal of ridding {0147} of its semitone results in a set-class contraction from [0147] to

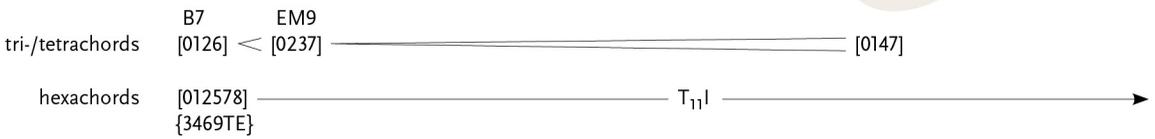
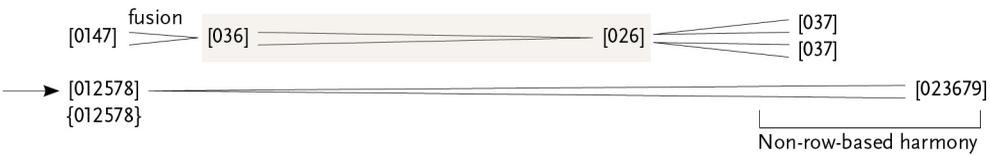
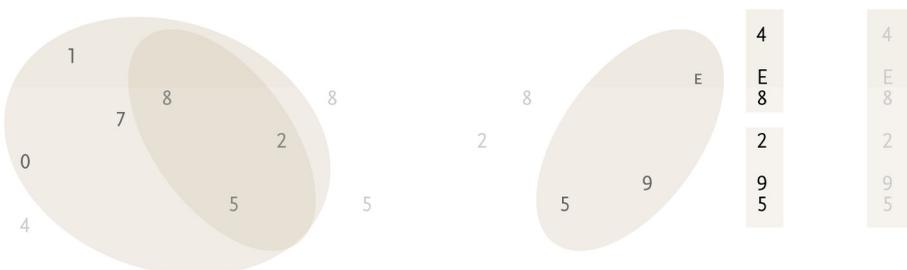
30 The latter assertion may seem counterintuitive, but [0237]  $\rightarrow$  {1, 2, 3, 7} (by means of the offset of 1 semitone) = [0126] (3 semitones offset from [0123], making [0237] 4 semitones offset altogether). Another way to confirm this is to trace the number of jumps between [0123] and [0237] and [0147] on the set-class diagram in figure 1.1.

**Figure 1.3** Reginald Smith Brindle, *Ten Simple Preludes*, i, *The Harmony of Peace*, mm. 1–10. Upi = unordered pitch interval.

$P_9 = 9T3E46017852$

**Molto calmo, alla breve**  $\text{♩} = 44$

[037]  
"C-major"  
subset  
veiled  
by ic 1

[036].<sup>31</sup> This contraction is further intensified by the subsequent contraction of {258} to {59E}—[036] to [026] in figure 1.3. Local resolution for this problem is found in the phrase’s final chord, which also serves to complete the overall arc traced by the phrase through set-class space. It is composed of two statements of [037], “D minor” {259} and “E major” {E84}. Depending on how slowly one plays this spread chord at the end of the *rallentando*, one can make this more or less explicit, with each chord being registrally distinct. Locally, there is definite expansion from [036] and [026] to [037]. This might be understood, if only conceptually, as an opening up of the earlier [0147] chord, which represented the peak of intervallic expansion up to that point, albeit one that was *veiled* by ic-1 bite. Voiced as two separate, admittedly transposed subsets, it becomes more overtly consonant. The phrase’s overall intervallic expansion might be mapped as follows, with the link between the [0147] and [037] pc sets represented by underlining:

$$[0126] < [0237] < [\underline{0147}] < [\dots \text{FUSION } 036] > [026] \dots < [\underline{037}] \times 2$$

One might object, of course, that the phrase’s concluding sonority is a *hexachord* [023679], irrespective of its variable audiation in performance. How can this be heard as more intervallically spacious than the prelude’s earlier, smaller cardinality sets, especially given its relative proliferation of semitones? But this would be to ignore a crucial point: namely, the concluding spread chord’s relationship to the twelve-tone fixed-pitch field that is established by the foregoing music:  $\langle A_2, B_3, E_b_4, B_3, E_2, F\#_3, C_3, D_b_4, G_3, A_b_3, F_2, D_3 \rangle$ . [023679] contains both an E and an F. Adhering to the established pitch field would require both of these notes to be played on the bottom string of the guitar, which is obviously impossible if both are to be sounded concurrently; one must be placed in a different register. This makes no difference to the overall set class, but it has potentially profound ramifications for how the constituent trichords of the overall hexachord might be heard when it is arpeggiated. If {F3} had been placed on the top string, for example, and {E2} on the bass string, the bottom trichord would have been a quintal  $\langle E, A, D \rangle$  [025] and the upper a diminished triad

31 Again, it might seem counterintuitive to understand this as a contraction. That [0147] is six-semitones offset from the most chromatic tetrachord possible, [0123], is easy enough to appreciate: 2 semitones are added to the third integer of the latter set, and 4 semitones to the fourth. The case of [036] is slightly more complicated. If we used the same logic, we’d transform the most chromatic *trichord*, [012], into [036] by adding 2 semitones to the second integer of the former and 4 semitones to the third, resulting in six semitones of offset overall: i.e., the same semitonal distance that exists between [0147] and [0123]. However, there is a more ergonomic way to work this out. Imagine that  $\{0, 3, 6\}$  [036]  $\rightarrow$   $\{2, 3, 6\}$  through movement of a whole tone. (This is a purely heuristic step, designed to illustrate the abstract intervallic distance between two chords; it does not reflect an actual musical progression).  $\{2, 3, 6\} \rightarrow$  [014]. [014] is two semitones offset from [012] (the maximally chromatic trichord). That means that [036] is only *four* semitones offset from [012] (i.e., fewer than *six* semitones between [0147] and [0123]). In consequence, it is more chromatic than [0147]—i.e., it is less intervallically spacious.

$\langle A, B, F \rangle [036]$ .<sup>32</sup> In other words, the apex of trichordal expansion that is implied by the two  $[037]$  sets in the actual music would be replaced by sets without the same directed quality. Indeed, the fact that this hexachord departs from the loose twelve-tone serial ordering that controls the music before and after it further suggests the key structural role that tension flow plays in this piece, and the importance of the  $[037]$  trichords within it. To hear this *solely* as a hexachord, then — as something without a specific intervallic ordering and spacing — would be to disassociate oneself from Smith Brindle’s carefully cultivated tension flow.

That said, it is still relevant to observe that each discrete motivic idea of the prelude cumulatively articulates a hexachord (the two hexachords of the series on which it is based). From the beginning to the end of the opening section, the following “middleground” set-class trajectory is traced:

$$\begin{array}{ccc} \{3469TE\} & \xrightarrow{T_{11}I} & \{012578\} < \{24589E\} \\ [012578] & & [012578] & [023679] \end{array}$$

Reinforcing our earlier, tetra/trichordal hearing of the piece, the music articulated by the second hexachord can be felt as a “prolongation” of the first, which is then “resolved” by the expansion of the phrase’s final chord.<sup>33</sup>

Analysis of this sort can help to reinforce and, I hope, amplify intuitions about *relative* degrees of stability and instability as part of a coherent trajectory in performance: to alert listeners and performers to salient pitch collections and the changes between them. And yet if a performer felt flashes of intuitive sympathy with the musical narrative of Smith Brindle’s piece — if they were convinced that something meaningful was being lost in the “post-tonal static,” which they wanted to grasp — then traditional (that is, tonal) means of analysis would be of little use, even if the central behaviors of this prelude are much akin to tonality. Oddly, freeing oneself from a tonal vocabulary — giving oneself over to the abstraction of set theory — allows one to sense the music’s directed, consonance-driven trajectory all the better. The visceral is unlocked by the abstract.

Now that the relevance of Straus’s laws of atonal harmony and voice leading have been demonstrated in relation to the directed tension flow of *Harmony of Peace*, we can move on to consider how examination of Smith Brindle’s harmonic writing in a very different compositional situation — purely artistic rather than pedagogical — can lend nuance to Straus’s concept of voice leading in set-class space. But first, let us consider one of Smith Brindle’s analyses.

32 My thanks go to Jonathan Leathwood for this point.

33 Figure 1 shows the outer sections of a ternary form. The eleven-measure middle section (not shown in the example) also describes a trajectory from compaction to dispersion. Its construction, however, is a little more complex: it is based on  $I_9$ , omitting  $\{A\}$  and swapping  $\{C\#$  and  $\{B\}$ . An analysis of its progression might focus on trichordal expansion:  $[015]$  at the beginning reaches  $[036]$  by the end, via  $[016]$ ,  $[025]$ , and  $[026]$ .

Figure 1.4 Luigi Dallapiccola, *Quaderno musicale di Annalibera* (1952), *Simbolo*, mm. 1–6.

P<sub>10</sub> = <TE3682157094>

Quasi lento (♩ = 84)

*mf; sost.*

*mp; staccatiss.*

*mf; sost.*

*simile*

*molto dim.*

3 2 5 4  
6 8 1 0  
7 9

T E T E T E E T

trichords: [047]	[046=026]	[026]	[037]
tetrachords / pentachords: [0158]	[0236]	[02368]	[01237]

Mutually supporting multidimensional contractions

Tonal-atonal equilibrium: triadic expansion and pentachordal contraction

### Smith Brindle’s Analysis of Dallapiccola’s *Simbolo*

In *Serial Composition*, Smith Brindle claims that “given adequate control, the series can be made to produce music which borders on the field of chromatic harmony, music which maintains a delicate tonal-atonal equilibrium.”<sup>34</sup> But how is such control exercised? Through the regulation of tension flow, Smith Brindle argues. Yet, as already discussed, this idea is a fairly blunt instrument theoretically. Perhaps his ideas can be placed in fruitful dialogue once more with Straus’s laws of atonal harmony and voice leading? Smith Brindle’s brief words on a work by his teacher Luigi Dallapiccola—*Simbolo* from *Quaderno musicale di Annalibera* (1952)—provide a useful jumping-off point for such inquiry.

“There is subtle chromatic movement from B major to A minor here, which is cleverly obscured by the oscillating pedal notes. . . . It is evident that here Dallapiccola fuses serialism with the functions of chromatic harmony, producing a subtle amalgam of both techniques.”<sup>35</sup> Figure 1.4 expands on this idea. The chord in m. 2 can be heard as a B-major triad decorated by a neighboring major seventh; in m. 3, the bass ostinato assumes a different function with its first note (A#) functioning as the root of Bb7; the right-hand trichord in m. 4 is an incomplete French 6th/half-diminished 7th on G;

34 Smith Brindle, *Serial Composition*, 66 [italics in the original].

35 Smith Brindle, 9 (italics added).

and the final right-hand chord is an A-minor triad. In terms of chromatic harmony, this progression can be modeled as a fairly lucid auxiliary cadence: secondary dominant, tritone substitute for the dominant, aeolian dominant ( $\sharp$ VII), minor tonic. A Strausian pc-set interpretation chimes nicely with this account:

$$[047] > [046 = 026] [026] < [037]$$

Despite the important syntactical role played by dissonance in this progression, the dice are ultimately loaded toward consonance, as they are in Straus's laws of atonal harmony and voice leading more generally. In what way might this be understood in terms of Smith Brindle's tonal-atonal equilibrium? The answer, I think, is made plain by hearing the trichordal paths traced above in terms of their contextualization as part of larger-cardinality set classes inclusive of the *obscuring* pedal notes. For example, while the  $[047] > [046 = 026]$  subset reflects the overall contraction of its larger  $[0158] > [0236]$  superset, the "resolution" of the progression  $[026] < [037]$  is contradicted by its encasing  $[02368] > [01237]$ . Both discharge *and* inhibition are sensible; they are the countervailing forces of an overall equilibrium.

## Tonal-Atonal Equilibrium in *El Polifemo de oro*

### *Ben adagio*

"My most successful piece": this is how Smith Brindle describes his 1956 work for guitar, *El Polifemo de oro: Quatro frammenti* [The Golden Polyphemus: Four Fragments].<sup>36</sup> It is a standard of the guitar repertoire even today. Despite its novelty, however, a certain debt to Dallapiccola is apparent from the first measures. **Figure 1.5** provides a complete score of the first fragment, *Ben adagio*, with analytical annotations. There are a number of echoes of figure 1.4: (1) *Simbolo's* opening tetrachord  $[0158]$  becomes the penultimate sonority of the *Ben adagio*—crucially, both discharge to a whole-tone set with an errant semitone; (2) Dallapiccola's final chord embeds a triad  $[037]$  in an all-interval tetrachord  $[0137]$ , and Smith Brindle creates a similar effect in mm. 1–2 of the *Ben adagio*, when  $\{C_3\}$  sounds below the sustained B-minor triad; (3) both composers highlight the pentachord  $[02368]$ —see m. 4 of *Simbolo* and the last five notes of *Ben adagio's* opening row form. It is this pentachord that we shall focus on first.

Lines trace the unfolding of the rows in figure 1.5, starting with  $P_4 <458TE2609317>$ . This initial row can be understood to manifest pc set-class expansion overall:  $\{458T\}$   $[0146]$  at its beginning is transformed, via  $T_{11}I^{*(3)}$ , into  $\{7913\}$   $[0268]$  at its end.<sup>37</sup> So

<sup>36</sup> Smith Brindle, *Autobiography*, 188.

<sup>37</sup> The intervening transformations initially hint at expansion— $[0146]$  becoming a more intervallically open, albeit tighter-voiced,  $[037]$ —but when  $C_3$  is introduced beneath, it is revealed ultimately to manifest another all-interval tetrachord  $[0137]$ .

[A] **Problem** Opposing pc-sets. First step of large-scale palindrome,  $P_4$ .

[B] **Elaboration** Derivation of opposing pc-sets from  $oCT_{1,2}$  revealed, but row order consequently breaks down. [0146] "prolonged"; small-scale palindromes mimic overall form.

**Ben Adagio**

tastiera pont.-----  
 3  
 verso il pont.  
*mf* *p* *mf*

[0146] = all-int.    [037] b triad    [02368] wT-ish    [0146] = all-interval {08} = A $\flat$  triad [026] = wT subset    [02358] [0136] subset = all-interval\* $\pm$ 1 {7T} = g triad [026] = wT subset

5    *pizz.*    *vibrato*    *poco allarg.*  
 3    3    3    3

[0137] = all-interval <149> = A triad [026] = wT subset    [01369] [0136] = all-interval\* $\pm$ 1 {T2} = B $\flat$  triad [0258] = wT-ish subset    [0137] = all-interval <149> = A triad [026] = wT subset    [0146] = all-interval = [0146] subset    [026]

[A'] **Solution** Row order restored.  $R_4$  completes large-scale palindrome; opposing pc-sets relate through smooth voice-leading.

8    *f*    *sf*

[0146]  $\rightarrow T_5^{*}(\pm) \rightarrow$  [0268] [0258]    [0158] = all-interval    [037] = b triad = wT- wT-ish subs.\* = wT-ish subset

**Figure 1.5**  
 Reginald Smith Brindle,  
*El Polifemo de oro*,  
 i. *Ben adagio*

far, so Strausian. Smith Brindle does not make use of this expansion as a means of rounding off the accompanying musical gesture, however; the latter in fact continues into the beginning of the next row,  $I_0$ ,<sup>38</sup> which is marked by a tightly voiced all-interval tetrachord [0146]. How can this considerable jump in set-class space, toward the more condensed, semitonal end, be explained? Does it not work counter to the idea of rounding off a musical gesture? Wouldn't the increase in dissonance open things up again? To use Straus's words, "in flouting the Law of Atonal Voice Leading," is Smith Brindle "giving expression to an aesthetic iconoclasm, asserting [his] independence of the claims of the tonal tradition"?<sup>39</sup> Absolutely not. Returning to the earlier *Simbolo* example, and its penultimate [02368] pentachord, it can be heard either as a G half-diminished or a French sixth chord (depending on which note of the bass ostinato is read as a neighboring tone), especially in light of its subsequent discharge to a triad. If the equivalent chord in *Polifemo de oro* can also be heard as *dominant-like*, then one might wonder in what sense [0146] might be considered *triadic*. However, as Neil Newton has argued, it isn't triads that are responsible for functional discharge at cadence points; far more important is the resolution of the dominant-seventh's constituent *tritone*:  $sc$  [06] contracts to [04].<sup>40</sup> Despite [0146]'s ultimately non-triadic, non-consonant quality, this exact voice leading is manifested between  $P_4$  and  $I_0$ : {17} "resolves" to {08}.

The whole-tone quality of  $P_4$ 's final tetrachord, an emphasized subset of the overall *Simbolo* pentachord, is therefore critically important. On the one hand, its intervallic spaciousness, relative to the row's beginning, allows set-class expansion to be manifested: a movement from dissonance to consonance, fulfilling Straus's law of atonal harmony. On the other hand, it is also *dominant-like*, so that it requires resolution.<sup>41</sup> This resolution is not contingent on pc-set spaciousness or cardinality: it requires only that a tritone should contract to a third, and that Smith Brindle should make it obvious and satisfying. This means that bilateral movement in set-class space becomes freshly legible: simultaneous expansion *and* contraction become coherent, even necessary. As Dallapiccola does in *Simbolo*, Smith Brindle achieves a remarkable balance, increasing tension in the atonal domain while decreasing it in the tonal domain. This is the essence of his tonal-atonal equilibrium.

This raises an important question, however: how can Smith Brindle achieve a sense of finality and closure in this piece if quasi-cadential resolutions result in set-class contraction? Again, the "law" that Straus hypothesizes — that pieces should grow toward (relative) consonance, except for reasons of expressive effect — is historically contingent on the tonal past, and not an immutable fact of musical logic. It is at this

38 I follow George Perle and Joseph Straus here by referring to inverted row forms by means of the label  $I_n$ , rather than  $T_n I(P)$ .

39 Straus, "Voice Leading in Set-Class Space," 66–7.

40 See Newton, "An Aspect of Functional Harmony in Schoenberg's Early Post-Tonal Music," 1–31.

41 See Smith Brindle, *Serial Composition*, 12n7: "In general [whole-tone groups] do not contain tonal suggestions (though some groups can form incomplete minor seventh or major ninth chords)."

point that *form*, as opposed to moment-to-moment harmonic succession, becomes crucially important. Form is manifested in two ways in the *Ben adagio*: by means of a “large narrative of conflict, elaboration of that conflict, and resolution, expressed intervallically . . . , which Schoenberg called the ‘musical idea’”;<sup>42</sup> and more simply, by means of a large-scale palindrome paralleled by a number of smaller, nested palindromes throughout the movement.

To begin with the former: the opening row manifests its “problem” in its very first bar, as a rich, *tastiera* all-interval tetrachord [0146] is contrasted with the relative bareness of a ponticello triad. How can these contrasting sets be understood in terms of an overall, atonal motivic unity?<sup>43</sup> (Tonally speaking, of course, the resolution of {E, A#} to {B, D} seems locally cadential.) A sense of set-class contrast is further intensified by P<sub>4</sub>’s concluding pentachord, [02368], which is, as already noted, whole-tone-like, despite the errant semitone. I<sub>0</sub> begins with another [0146] tetrachord, but the context of its presentation is critical. The {17} P<sub>4</sub> <T-E> → {08} I<sub>0</sub> <0-1> discharge spotlights the A $\flat$ -C dyad, which sounds initially triadic: a reminiscence of P<sub>4</sub>’s {E26}. Furthermore, the way the full tetrachord is voiced makes it sound very much like an incomplete A $\flat$ 7 chord, with the B functioning as a neighbor-note to the C. Understood in this more traditional way, the underlying chord is recognized as an instantiation of sc [026]: an abstract allusion to the whole-tone(ish) pentachord of P<sub>4</sub>. The original conflict between sets of different intervallic quality in the first row appears to be mellowed here; antithesis may yet be resolved in synthesis.

The following <725T4> pentachord, while not directly related to any of the distinct intervallic profiles of P<sub>4</sub>’s constituent sets, contains a number of subsets that *are* so related. It consists of one [0136] statement (that is, a minimally offset version of the earlier [0146]); an implied G-minor triad (foregrounded by an sc [06] → [03] contraction, which resembles the resolution of a dominant-seventh to a *minor* triad); and another [026] whole-tone subset. Furthermore, it makes explicit for the first time the octatonic sound world from which *all* of P<sub>4</sub>’s opening harmonies are derived.<sup>44</sup> Smith Brindle’s special brand of *octatonic serialism* might well be indebted to Dallapiccola.<sup>45</sup>

- 42 See Jack Boss, *Schoenberg’s Atonal Music: Musical Idea, Basic Image, and Specters of Tonal Function* (Cambridge: Cambridge University Press, 2019), 4.
- 43 These chords can be meaningfully connected, transformationally speaking. [0146] contains a [014] subset. [037] and [014] are M-related: i.e., if each of the set-class integers of [014] is multiplied by 5, [037] is the result. (0 × 5 = 0, 1 × 5 = 5, 4 × 5 = 20 = 8 modulo twelve; {580} = [037].) I thank Ciro Scotto for this point. However, their connection is not *parsimonious*: transformation between them results in an extensive jump in set-class space. While coherent, then, their relationship can still be interpreted as oppositional (at least in terms of Straus’s set-class space).
- 44 Sundar Subramaniam points out that they are all embedded in set-class 6-30 (that is, [013679], a subset of the octatonic scale). See “Pitch Structures in Reginald Smith Brindle’s *El Polifemo de oro*,” *Ex Tempore* 14, no. 2 (2009): 78–93, 82.
- 45 As Brian Alegant and John Levey have noted, sc 6-30 played a crucial structuring role on the surface, and at “important formal subdivisions,” in Dallapiccola’s compositions of the 1950s: see “Octatonicism in Luigi Dallapiccola’s Twelve-Note Music,” *Music Analysis* 25, nos. i–ii (2006): 39–87, 62.

However, as well as representing a move toward a solution of the movement's problem, this moment also precipitates an *elaboration* of that same problem. That is to say, its arrangement in pitch space upsets strict row order, leading to a temporary disintegration of the row itself.<sup>46</sup> Measure 5 clearly demonstrates the fallout of this elaboration. Even though it technically manifests the final three notes of  $I_0$ , its sounding simultaneously with pc 4 (retained from the previous measure) leads to the articulation of a <1439> tetrachord (sc 4-Z29). These notes occur as adjacencies in only one row form: the second tetrachord of  $I_{11}$ . The price of chordal synthesis is the breakdown of linear row order.

$RI_0$  is unfolded next, but issues of serial coherence become even more acute here. {39} discharges by means of an sc [06] → [04] contraction to {T2}, highlighting a possible B♭-major triad (another reference to  $P_4$ 's [037] trichord). This is embedded within a [01369] pentachord, which contains [0136] and [0258] subsets. The former is a “fuzzy” transposition of the earlier all-interval tetrachord [0137]; the latter, a subset of  $P_4$ 's ultimate pentachord. Again, the chord's bottom-up intervallic structure leaves row order hopelessly jumbled. The fact that pc 5 is *omitted* from the row's proceeding completion—an absence marked by an echo of the <9134> tetrachord that upset the preceding completion of  $I_0$ —might be thought to represent acknowledgment of this growing crisis in the music's unfolding. Indeed, the culmination of  $RI_0$  is followed by a statement of <713>—a group of pitch-classes from  $R_4$  <0-2>—which is itself followed by a lone tetrachord of  $I_0$ : <08E6>. It is almost as if the piece is no longer twelve-tone at this point: technique and idiom have been overwhelmed by the movement's “problem.”

Yet it is precisely at this apogee of crisis that the “problem” is solved. Now that the original opposition of  $P_4$ 's constituent set classes has been resolved, their shared octatonic DNA illustrated, all that remains is for row order to be restored. This is achieved by means of a complete linear statement of  $R_4$ , thus manifesting a large-scale pitch palindrome with the movement's opening. The inner portion of the movement, sandwiched between these symmetrical row statements, reinforces this larger design—see the {08} {E6} {80} dyadic palindromes in mm. 3 and 8, and the {14} {39} {14} palindrome in mm. 5 and 7, which are also arranged palindromically between themselves. Furthermore, it arguably “prolongs” the movement's opening and closing set-class [0146] by means of set-class expansion and contraction:

[0146], m. 3 > [0136] subset, m. 4 < [0137], m. 5 > [0136] subset, m. 5 < [0146], m. 7, [026], m. 7, [0146], m. 8

46 Upsetting row order is not some fatal syntactic error that invalidates the premise of serial composition, and composers might choose to *interpret* such disruptions expressively or utilize them as an important structuring device. (My thanks to Ciro Scotto for this clarification.) The common use of secondary harmonies (i.e., non-row-derived harmonies) in Schoenberg's music is a case in point: see Martha Hyde, *Schoenberg's Twelve-tone Harmony: The Suite Opus 29 and the Compositional Sketches* (Michigan: University of Michigan Press, 1982).

The first [0268] tetrachord of the final row statement,  $R_4$ , relates to the preceding [0146] by means of  $T_1^{*(3)}$ . A series of fuzzy transpositions then occurs, as a means of showing how movement from relatively spacious to relatively compressed set classes is achieved *parsimoniously*, thus satisfying Straus's law of atonal voice leading whereby harmonic changes occur through the smallest voice-leading increments possible: [0268] > [0258] > [0158]. As outlined earlier, closure for the movement as a whole is achieved by means of [0158]'s return to [0146], potentially referencing the opening two tetrachords of Dallapiccola's *Simbolo*. Smith Brindle described the harmonic movement from [0158] to [0236] as part of a chromatic but still *functional* progression from B major (decorated with a neighbor-note major 7th) to B $\flat$ 7, which would ultimately move by stepwise voice-leading to a tonic A minor. In the context of the *Ben adagio*, we have a similar progression, from Bm6 to B $\flat$ 7<sup>#11</sup>. Smith Brindle's prized tonal-atonal equilibrium is maintained here: for considered post-tonally, the [0146] can be heard plainly as a point of rest—it marks the beginning and end of a large-scale palindrome; it is “prolonged” throughout the movement; and it often houses ic 4 as part of the movement's quasi-cadential sc [06] → [04] contractions. Considered in terms of the chromatic functional harmony that Smith Brindle alludes to in the equivalent Dallapiccola progression, however, it implies something of a dominant sensibility that requires resolution to a more triadic entity—the closing A-minor chord of *Simbolo*'s opening phrase, and the B-minor triad of the *Ben adagio*'s m. 1. Thus, Smith Brindle's final sonority might be thought to manifest action and repose simultaneously.

Despite its brevity, this piece demonstrates Smith Brindle's originality, and the sophistication of his twelve-tone technique. On one level, it exhibits little of the complexity of Schoenberg's mature style: hexachordal combinatoriality, isomorphic partitioning, multidimensional set presentation, etc.<sup>47</sup> It does, however, pursue a Schoenberg-style *narrative*, of problem, elaboration, and resolution; the musical characters that animate this tale just owe more to Dallapiccola—that is, to octatony—than to Schoenberg. Furthermore, he also pursues a more personal—Straus would argue *more conservative*—musical syntax, which emphasizes set-class expansion and smooth voice leading. His approach to this, though, is nuanced by his understanding of tonal-atonal equilibrium. Set-class expansion produces intervallically consonant but functionally dissonant harmonies, which can discharge (via means of ics 6 → 4 voice leading) into compact, more overtly semitonal set classes. (As we shall see in the following section, however, this does not represent the only technical means by which tonal-atonal equilibrium might be manifested.)

As before, in my analysis of the *The Harmony of Peace*, I admit that the analysis pursued above is abstract; but I believe that it leads to a clearer understanding of the piece. A simple awareness of tritones and their potential destinations in pitch-class space can lend a different tactile awareness to learning and performance. Furthermore, an appreciation of this movement's overall argument might help to give performers

47 See Ethan Haimo, *Schoenberg's Serial Odyssey: The Evolution of His Twelve-Tone Method, 1914–28* (Oxford: Oxford University Press, 1991), chapter 1.

more interpretive *options* than might otherwise present themselves. How should one emphasize the opposition of  $P_4$ 's opening set-classes? (The *ponticello* and *tastiera* performance directions already provide an inkling of this.) How to make both the small- and large-scale palindromes more clearly palpable to a listener? How to convey the crisis precipitated by the breakdown of row order in the movement's middle section? However one chooses to go about answering such questions (if at all), it is my hope that one's being aware of them will nevertheless be fruitful.

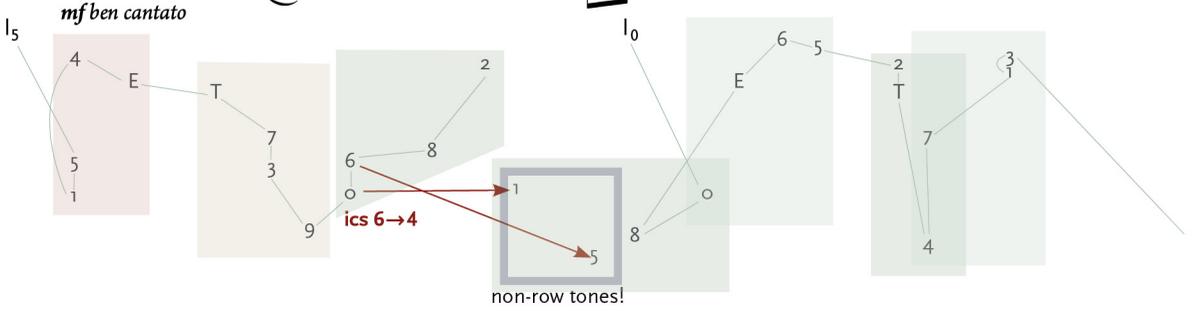
### *Largo*

The close link between movement from one row form to another and tonal-atonal equilibrium in *El Polifemo de oro*'s first fragment is progressively loosened in its third-movement *Largo*; this leads to an ultimate rejection of twelve-tone denouement. As can be seen in **figure 1.6**, the tension flow in  $I_5$  is broadly the same as that of  $P_4$ : relatively compact set classes move toward a chord that is more spacious and overtly dominant-like at its end: namely, [0268]. Smith Brindle's use of partitioning is more regular here, however: there is a clear sense of tetrachordal division. In consequence, it becomes imperative to chart the transformational relationships that connect all three tetrachords (designated  $t_1$ ,  $t_2$ , and  $t_3$ ).  $t_1$  {F, E, D $\flat$ , B} relates to  $t_2$  {B $\flat$ , A, G, E $\flat$ } by means of  $T_5^{*(2)}$ . All voices move up by a perfect fourth, with the exception of {D $\flat$ }, which moves up by a tritone (one semitone "too high" in pitch space) and {B}, which transforms into {E $\flat$ } (a semitone "too low" in pitch-class space). Crucially, this voice-leading motion in set-class space is *balanced* (or "zero-sum," to put it in the parlance of modern music theory).<sup>48</sup> In consequence, both tetrachords are six semitones offset from the most chromatic tetrachord, [0123]. While there is movement in pitch space and between different set classes, then, we come no nearer either to the most chromatic or to the most intervallically spacious ends of the sc spectrum: [0146] and [0137] are both 5 semitones away from [0123]. In harmonic-tensional terms, it might seem as if Smith Brindle is treading water. Only with the change from  $t_2$  to  $t_3$  does a significant westward motion in sc space occur, the music's becoming more clearly "consonant."

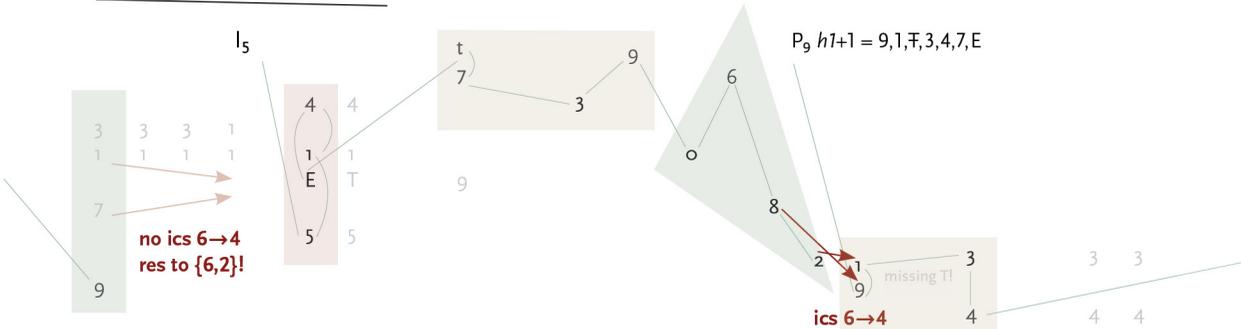
48 Richard Cohn distinguishes usefully between *actual* voice-leading sums and *directed* voice-leading sums. The first concept records the total number of semitones displaced when one chord moves to another (e.g., 2); the latter takes account of the directions in which those semitones move. If one voice moves up a semitone and the other one down a semitone, for example, then the directed voice-leading sum is zero, hence "zero-sum voice leading." See Cohn's "Square Dances with Cubes," *Journal of Music Theory* 42, no. 2 (Fall 1998): 283–96. This kind of voice leading applies, most famously, to  $T_4$ -related major triads. Indeed, it is the balance immanent in such voice leading that leads Cohn to ascribe B $\flat$  major and G $\flat$  major the same "tonic" function in his reading of Schubert's B $\flat$ -major Piano Sonata, D. 960, i. (In the transformation from the former chord to the latter, {B $\flat$ } stays in place, while {F} rises to {G $\flat$ } and {D} falls to {D $\flat$ }).) See Richard Cohn, "As Wonderful as Star Clusters: Instruments for Gazing at Tonality in Schubert," *19th-Century Music* 22, no. 3 (1999): 213–32 and *Audacious Euphony: Chromatic Harmony and the Triad's Second Nature* (Oxford: Oxford University Press, 2012), 19; 124–28.

Figure 1.6 Reginald Smith Brindle, *El Polifemo de oro*, iii, *Largo*, mm. 1-9.

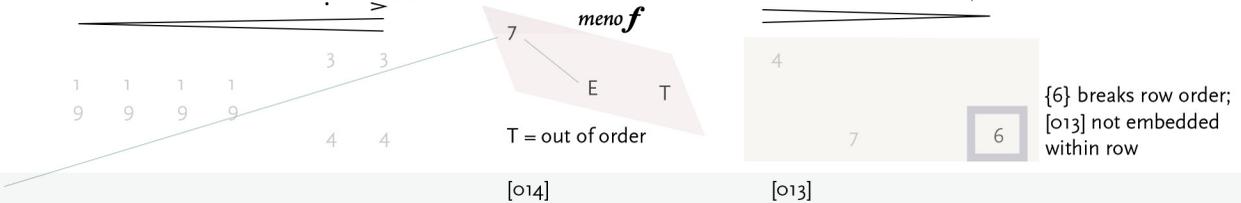
Largo



$$[0146] \xrightarrow[0\text{-sum}]{T_5^*(2)} [0137] \xrightarrow{T_5^*(3)} [0268] \xrightarrow{T_0^*(2)} [0158] \xrightarrow[0\text{-sum}]{T_{-1}^*(2)} [0167] \xrightarrow{T_{-1}^*(3)} [0258] \xrightarrow{T_{-1}^*(4)} [0236] \dots T_{-1}^*(1)$$



$$[0268] \xrightarrow[0\text{-sum}]{T_5^*(2)} [0146] \xrightarrow{T_5^*(3)} [0137] \xrightarrow{T_{-1}^*(1)} [0268] \xrightarrow{T_{-1}^*(1)} [0137]$$



It is at this point, of course, that tonal-atonal equilibrium was first manifested in the piece's opening fragment, by means of the discharge of [0268]'s ic 6 to [0146]'s ic 4. The voice leading here is similar, but for two crucial differences. The {60} tritone of  $I_5$  discharges to {15}; but while these pitches could be understood as the first dyad of  $P_1$ , that row does not ultimately materialize; they are grouped instead with the opening dyad of  $I_0$ , {80}. (The latter row goes on to be stated in its entirety.) Not only does this mean that ic 4 is embedded within a new set-class—namely, [0158]—but Smith Brindle also seems to be intimating that the rich tonal-atonal equilibrium he has been cultivating throughout this work is possible *outside of a twelve-tone environment*. In a nutshell: the resolution for [0268]'s tritone does not require the full statement of another row. As we shall see, this anticipates the *Largo*'s non-dodecaphonic end.

If we understand the bold-face set classes in figure 1.6 as forming a single underlying progression, “decorated” by “fuzzy” transpositions, then its sc parsimony becomes apparent: adjacent set classes are offset from one another by a single semitone: e.g., [0158], [0258], and [0268]. In m. 6, however, *the constituent tritone does not resolve in the traditional way*; ic 6 {G, C#} still moves to ic 4 {F, C#}, but without the double-semitonal, contrary motion that we associate with common-practice cadences. This is not because twelve-tone writing unravels, as it did previously; in fact, Smith Brindle adheres strictly to a linear row statement of  $I_5$ . This marked rejection of the work's established harmonic behavior is quickly reversed; in m. 7, the culminating [0268] chord of  $I_5$  discharges properly by means of more conventional ics 6 → 4 voice leading. Again, though, the set class which embeds ic 4 is a secondary [0137] set, produced by means of the omission of  $P_9$ 's third note, {Bb}. Furthermore, the [014] set in the second half of m. 8 also disrupts strict row order; but it at least recreates a set-class that is an important constituent of the overall row. This is not the case for the concluding harmony of the phrase. The <476> succession produces a set-class alien to the basic row, namely [013], and its final pitch class, which is lent rhetorical emphasis by the appoggiatura and *decrescendo* marking that precede it, nullifies any suggestion that the first hexachord of  $P_9$  (plus one note of  $h_2$ ) will be answered by a complete, ordered presentation of its second.

The *Largo*'s goal thus far, then, has been to separate out the effect of tonal-atonal equilibrium from the strict twelve-tone writing on which it had previously been contingent. This foreshadows the movement's culminating gesture (see [figure 1.7](#)). In mm. 13–15, the first nine notes of  $I_0$  are normatively articulated. The final three quarter notes in the upper voice of m. 16 (<234>), however, manifest a chromatic succession without precedent in the basic row. Upward semitonal motion is continued in the next measure, with the melodic <E#, F#> again disrupting row order. Overall, a wholly chromatic [012345] set is projected, if one also takes account of the tenor {1} in m. 17. This is answered by (and elided with) a wholly diatonic [024579] hexachord, which “composes-out” (barring the top {F#}) the open strings of the guitar in rolled harmonics. The least dodecaphonic moment is simultaneously the most guitaristic.<sup>49</sup>

49 For the perfect example of a synthesis of dodecaphonic argument and idiomatic guitar writing, see the analysis of the opening variation of ApIvor's Opus 29 in [chapter 2](#).





## Acknowledgments

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