



Virtuosity in Babbitt's *Loneley Flute**

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Introduction

[1] Listeners to Milton Babbitt's music have criticized it for being excessively abstract or perceptually random. Performers of Babbitt's work have often expressed similar attitudes, feeling straight-jacketed by the score's specificity on the one hand, or glossing over detailed accuracy on the other. The complaints from both sides imply that the rigor of Babbitt's music precludes expressivity and freedom of interpretation.

[2] Our paper argues that Babbitt's music finds an astonishing richness of expression within and because of its constraints, and that performers can similarly find interpretive freedom within the confines of the notated score. Only by exploring this interpretive freedom can performers communicate the compositional freedom expressed in Babbitt's works.

[3] We construe these tensions between rigor and freedom as a particular type of virtuosity that lies at the heart of Babbitt's music. In the words of Andrew Mead, "Much of the power of Babbitt's music is generated from the interaction, even opposition, between the surface and background."⁽¹⁾ Or those of Luciano Berio: "Virtuosity often arises out of a conflict, a tension between the musical idea and the instrument, between concept and musical substance . . ."⁽²⁾

[4] "Virtuosity" usually refers to exceptional technical skill in performance (sometimes to the detriment of musicality). In its early Italian usage, however, virtuosity implied *virtu* or excellence in composition or theory as well as performance.⁽³⁾ The true virtuoso exhibited extraordinary artistic and expressive abilities in addition to technical facility.

[5] Our co-authored paper examines Babbitt's *None but the Loneley Flute* for unaccompanied flute (1991) from the points of view of flutist and theorist. We focus on the virtuosity—compositional and performative, apparent and hidden—that permeates the work.

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[6] The performer of *Loneley Flute* faces virtuosic demands in many arenas. Difficult couplings of register and dynamic (high-register *pianissimo*, for example), rapid changes of register and dynamic, complex rhythms, twelve pages of a single acrobatic line with few rests and no opportunities for page turns—these and other features demand precise control and flexibility of embouchure, air stream, and mental focus, not to mention sheer physical endurance.

[7] In addition to these more obvious manifestations of virtuosity, *Loneley Flute* demands a deeper level of understanding. The precise notation of the score hides rich musical cross-references, challenging the performer to project both registral/dynamic

counterpoint and long surface line, to recreate and communicate the “swing” of the rhythms, and to shape the trajectory of details and whole.

[8] This deeper virtuosity develops through a learning process that moves from the basic terms of the work to a reinvention and communication of it. In other words, one can neither skip over the precision demanded by the score, nor stop with an accurate rendition.

[9] We felt that it was important to describe EM’s process in learning this work, particularly with regard to a much-debated aspect of Babbitt’s music—the role of its notated meters. She began, as with any musical work, by making sense of the piece’s notation, and translating it into physical actions and coordinations. At this first step, *Lonely Flute’s* notated meters seemed to contradict its rhythms, and even worse, to add superfluous complexity to already difficult material. As she continued to study the work, however, she began to make sense of the notated meters: they imply a beat and thus help the performer stay on rhythmic “track.” She decided that convergences of rhythm and meter indicate important musical markers, and that divergences suggest freer and more fluid interpretation. In a third learning phase, she internalized the physical and interpretive decisions already made; the rhythmic shocks and stresses of the music became familiar, almost trivial. Finally, she began to speak through the piece—to retell the story in her own voice—playing the familiar gestures as if improvising them. By this point, the notated meters functioned like an implied rhythm section over which she, like a jazz flutist, soloed.⁽⁴⁾

[10] Each performance, of course, occasions a fresh retelling. The density of information in *Lonely Flute* in particular provides much to rediscover, reinvent, and reinterpret in each performance. In short, performative virtuosity in this work includes but necessarily goes beyond its technical and reading demands, to interpretation, internalization, and identification.

[11] Compositional virtuosity lies in the work’s abstract pre-compositional structure, in its realization, and in the play of its structure, surface, and external associations (Tchaikovsky’s song “None but the Lonely Heart,” Op.6 No.6). The elegance of Babbitt’s arrays (and their explorations of “maximal diversity”) is well known.⁽⁵⁾ *Lonely Flute* presents an all-partition array of 6 lynes and 58 aggregates, using a row based on the Type D hexachord [012678]. The array is a hyperaggregate; that is, it contains 48 row statements, one of each member of its row class.⁽⁶⁾ *Lonely Flute* presents the array once in the pitch domain, and three of its 8 blocks (at T_6) in the time domain.⁽⁷⁾ Pitch-class (pc) lyne pairs are articulated by register (low-high) and time-point (tp) lynes by dynamics (correspondingly soft-loud). **Example 1** and the corresponding score in **Example 2** show the beginnings of the pc and tp arrays and their realizations. In the pc array (Example 1a) each lyne pair corresponds to an octave; individual lynes are not distinguished within their pairs. In the tp array (Example 1b) dynamics from *pianissimo* to *fortissimo* articulate individual lynes.

[12] Babbitt’s virtuosic treatment of the composing out of his arrays is also well documented. In *Lonely Flute*, the single composite flute line resulting from the interweaving of registral and dynamic lynes references the pc array in multiple ways. **Example 3**, which aligns with the staff line immediately below it, demonstrates three such modes of reference:

1. row segment. <078621> is the first hexachord of a row form.
2. array-lyne segment respecting partitions. This passage references a lyne segment from a distant portion of the array (cf. Example 6a). Each partition is represented by a separate attack (such as the two C’s at the beginning) or string of equal durations (<8621>); blank partitions (~) are represented by dynamic changes on tied notes (the D’s at the end of the line).⁽⁸⁾
3. single partition of an array lyne via an equal-duration string. The cardinality of the partition (here 4) equals that of the equal-duration string; elements may be rhythmically selected.⁽⁹⁾

[13] Babbitt’s virtuosity in his use of tp arrays is less universally acknowledged. In *Lonely Flute*, the array remains largely hidden, since 1) it does not establish its durational unit () or its modulus () by the musical surface or the notated meter,⁽¹⁰⁾ and 2) it does not clearly distinguish between *bona fide* tps and those evenly-spaced attacks that subdivide durations between tps.⁽¹¹⁾ Furthermore, as noted earlier, the notated meter fluctuates dramatically in its distance not only from the tp array, but also from the musical surface.

[14] This distance between tp array, notated meter, and musical surface prompts some interpreters to question the perceptual relevance of Babbitt’s precise time points, durations, and even tempi. Joel Lester, for example, suggests that one does not hear metric hierarchy (much less the particular notated meters) in Babbitt’s music, that therefore one cannot accurately perceive durations or their relations, and that as a result analyses of Babbitt’s notated rhythms may be misguided.⁽¹²⁾ Some recordings and performances of *Lonely Flute* imply a similar interpretation, taking its notated rhythms with a fair degree of

liberty.⁽¹³⁾

[15] We propose, however, that the perceptual impact of these various rhythmic levels derives not from one-to-one correspondences, but from fluctuations in their degree of correspondence. It is the play of distances among timepoints, notated meter, and rhythmic surface that manifests itself to performer and listener.

[16] The opening of *Lonely Flute* introduces this interaction of levels. **Example 4a** shows the work's opening divided into three phrases, each ending with a soft long note. (The three phrases as a whole are set off by a rest, and by a change from prevailing softer dynamic levels to *f* / *ff* in measure 10ff.). Each phrase begins with a clearly articulated downbeat (↓): at measure 2 (“substituting” for measure 1), measure 4, measure 7, and measure 10. In this way, the notated meter surfaces at important junctures.

[17] Furthermore, the third of these phrases (measures 7–9) sounds distinctly “square” rhythmically in relation to its surroundings. It not only expresses the quarter-note pulse and downbeats of the notated meter, but its boundary downbeats (measure 7, 10) articulate tp 0. This phrase thus marks the first alignment in the work of rhythmic surface, notated meter, and tp 0 of the array (↓↓).

[18] This alignment of the stars heralds a portentous moment. The almost comical effect highlights several ironic references to Tchaikovsky's song “None But the Lonely Heart” (labeled LH). The last LH in **Example 4a** quotes **Example 4b** at exact pitch displaced by two octaves.⁽¹⁴⁾

[19] Such passages call for the performer to subtly emphasize the metric regularity, in contrast to the prevailing irregularity. Here are a few ways in which EM does this. She clearly establishes the downbeat of measure 7, despite the *pianissimo* dynamics, undistinguished articulation, and repeated pitch, by using a fuller and more rounded tone, and by making the initial A♭ stronger than the succeeding low E's. Her articulation carefully connects the *pp* and *mp* E's at beat 3, and then, avoiding emphasis on beat 3, her vibrato and articulation lead the motion through to the downbeat of the following bar. In this way, she uses breath accents, vibrato, timbre, and varied tonguing to emphasize downbeats and otherwise give direction to the rhythm, without distorting Babbitt's notated indications.

[20] Passages that are more complex rhythmically also require rhythmic clarity, but in a manner that sounds spontaneous. *Lonely Flute*'s rhythms thus challenge the performer both to learn them accurately and to convey them effectively.

[21] The last “square” phrase alludes not only to Tchaikovsky's “Lonely Heart,” but also to the climax of *Lonely Flute* in its rhythmic, pitch, motivic, and dynamic structure (in ways in which we will not detail here). The climax, which can be heard in **Example 5**, occurs approximately 2/3 of the way through the work.

[22] Even more than the opening passage, the climax displays skillful manipulation of distances between structure and surface. (See **Example 5** and corresponding array aggregates in **Example 6**.) The passage begins with relatively clear meter and straightforward rhythm: articulated downbeats and ♩ subdivisions indicate closeness both to the notated meter and to the ♩ grid of the tp structure. At measure 104, however, an extended soliloquy in high register and *pianissimo* dynamic seems to suspend time. This passage—three concatenated strings of equal subdivisions (based on ♩ and an 11-tuplet)—articulates no downbeats and no array tps! It thus “steps out of time,” distancing itself from the notated meter and from the steady 16th-note tp grid governing the piece.⁽¹⁵⁾

[23] This “out-of-time” passage falls at the end of tp aggregate 15—the only tp aggregate in the work restricted to *p* / *pp* dynamics. The portion of the tp array used in *Lonely Flute* contains no single-dynamic aggregates,⁽¹⁶⁾ so in order to sustain a single dynamic—here *pp*—Babbitt must momentarily suspend the time-point array. And this is what he does.

[24] Ironically, this expression of greatest distance between tp array and surface coincides with the projection of closest relation between pc array and surface. Here the bare bones of the pc array—its underlying row projected as a single lyne (the 12¹ partition, aggregate 39)—surface, in the form of the only pc aggregate restricted to the high register.⁽¹⁷⁾ Thus the passage's ethereal quality results, paradoxically, from closeness to the pc array (high register) and distance from the tp array (*pianissimo* dynamic and rhythmic fluidity).

[25] This passage greatly challenges the performer by combining “opposites” in modes of pc and tp lyne articulation (high and soft). She must switch from the fast and precise changes in embouchure and air flow required by the changing dynamics and register of the rest of the work, to the sustained control and air demanded by the extended *pianissimo* high *legato* line of

this passage. The lyrical melody in high register sounds serene and effortless, but is perhaps the most difficult passage in the piece; the apparent calm conceals virtuosic effort.

[26] Near the end of the work, a notable (if fleeting) passage refers back to the climactic soliloquy. (See **Example 7**, and compare to Examples 5 and 6). As shown in Example 7a, this riff indexes the 12¹ partition of the climax. This passage and the climactic passage, however, could not come from more contrasting pc-array sources—the one (Example 6a) from the sole single-lyne partition demonstrating maximum closeness to the array, and the other (Example 7b) from portions of two array partitions distributed across all 6 lynes. These contrasting distances from the pc array manifest themselves in the climax's adherence to a single register, and in the later passage's dancing among all three registers.

[27] Both passages distance themselves from the tp array via equal-duration strings (based on the dotted 16th in the first case, and on the dotted 32nd in the second), resulting in single soft dynamics (*pp* and *p* respectively). The climactic passage, however, expresses the longest-lasting pc aggregate of the work, while the later fragment skips through its pc aggregate in record time (less than 2 seconds).⁽¹⁸⁾

[28] The intricacy of these cross-references demonstrates a virtuosic compositional command of “maximal diversity,” and demands a similar range of performative control. The flutist must sustain a long *pianissimo* line in high register in the first case, and maintain a constant *piano* dynamic across widely-ranging registers in the second.

[29] These two passages exemplify one challenge of the work's dynamics—their rebellion against the flute's intrinsic linkage of dynamics and register. A second challenge lies in carving out six differentiated dynamic levels within the instrument's limited dynamic range. Such exigencies may tempt the performer to homogenize dynamics, but she can call upon supplemental resources such as timbre and vibrato to help in the dynamic definition so crucial to the work. (Paradoxically, Babbitt's detailed control of pitch, rhythm, and dynamic contrasts with sparse specifications of articulation and timbre; the performer must inflect, shape, and emphasize, and can discover and communicate whimsy and surprise.)

[30] *Lonely Flute's* compositional virtuosity extends beyond its structure and multiple cross-references to its pacing of events. **Example 8** graphs the durations of pc aggregates through the piece. One can observe (a) a rather relaxed pace at the opening, (b) a generally faster pace in the $\text{♩} = 90$ section, (c) dipping to the slowest point at the climax, then (d) jagged fluctuations leading to the fastest point (the “riff” just discussed).

[31] The pacing of pc aggregates depends largely on the rhythmic surface created by the realization of the tp array. Babbitt stretches tp aggregates by repeating tps and/or inserting strings of equal durations.⁽¹⁹⁾ The longer the tp aggregate, therefore, the farther it lies from the tp array, and (usually) the greater the number of pc aggregates it encompasses.⁽²⁰⁾

[32] **Example 9a** shows the pacing of pc and tp aggregates relative to one another; aggregate durations are represented proportionally, as well as (within each series) by lighter/darker shading.⁽²¹⁾ **Example 9b** graphs the approximate number of pc aggregates per tp aggregate. The ratio begins and ends at approximately 1:1, hovers around 2 or 3:1 for much of the work, and peaks noticeably at 5:1 just before the end.⁽²²⁾

[33] The approximate 1:1 ratio that begins and ends the work produces a sort of declamation appropriate to these moments in the rhetoric. One can almost conceive of the passages as prelude and postlude, an effect resulting also from specific pitch, pc, rhythmic, and motivic links which we will not discuss here.

[34] In general, the speed of pc aggregates, interacting with the speed of tp aggregates and equal-duration strings, combines with registral and dynamic flux to create widely varying rates of surface activity. We have already seen how these factors combine at the work's climax to create a soaring floating unmoored effect, and at the fast “riff” prior to the piece's denouement to produce a sudden flurry of registers and dynamics. This choreography of pc- and tp-aggregate pacing shapes the flow of *Lonely Flute*, and demonstrates a compositional mastery of event pacing.

[35] Though we speak of widely-varying rates of activity, *Lonely Flute's* overall pace is quite fast. Edward T. Cone writes of different rhythmic levels characterizing different stylistic eras: the beat the Baroque period, the measure the Classical style, and the hypermeasure the Romantic era.⁽²³⁾ In our opinion *Lonely Flute* resembles the Baroque in its faster basic rhythmic level, and in the seamless aspect of its motion.⁽²⁴⁾ The (sub-tactus) 16th note forms the basic level of motion, with the faster and slower levels of the rhythmic surface cutting in and out over the implicit “rhythm section” of the notated meter. Unlike music of the Baroque, however, where harmonic progression underlies the sense of motion, here pc and tp aggregates continually recycle, changing not in their content but in their registral and dynamic disposition and temporal pacing.

[36] As in Baroque music, the performer has great license in matters of timbre, articulation, and temporal shaping. Indeed, these parameters take on great import in the context of the continual spinning out of *Lonely Flute*'s materials. The shaping of this perpetual motion is perhaps the performer's greatest responsibility: discovering connections and exploiting unique moments—and internalizing such decisions so as to be able to respond freely to the particularities of a given performance, the energy of an audience, and the acoustics of a particular hall.

Conclusion

[37] Contrary to widely-held perceptions of Babbitt's music as cold and inexpressive, we find expressive freedom in *Lonely Flute* in the interstices between pre-compositional structure and musical cross-references, between close observance of score directions and communication of improvisational effect, between "abstract" tp and metric structure and the rhythmic feel they produce as they emerge and recede from the surface.

[38] Contrary, too, to the stereotype of analysis as rigorous and performance as intuitive (as if the two are somehow in conflict), we hope to have demonstrated the parallel journeys that both of these disciplines undertake. While acknowledging their distinctiveness, our joint exploration of Babbitt's *Lonely Flute* has brought out (to us, at least!) the tensions of rigor and freedom inherent in both, and in the process, has illuminated that virtuosity—compositional and performative, apparent and hidden—so central to Babbitt's *None but the Lonely Flute*.

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Footnotes

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The presentation featured live demonstration of the musical examples, and concluded with a complete performance of *Lonely Flute*. For this *Music Theory Online* version, we are grateful to Andrew May and Daryl Burghardt for their assistance in recording and converting files to suitable formats.

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1. Andrew Mead, *An Introduction to the Music of Milton Babbitt* (Princeton: Princeton University Press, 1994), 52. See also Joseph Dubiel, "Three Essays on Milton Babbitt," *Perspectives of New Music* 28/2 (1990): 216–261, 29/1 (1991): 90–122, 30/1 (1992): 82–131 for an intrepid exploration of "the chasm between twelve-tone 'background' and 'immediate musical foreground'" in Babbitt's music (Dubiel 1990, 218).

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2. Luciano Berio, *Two Interviews with Rossana Dalmonte and Bálint András Varga*, translated and edited David Osmond-Smith (New York: Marion Boyars, 1985), 90.

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3. Sebastien de Brossard, *Dictionary of Music*, tr. and ed. Albion Gruber of *Dictionnaire de Musique* (Paris 1703) (Ottawa: Institute of Mediaeval Music, 1982), s.v. "virtu."

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4. EM calls these phases of learning "orientation, demystification, internalization and identification." They correspond to Edward T. Cone's "three readings" of a detective story; see Cone, "Three Ways of Reading a Detective Story—Or a Brahms

Intermezzo,” in *Music: A View From Delft* (Chicago: University of Chicago Press, 1989), 77–94.

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5. See, for example, Mead, *Introduction*; for “maximal diversity,” see pages 19–20, 33–34.

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6. The array is T_5 of the array of *Joy of More Sextets*. As is usual with Babbitt’s all-partition arrays, the three hexachordally-combinatorial lyne pairs exhaust the distinct mosaics for the segmental hexachord. See Mead, *Introduction*, 34 for the term “hyperaggregate.”

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7. T_6 preserves the array’s hexachordal mosaics.

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8. In a few cases (measures 40, 145, 151), flutter tongues entering on tied notes perform the same function.

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9. We are grateful to Andrew Mead for illuminating this aspect of Babbitt’s practice in a discussion during an early phase of our analysis.

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10. In early time-point works such as String Quartet 3 and *My Ends are My Beginnings*, the notated meter, which remains relatively constant, often corresponds to the array modulus and is frequently articulated at the work’s opening. In later works such as *Lonely Flute* and *Soli e Duettini*, however, meters change frequently (including alterations such as $3/4 + 1/16$) and evade a close correspondence to the time-point grid. See Andrew Mead “About *About Time*’s Time: A Survey of Milton Babbitt’s Recent Rhythmic Practice,” *Perspectives of New Music* 25/1 (1987): 195, 227; and Mead, *Introduction*, 257.

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11. Unlike Babbitt’s early tp practice, subdivisions in *Lonely Flute* do fall on the 16th-note tp grid; sometimes even entire equal-duration strings consist of 16th or 8th notes. Furthermore, equal-duration strings often begin or end within held notes or rests, thus obscuring their boundaries. Time points themselves occasionally fall on or within rests (e.g., measure 39, measure 42).

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12. Joel Lester, “Notated and Heard Meter,” *Perspectives of New Music* 24/2 (1986): 116–128.

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13. Commercial recordings include those by Dorothy Stone (for whom the work was written), New World Records 80456–2 (1994); and Rachel Rudich, Koch International Classics 7335.

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14. The earlier LH’s refer to the motive more generally, as a large downwards leap to a repeated pitch.

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15. The soliloquy is bounded at its beginning by a rest and repetition of pc $E\flat$ across registers, and at its end by a *mf* $F-B\flat$ “cadence.”

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16. and only one other aggregate restricted to two contiguous dynamics (*mp* / *mf*). That other tp aggregate also associates with a single-register pc aggregate.

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17. Although there are other aggregates confined to a single register, they occur in the middle and low registers, and involve two lynes rather than one.

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18. The wide variation in pacing results from differences in basic durational units (dotted 16th versus dotted 32nd), and in frequency of articulation of these units: the climactic passage articulates its equal subdivisions only sporadically, while the

later passage attacks almost every one of its equal subdivisions.

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19. Repeated tps and equal-duration strings do not necessarily expand inter-tp durations: they can simply fit in between tps. Where they do lengthen inter-tp durations, they do so by some multiple of twelve 16ths.

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20. The pacing of pc aggregates is largely determined by the surface rhythm articulated by tps and equal-duration strings, although pc aggregates can also expand their length by repeating pcs or inserting rests.

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21. Example 9a adjusts the $\downarrow = 90$ section so that it is proportional in absolute time to the remainder of the piece.

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22. Example 9a elucidates these ratios. At (a) the opening pc and tp aggregates have similar durations (very slow for pc aggregates, and relatively fast for tp aggregates). At (b) (the $\downarrow = 90$ section), both pc and tp aggregates unfold relatively quickly. This section (pc aggregates 15–21) is the shortest block in the pc array; coincident tp aggregate 8 is the second shortest aggregate in its array. At (c), the work's "climax," both series slow: the work's longest pc aggregate (39) occurs against a relatively long tp aggregate (15). Near the end of the work (d), the slowest tp aggregate occurs against the fastest pc aggregates. (Tp aggregate 19 accompanies pc aggregate 51, the second-fastest pc aggregate, and immediately precedes pc aggregate 56, the fastest pc aggregate (the "riff")). The closing pc and tp aggregates at (e) again exhibit similar durations (the work's fastest tp aggregate against a pc aggregate undistinguished in duration).

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23. Edward T. Cone, *Musical Form and Musical Performance* (New York: Norton, 1968), 57–87, especially 66, 72, 79.

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24. The resemblance extends to other features such as counterpoint, basic homogeneity, and tight structure.

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