Parallelism and Musical Meaning

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Introduction

In his 1973 Harvard lectures, Leonard Bernstein postulated an essence of musical meaning, arguing that music possesses "intrinsic meanings of its own...generated by a constant stream of metaphors."[1] When musical ideas are repeated with variation, they are heard as metaphors for each other.[2] Sequence, inversion, imitation, and other contrapuntal devices represent varied repetitions of an original motive. Such repetitions enable music to stand independently of extra-musical associations such as stories, images, or feelings. Thus one can appreciate the subtle patterns of Beethoven's Pastoral Symphony without contemplating the countryside, bird calls, or satyrs and centaurs. "What do these sounds mean?" can be answered with "those with variation." New ideas evolve organically out of older ones, and even contrast and "antithesis" are defined by what makes them different than an original gesture. Ultimately everything contributes to the process of development. Extra-musical meanings are possible, but the essential meaning of music, Bernstein says, resides in the comparison of musical ideas.[3]

The comparison of musical ideas is synonymous with parallelism—concisely defined as "repeated patterns within a piece."[4] I take the term to subsume both simple repetition (as in minimalism) and varied repetition (as in classical music). Parallelism, I submit, is itself meaningful beyond musical self-reference in that it implies *intentionality*, and by extension, *intelligence.* Thus purely musical ideas—rhythms, pitches, etc.—point beyond themselves to what Aristotle phrased "states of the soul."[5] Parallelism evokes the soul—subject or conscious entity—as active in exercising some form of its agency.

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[1] Leonard Bernstein, *The Unanswered Question: Six Talks at Harvard by Leonard Bernstein* [1973], DVD, (Kultur D1570, 1992).

[2] This may seem illogical at first glance: all musical ideas belong to the same domain of musical sound; but metaphor by definition involves the comparison of ideas across different domains (see Lawrence Zbikowski *Conceptualizing Music* [Oxford University Press, 2002]); how then can musical ideas be understood as metaphorical? Bernstein himself says that his language about music, generating a constant stream of metaphors, is itself "highly metaphorical." Thus, although musical ideas are not literally capable of metaphorical comparison with each other, yet metaphorically they are. Bernstein's phraseology also encompasses music's potential for extra-musical meaning.

[3] Bernstein's lectures have of course inspired both censure and praise. Adam Keiler, for example, chides Bernstein for his application of linguistics to music analysis; see "Bernstein's 'The Unanswered Question' and the Problem of Musical Competence" *The Musical Quarterly* 64/2 (Apr., 1978), 195-222. By contrast, Fred Lerdahl and Ray Jackendoff were influenced by Bernstein in the development of their generative theory; see Fred Lerdahl and Ray Jackendoff, *A Generative Theory of Tonal Music* (Cambridge: The Massachusetts Institute of Technology Press, 1983).

[4] David Temperley and Christopher Bartlette, "Parallelism as a Factor in Metrical Analysis," *Music Perception: An Interdisciplinary Journal* 20, no. 2 (2002), p. 121.

[5] Quoted in Kevin Korsyn, "J.W.N. Sullivan and the Heiliger Dankgesang: Questions of Meaning in Late Beethoven" in *Beethoven Forum: Volume 2* (University of Nebraska Press, 1993), p. 42.

Versions of this idea have been articulated before. Adam Ockelford reasons that repetition in music is correlated with the "perceived agency" reflected in musical phenomena.[6] Elizabeth Hellmuth Margulis, furthermore, presents empirical evidence from which she concludes that repetition serves as a "handprint of human intention."[7] Many other authors acknowledge the importance of repetition as a structural foundation of music,[8] and others have discussed intentionality or volitional agency as a symbolic meaning in music.[9] Among these, Dr. Ockelford and Dr. Margulis most specifically corroborate my thesis.[10] In addition to their cogent scholarship, I believe there is compelling *a priori* justification for the idea that parallelism implies intentionality, which

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[6] Having coined the term "perspect"—a perceived aspect of sound—Ockelford reasons thus: "For a perspective appearance to be perceived as ordered means that its value must be felt to be controlled or restricted. If, for the sake of argument, all external influences on music (such as the cross-media effects of song texts, for example) are discounted, then any impression of control must stem from the musical medium itself—that is, from perceived sound through the perceived agency of other perspects. It is posited that the illusion of control occurs through imitation: if one perspective value is thought to echo another, then its value is restricted, and orderings may be inferred. Since imitating something implies that it is repeated, it can further be postulated that the source of perceived musical order lies ultimately in repetition." Adam Ockelford, *Repetition in Music: Theoretical and Metatheoretical Perspectives* (Aldershot: Ashgate Press, 2005), p. 20.

[7] Just as repetition in cultural rituals "can powerfully communicate human intentionality, given the impression that a careful order has been imposed on the otherwise entropic world." In her study, participants without musical training were instructed to listen to excerpts of Luciano Berio and Elliot Carter and rate from 1 to 7 their enjoyment of each excerpt, as well as how likely the excerpt was to have been created by a human composer rather than generated randomly by a computer. Meanwhile: "Unbeknownst to the participants, mixed in with the original excerpts were adaptations of them. In these adaptations, segments of music had been extracted and reinserted to add repetitions of some material; repetitions that could occur immediately or after some other music had intervened...Listeners rated the immediate and delayed repetition versions as reliably more enjoyable, more interesting, and more likely to have been composed by a human artist rather than generated randomly by a computer." Elizabeth Hellmuth Margulis, *On Repeat: How Music Plays the Mind* (Oxford University Press, 2014), pp. 15-16; p. 59.

[8] Among the many examples, consider Emilios Cambouropolous's observation: "Music becomes intelligible to a great extent through self-reference, that is, through the relations of new musical passages to previously heard material. Structural repetition and similarity are crucial devices in establishing these relations." Emilios Cambouropoulos, "Musical Parallelism and Melodic Segmentation," *Music Perception: An Interdisciplinary Journal* 23/3 (2006), p. 249. Willi Apel writes: "As a device of musical composition, repetition is one of the most important, if not the most important, principles of musical construction. This will be realized if it is remembered that the repetition of a musical idea or motive includes among its subspecies: sequential treatment, imitation, ostinato, variation, and repetition of entire sections." Willi Apel, *Harvard Dictionary of Music* (Cambridge, Massachusetts: Harvard University Press, 1956), p. 636. Among the many others joining the chorus are Basil de Selincourt, Roger Sessions, Igor Stravinsky, Arnold Schoenberg, Heinrich Schenker, John Rothgeb, Fred Lerdahl, Ray Jackendoff, and Edward Cone. See Ockelford, *Repetition in Music*.

[9] Naomi Cumming argues that tonal music symbolizes intentionality through "the voice-leading and harmonic rules governing progressions at every level." Naomi Cumming, "The Subjectivities of 'Erbarme Dich'" *Music Analysis* 16/1 (March 1997), p. 10. Roger Scruton, furthermore, claims that "music belongs uniquely to the intentional sphere, and not to the material realm" Quoted in Naomi Cumming, "Metaphor in Roger Scruton's Aesthetics of Music." *Theory, Analysis, and Meaning in Music.* Edited by Anthony Pople (Cambridge: Cambridge University Press, 1994), 5. See also Rebecca Leydon, "Towards a Typology of Minimalist Tropes" *Music Theory Online* 8/4 (2002), http://www.mtosmt.org/issues/mto.02.8.4/mto.02.8.4.leydon.html#FN1REF (accessed Feb. 1, 2015).

[10] Note that they use different terminology. Margulis prefers "repetition," while Ockelford coins the term "zygonicity" to indicate subconsciously perceived repetition.

I intend to elaborate here, followed by analyses of various excerpts demonstrating its place in musical structure.

First, I offer two clarifications. My argument here is not to be construed as a denial of extrinsic or intertexual meaning in music, which has been well established by musicologists and theorists.[11] Intrinsic and extrinsic interpretations of music are not mutually exclusive. The coexistence of both, rather, infers levels of meaning. Thus one can wink in response to Haydn's subtle use of the hunt topic in his "Le Matin" Symphony,[12] and another may simply delight in the accessible patterns of his musical embroidery. Far from excluding each other, both interpretations enhance one's total understanding of the piece. Second, I understand that my use of the term "intelligence" may seem offensive or preposterous. By intelligence, I simply mean "the faculty of understanding belonging to conscious beings," not "the comparative intelligence of conscious beings." Bearing this in mind will help prevent any awkward miscommunication. With these clarifications made, I begin my argument with a thought experiment.

Mortus

Imagine a lifeless planet somewhere in the universe with an atmosphere that conducts sound as on earth. Call it Mortus. Mortus is completely devoid of all animal and vegetable life. On it, the opening four-note motive from Beethoven's Fifth Symphony is produced at random by an unknown source. If present, human ears would hear and recognize the familiar melodic-rhythmic pattern.

How this might happen is of secondary importance. Acoustically, it can only happen if (1) some resonating body is caused to oscillate at appropriate rhythmic intervals, while somehow modifying its shape midway to change the resulting pitch. This is difficult to imagine; or, more plausibly, (2) multiple bodies of predetermined size and shape, corresponding to the pitches of the motive, are caused to oscillate at appropriate rhythmic intervals. For example, then: four stones roll down a slope and strike, in sequence, four smooth tubular structures formed by geological forces—three of the same size, and one a little larger—sounding Beethoven's “fate” motive.

The probability that this occurs is extremely low. The probability that if it occurs, it occurs again immediately afterward is even lower. Statistically, the probability that it repeats diminishes each time it may be repeated. Therefore, the likelihood that the whole symphony—or even the exposition of the first movement—is produced at random is zero, given the pervasive repetition of the initial motive throughout that work. If a space-traveler visiting Mortus hears even the first bar or two from over his shoulder, he or she will likely conclude its source to be an intelligent entity—probably someone transmitting a radio signal from another location in space.

Now, whether this perception is an illusion or not is another question. The point here is that humans interpret meaning in the repetition of musical ideas, and the meaning

[11] See, for example, Leonard Ratner, *Classic Music: Expression, Form, and Style* (New York: Schirmer Books, 1980), Kofi Agawu, *Playing With Signs: A Semiotic Interpretation of Classic Music* (Princeton University Press, 1991), and Jonathan Bellman, *Chopin's Polish Ballade: Op. 38 as Narrative of National Martyrdom* (Oxford University Press, 2009).

[12] See Raymond Monelle, *The Musical Topic* (Bloomington: Indiana University Press, 2002), p. 3.

they interpret is intelligence. Illusion or not, the impression is that chance alone cannot account for the production of such sounds; and that if it does, it cannot do so twice.

This conclusion also seems to be confirmed by chaos theory, which postulates that the repetition of events or patterns in nature is never exact, because infinitesimal differences in present conditions result in widely differing future results. Even if the rhythm alone were abstracted from the four-note motive, natural forces would in theory never cause it to repeat precisely.[13] The rhythm and pitches as well as the dynamics and articulation are fine-tuned.

That a musical idea is unlikely to repeat when left to chance is particularly true when it is independently known, as Beethoven's "fate" motive is. But even if some nondescript motive is produced on Mortus, such as ♪.𝅘𝅥𝅯—call it Rhythm X—the probability that it will repeat recognizably still diminishes with time. This—♪.𝅘𝅥𝅯 ♪.𝅘𝅥𝅯 ♪.𝅘𝅥𝅯 ♪.𝅘𝅥𝅯—would never happen; and if it did, a human being hearing it would conclude it to be caused by some intelligent agency.

Rhythm X, like Beethoven's "fate" motive, possesses a certain minimum degree of complexity; the notes are differentiated from each other, whether by rhythmic duration, pitch, or articulation. As I will argue later, a minimum complexity is required for repetition to be significant. What the Mortus experiment shows is that there seems to be an intuitive perception of the significance of musical repetition.

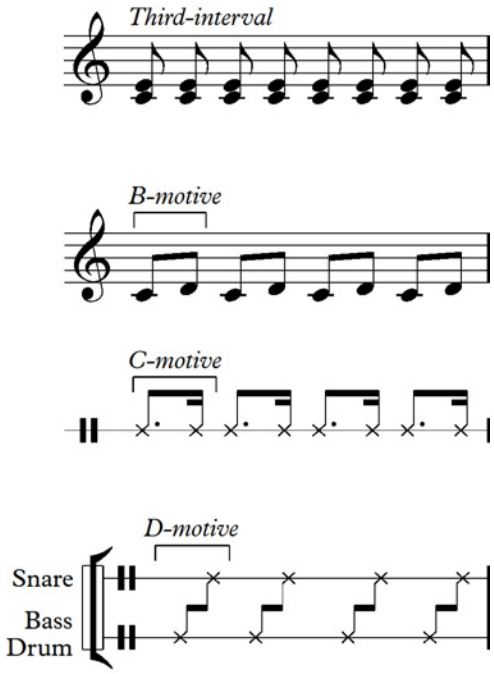
Objections

The implications of the significance of parallelism are enough to cause some to resist the theory. Perhaps to some it will smack of Intelligent Design Creationism, reek of simplicity, or seem to condemn music that lacks parallelism, such as that of John Cage or Giacinto Scelsi, or to present itself as an absolute, binding upon all humanity regardless of cultural background or historical context. I believe these dialogues must be held; but first, let us consider whether my theory is worth its salt. It will be argued: what then of the clicking of a loose driveshaft, or the tapping of a branch against a window? These sounds are repetitive, but certainly do not imply intentionality.

First, someone annoyed by those sounds might be quick to think someone is producing them on purpose. Also, mechanical parts and windows are products of human invention. Any sounds made by and/or with them are ultimately only possible due to intentionality, and therefore indirectly imply it. But beyond this, if the branch produces Rhythm X, the probability that it should do so again immediately afterward is slim. The likelihood of repetition continuing without interruption becomes increasingly unlikely as time goes on. The more extensive the repetition, the more likely it would seem to human ears that someone is intentionally causing it, because the repetition of complex sounds suggests intentionality.

[13] Indeed, there is a certain margin of error within which repeating patterns are intuitively cognized as indeed repeating; i.e. "imprecise" repetitions may indeed count as repetitions if they are close enough to the original; but even these are precise when taking into consideration the broad range of possibilities—the range of possible rhythmic values, silence values, velocity values—in this thought experiment.

By "complex sounds" I do not mean the complexity of Olivier Messiaen's *Four Studies in Rhythm*. I would argue that a minimum of *two distinct sounds*, produced either simultaneously or in succession, is sufficient to qualify "complexity" in this context.[14] The harmonic interval of, say, a third,[15] the melodic sequence of two different notes, or even the sequence of two un-pitched sounds differentiated either by rhythm or timbre will suffice (Example 1).



Example 1: Parallelisms of minimal complexity[16]

Thus "parallelism" denotes the repetition of sounds with a minimum level of complexity. The greater the complexity, the less likely they are to repeat without help..

[14] Simplicity, by definition, denotes that which is monadic or indivisible; etymologically, the term "simple" derives from the Latin *simplex*, which is defined as "single, uncompounded, unmixed." Therefore, the idea of complexity entails a minimum of two theoretically divisible elements within a unit. Consider that in chemistry, a "complex" is defined as "a molecular entity formed by loose association involving *two or more component molecular entities* (ionic or uncharged), or the corresponding chemical species" (emphasis added). See "Definition of Complex," *Chemicool.* http://www.chemicool.com/definition/complex.html (accessed May 20, 2015). Furthermore, in computer science, binary code by definition involves two characters—0 and 1—corresponding to the two potential electronic signals. With two symbols and no less, information can be communicated.

[15] I.e., as produced by two distinct tones rather than by partials of a single one.

[16] The repetition featured here corresponds to what Richard Middleton calls "musematic repetition," analogous to the linguists' "morpheme" signifying a "minimal unit of expression," in contrast to "discursive repetition" signifying the repetition of longer units, "at the level of the phrase." Richard Middleton, "Play It Again Sam: Some Notes on the Productivity of Repetition in Popular Music," *Popular Music,* Vol. 3 (1983), p. 238.

Clicking U-joints and window-tapping branches may be repetitive, but fall short of true parallelism and therefore do not imply intentionality.[17]

Imagine, then, the sound of water droplets falling from a branch into a pool. Apart from any intentional causation, it is conceivable that a two-note rhythmic unit—such as ♩ ♪—might thereby emerge and even repeat. Furthermore, the repetition of such a simple pattern is all the more likely if it repeats not in direct sequence, but separated by intervening, non-patterned material. How then can it be maintained that the repetition of a unit comprised of two distinct sounds indeed implies intentionality?

The principle remains inviolate that the repetition of complex sounds is intuitively perceived as unlikely or impossible when left to chance, and therefore indicative of intentional causation, especially as the perceived complexity of the repeating pattern increases. The "two-element" minimum I have suggested is simply the logical minimum required for any unit to stand as a candidate for establishing a pattern. This is not to say that all sounds consisting of two distinctly perceived elements necessarily imply intentionality when repeated. They may or they may not. Distal repetition apparently decreases the likelihood of this. A sound-unit of three distinctly perceived elements is more likely to do so, especially when repeated proximally rather than distally. If the water-droplets in the above scenario began dripping to the rhythm of "Three Blind Mice," the implication (or illusion) of intentionality would emerge. If they began dripping to a repeating rumba clavé rhythm, the implication would become all the more unequivocal.[18]

What then of ocean waves crashing on the beach? The sounds repeat, but are highly complex in that they contain untold frequencies continually evolving in dynamic shape. In this sense, the two-note motives discussed above may be heard as less complex than the wave-crash. Why then does the repetition of the former imply intentionality, while that of the latter obviously does not?

Apart from the explanation that ocean waves are the work of Poseidon, it seems that they owe their soothing and even musical quality, in part, to their repetitiveness. Nevertheless, the innumerable frequencies generated by crashing waves themselves create no pattern; it is the amplitude rather, interpreted by the ear as "volume," that rises and falls repetitively. Only the parameter—or rather "perspect," to use Ockelford's

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[17] Consider also that in geometric terms, parallel lines—straight or curvilinear—may exist in a space of no fewer than two dimensions; in one-dimensional space, nothing can be parallel. In light of this, the repeating units in Example 1, with the exception of the C-motive, may be conceptualized as consisting of two points in a given two-dimensional space: the third-interval represents two points in harmony-time space; the B-motive two points in pitch-time space; the D-motive two points in timbre-time space. If imaginary lines are conceptualized connecting the two points comprising each repeating unit, the result is "geometric" parallel lines. The C-motive, too, may be represented on a "sound-envelope space," so that repeating sound-units yield parallel sound envelopes. In any case, parallelism in music may be visualized as analogous to "geometric" parallel lines. For a discussion of musical spaces, see David Lewin, *Generalized Musical Intervals and Transformations* (Oxford: Oxford University Press, 2007).

[18] To punctuate this argument, I offer a personal anecdote: working a landscaping job in the east end of Long Island in the summer of 2002, I was driving a truck with a coworker from Guatemala, Raul. The brakes, although fully operational, had been squeaking. We were driving with the windows down, indifferent to the random chatter of the brakes. While taking a turn, we both heard the squeak of the brakes form itself into a distinct rhythm: ♪♪♪♪♪♪♪♪. Immediately, Raul and I looked at each other in amazement. "Musica!" he said, and we both laughed, half in disbelief. Raul's English was as limited as my Spanish, but we both instantly recognized the significance of the sound we heard.

term—that repeats is relevant in the context of this argument. The repeating cycle of loud and soft connects two extremes of the single spectrum of volume—it is by no means obvious that this pattern is more complex than the parallelisms of minimal complexity cited above. Beyond this, imagine the sound of waves crashing to an augmented version of the C-motive— 𝅗𝅥. ♩ —and repeating for some length of time. Upon noticing the pattern, one would immediately suspect some numinous foul play, that Poseidon was sporting, or that the twilight zone had emerged.

Finally, it cannot be argued that repetitive or even parallel industrial sounds—such as squealing pistons alternating in timbre as they expand and contract against the sound of a machine's constantly roaring RPMs—negate the significance of parallelism. Even these are not devoid of meaning, whether or not they are heard as beautiful. The repetition or parallelism they may involve imply *indirect* agency—that of an inventor, manufacturer, and/or machine-operator. Furthermore, the form of the repetition reflects the form of the agency; when the intention is simply to process scrap metal, the concomitant sounds will reflect that intention, even if they are repetitive or parallel. What they will *not* reflect is the sort of imaginative agency that Beethoven employed in developing the thematic material in his Fifth Symphony.

Parallelism and Intentionality

This reasoning confirms the intuition that the creation and recognition of patterns arising through parallelism imply the involvement of those with the ability to create and recognize them. Now, it is no new revelation that music is the product of human intention. In fact, a fine definition of music holds that it be "*intentionally* produced or organized"[19] (emphasis added). What I submit is that parallelism is one of the means by which the listener perceives intentionality.

I say "one of the means" because it is not the only one. Others, I believe, include sustained intonation; the cessation of a sound that would otherwise continue to sustain; unified rhythmic or harmonic execution amongst several parts or instruments; teleological gestures such as a crescendo from *piano* to *forte*; and even the mere sound of musical instruments which imply sophisticated mechanical invention—in short, sounds that likely wouldn't occur if left to chance.

The question, then, is: "If parallelism implies intention, what is intended?" One might say, "The sounds themselves, nothing more." Indeed, the sounds themselves are intended; but *why* are they intended? Why these sounds and not others?

They are intended because they mean something, consciously or subconsciously, to the one who creates them. While their total intrinsic meaning is informed by the total character of the sounds—defined by rhythm, dynamics, timbre, register, pitch-set, etc.—parallelism helps create the impression that whatever character they may possess is not to be attributed to chance.

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[19] Andrew Kania, "Definition" in *The Routledge Companion to Philosophy and Music*, ed. Theodore Gracyk & Andrew Kania (New York: Routledge, 2011), p. 12. In full, Kania's definition reads "(1) any event intentionally produced or organized (2) to be heard, and (3) either (a) to have some basic musical feature, such as pitch or rhythm, or (b) to be listened to for such features."

Various historical genres of music treat parallelism differently. It is virtually absent from extreme aleatorism, scarce in sonorism and *Klangfarbenmelodie*, and scarcely perceptible in a great deal of extended serialism. In minimalism it appears in its simplest form; in classical music, it is heard in the form of developmental variation; and in ethnic, folk, and popular music it is impossible to escape in one form or another.[20] Regardless of one's aesthetic predilections, awareness that parallelism implies intentionality will contribute to a better understanding of all kinds of music—which is of practical value for the composer and listener as well as the analyst.

To briefly survey the implications of this claim, consider some commentary on three of the styles mentioned above. First, Rebecca Leydon discusses the tropes of minimalism, in which "obstinate motivic repetition" symbolizes a variety of subjective experiences or perceptions. These tropes include the *maternal,* in which repetition "evokes a 'holding environment,' or regression to an imagined state of prelinguistic origins"; the *mantric*, in which it "portrays a state of mystical transcendence"; the *kinetic*, in which repetition "depicts (or incites) a collectivity of dancing bodies"; the *totalitarian*, in which repetition "evokes an involuntary state of unfreedom"; the *motoric*, in which repetition "evokes an indifferent mechanized process"; and the *aphasic*, in which repetition "conveys notions of cognitive impairment, madness, or logical absurdity."[21] All of these tropes imply various expressions of conscious agency in some form. The *maternal* trope implies agency in an imagined maternal being: its ability to create certain perceptions and the perceptions so generated in an imagined subject. The mantric trope portrays the mystic's state of transcendental consciousness, in harmony with the universe. Even the motoric trope presumes indirect agency, as discussed above, since machines and their sounds are the product of human intelligence. The various symbolic meanings of repetition, therefore, are parallel to various modes or expressions of agency, whether direct or indirect, free or enslaved, holistic or impaired.

Second, the claim that parallelism implies intentionality complements rather than condemns Cage's artistic vision. His very intention was to reflect non-intentionality. He says "I believe that by eliminating purpose, what I call *awareness* increases. Therefore my purpose is to remove purpose."[22] That Cage's music is "meaningless," as he himself states, places it in the service of certain metaphysical ideas of the self and the divine. Cage's music is meaningful by being meaningless. It declares that perceived order is no more meaningful than perceived disorder, that meditation upon the latter is in fact the gateway to true enlightenment. The theory that parallelism implies intentionality, therefore, is philosophically neutral. Whether one prizes the perception of intentionality or agency as conveyed through musical structure ultimately reflects one's philosophical values.

Finally, Milton Babbitt places the value of serial music in the complex parallelisms it features. Over the course of a work, he says, the five components that define musical events—pitch-class, register, dynamic, duration, and timbre—"create an

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[20] Bruno Nettl, listing features of music common to all cultures, includes repetition: "All cultures make some use of internal repetition and variation in their musical utterances." Bruno Nettl, *The Study of Ethnomusicology* (University of Illinois Press: 1983), p. 46.

[21] Leydon offers examples of minimalist works for each of these tropes. Rebecca Leydon, "Towards a Typology of Minimalist Tropes," *op. cit.*

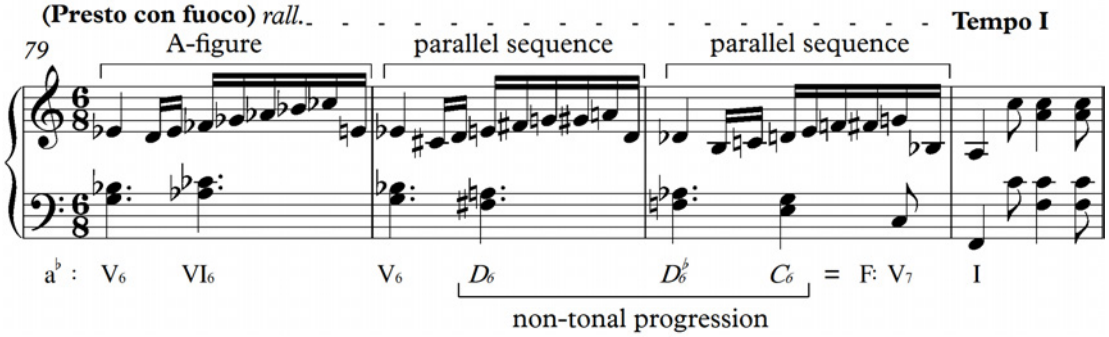
[22] Christopher Shultis, "Silencing the Sounded Self: John Cage and the Intentionality of Nonintention," *The Musical Quarterly*, Vol. 79, No. 2 (Summer, 1995), pp. 312-350.

individually coherent structure, frequently in parallel with the corresponding structures created by each of the other components." He continues: "Inability to perceive and remember precisely the values of any of these components results in a dislocation of the event in the work's musical space, an alternation of its relation to all other events in the work, and—thus—a falsification of the composition's total structure."[23] The perception of internal relationships of musical events, Babbitt says, is crucial. Apart from this, the complexity of extended serialism becomes indistinguishable from the non-intentionality of extreme aleatorism. Once again, the significance of parallelism is confirmed.

In sum, that parallelism implies intentionality does not condemn any musical style *per se*. It rather confirms existing perceptions, and furthermore equips one with a deeper understanding of the various styles, and appreciation for the expressive potential of musical language, regardless of one's idea of The Good or The Beautiful in Music.

Parallelism in Action

Let us consider real-world examples of parallelism in action, starting with Chopin's Ballade No. 2 in F Major, op. 38, published in 1839: (see Example 2)

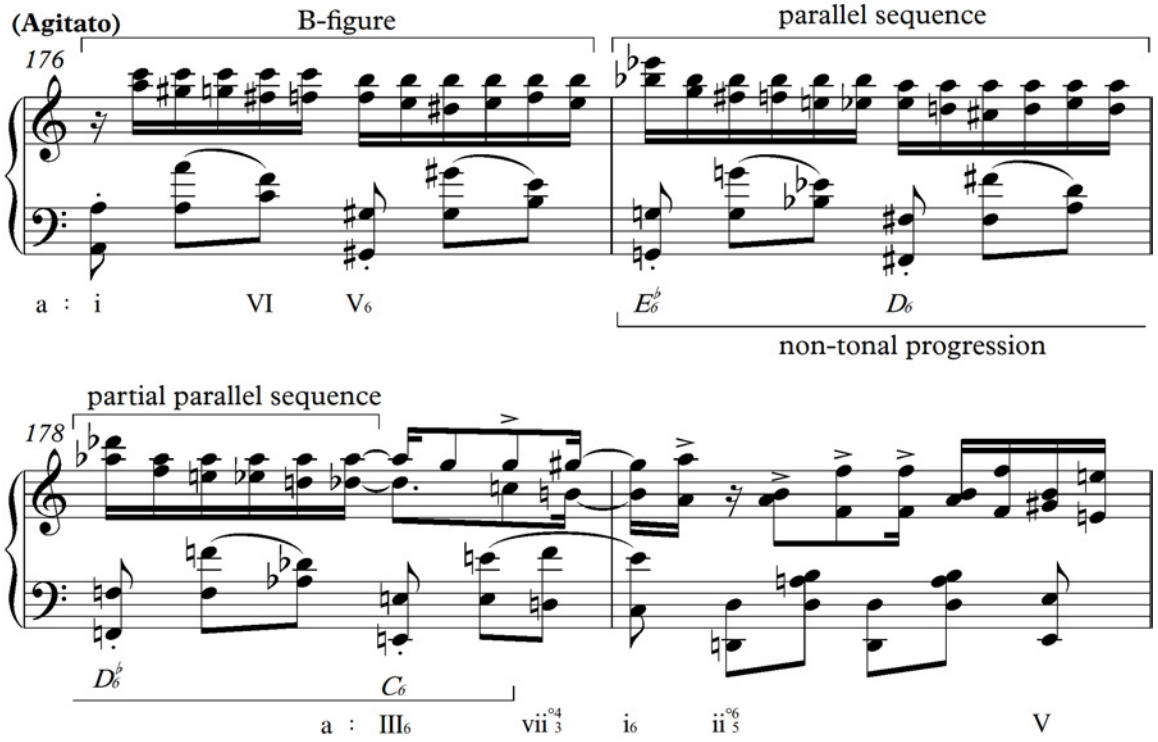


Example 2: Chopin, Ballade No. 2, mm. 79-82 with analysis[24]

In this excerpt, a non-tonal progression connects A-flat minor to F major. By "non-tonal" I mean "not establishing any tonal key or mode." The progression consists of parallel first inversion triads descending by minor second, embellished on the surface structure. The root movements and modulation involved, furthermore, defy common practice theory. Nevertheless, the parallelism remains crystal clear, staving away any sense of syntactical disorientation. Thus, in the absence of functional tonality, parallelism maintains musical logic. Similar material transpires later in the piece: (see Example 3)

[23] Milton Babbitt, "The Composer as Specialist, " *The Collected Essays of Milton Babbitt* (Princeton University Press: 2003), p. 49.

[24] The analysis of parallelism in this and the following examples is very basic and not meant to be exhaustive. My purpose is not to plumb the depths of parallel harmonies, melodic intervals, and rhythms, but to demonstrate in broad strokes the importance of some of the most obvious parallelisms at the local level of form.



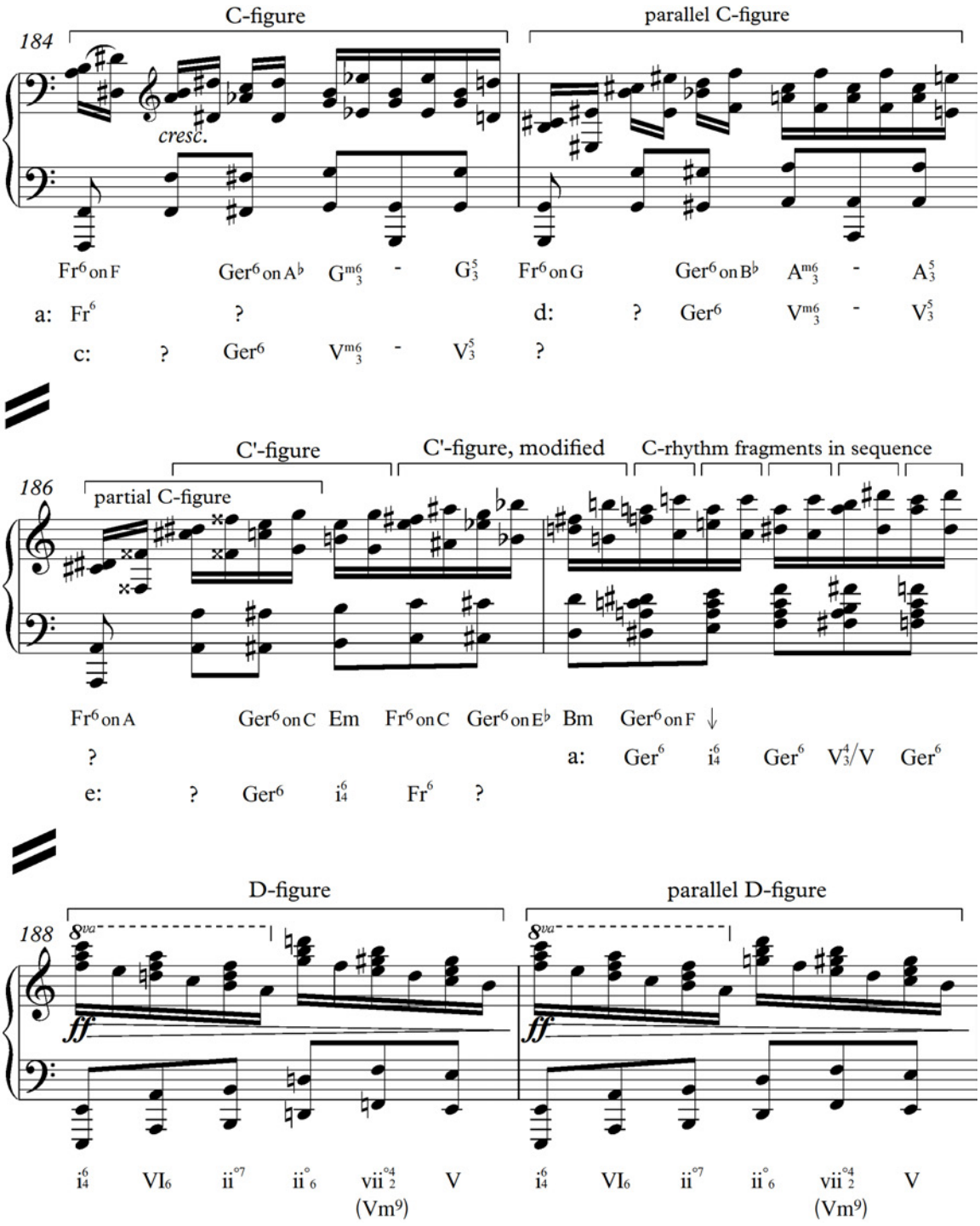
Example 3: Chopin, Ballade No. 2, mm. 176-179 with analysis

Here again, root movement proceeds by descending minor second (cf. mm. 177-178), and the parallel first inversion triads are elaborated on the surface structure. Despite the suspension of ordinary functional syntax, the musical logic is straightforward, such that the novelty may pass unnoticed, especially given the rapid tempo.[25] This straightforwardness results in part from the clear parallelisms, and presents itself *gratis* to the listener. Locke defines intuitive knowledge as "the perception of the certain agreement or disagreement of two ideas immediately compared together."[26] In this excerpt, the intuitive parallelisms help define musical logic and reflect the "handprint of human intent."

Yet more progressive tonality is featured after this material is repeated (see Example 4). In these bars, A minor is suspended while pure parallelism takes over. Measures 184-186 feature parallel French Sixth harmony on downbeats, leaving A minor tonality by the wayside before mm. 187 onward wield it again with vengeance.

[25] Chromatic descending first inversion triads are indeed common in piano music of this period, as in any number of Liszt or Chopin cadenzas; but the *prolongation* of non-functional chromatic triads, as in the example above, is exceptional, and the novelty ought to be acknowledged. More critical to the present argument, however, is the fact that parallelism maintains musical logic in the absence of functional tonality. Schoenberg labeled such passages "suspended harmony" (*aufgehoben*), and adds that during these passages, the theme "must give opportunity for such harmonic looseness through its characteristic figurations." Arnold Schoenberg, *Theory of Harmony* [1911], trans. Roy E. Carter (University of California Press, 1978), pp. 383-384.

[26] John Locke, *An Essay Concerning Human Understanding* [1690] (WLC Books, 2009), p. 535.

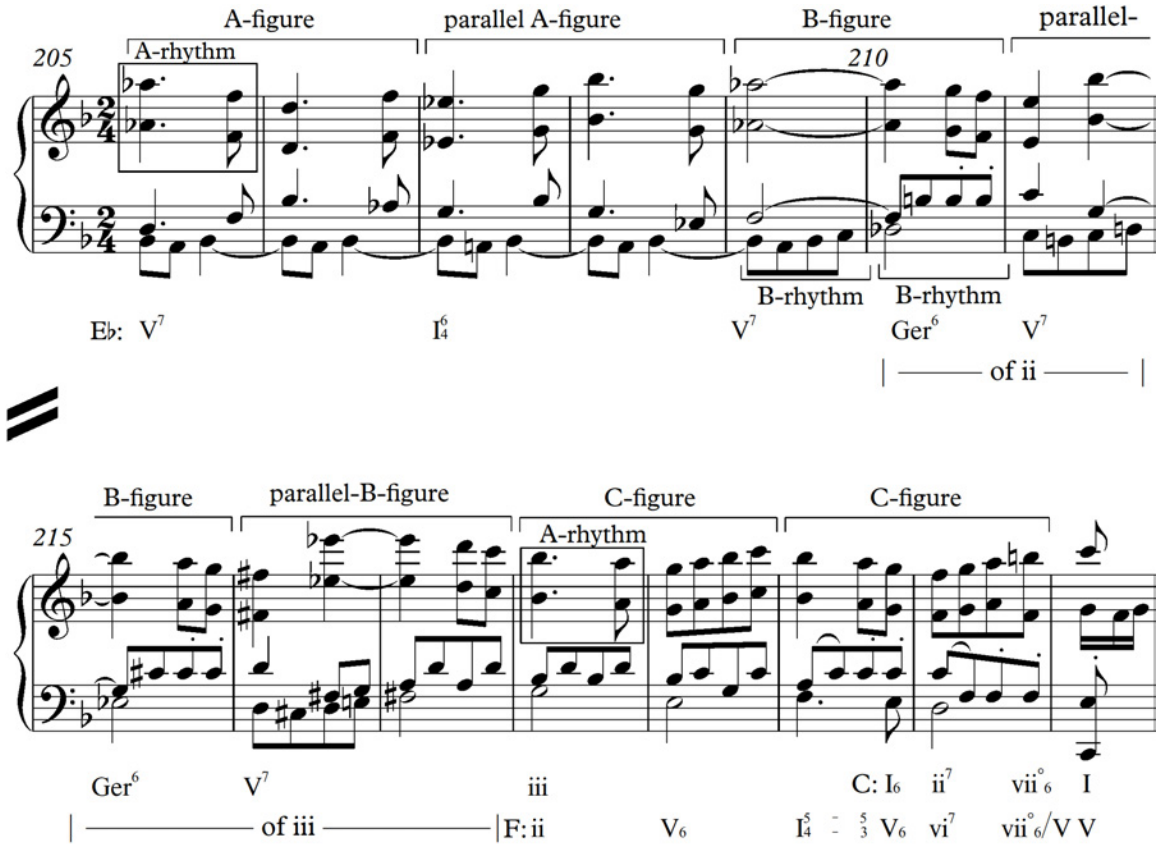


Example 4: Chopin, Ballade No. 2, mm. 176-179 with analysis

Roman numeral analysis is attempted in Example 4 in order to demonstrate its clumsiness. The chordal analysis, on the other hand, reveals a non-tonal pattern of root movements that repeats and evolves in transposition and sequence. On the structural foreground, mm. 184 through 186 simply amount to a prolongation of Augmented Sixth harmony in A minor over an octave coupling, but the structural surface retains idiomatic

syntax not by virtue of any major or minor tonality, nor even by any ancient church mode, but by the intuitive parallelisms. Far from constituting tonal patch-work, the seamlessness of the passage is clear, and the accumulation of tension across the crescendo fluid and inexorable.

Leaving Chopin to rest, consider the following example from Beethoven's String Quartet No. 1 in F major, op. 18, no. 1 (see Example 5).

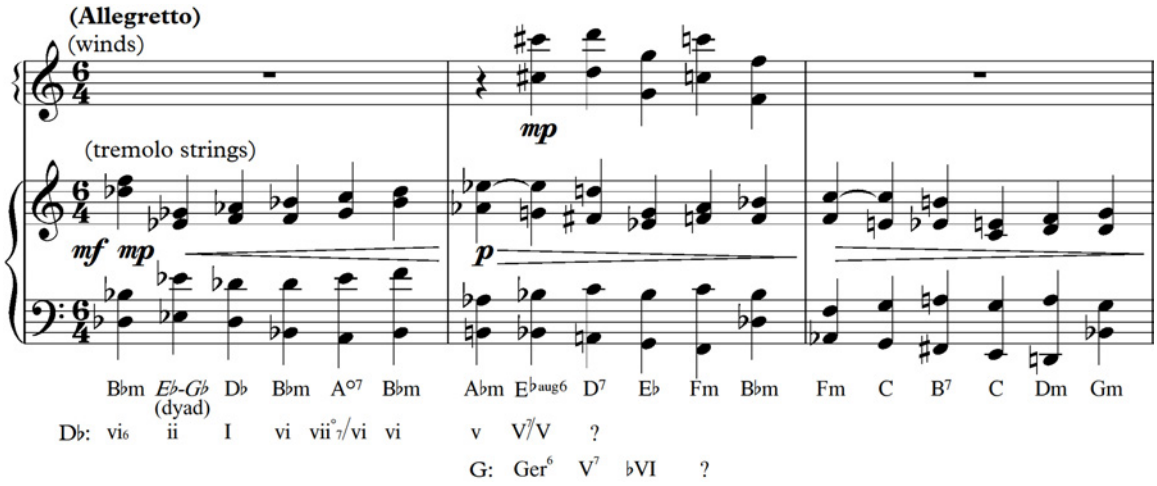


Example 5: Excerpt from Beethoven String Quartet No. 1/IV, mm. 205-219, reduction with analysis

Here Roman numeral analysis strains to explain the progression. Consider m. 210, which features German-sixth harmony on the *flat-seventh* scale degree of E-flat major, theoretically in relation to the supertonic. Does such a thing exist? This stretches to the limit if not destroys E-flat tonality. Moreover, the progression repeats transposed, landing on iii in m. 215; but the "mediant" (if it is heard as such) becomes the pivot chord for a new and fleeting F-major tonality. All this is to say: the harmony is extremely ambiguous, and certainly innovative for the year 1801—but the parallelisms remain straightforward and intuitive. Once again, in the absence of clear tonality, parallelism evinces musical logic, and the handprint of human intent.

I cite these examples because when tonality is clear, the logic of parallelism may seem less "important" as a means of explicating structure; but when tonality is dubious, as in the Chopin and Beethoven here, it is essential.[27]

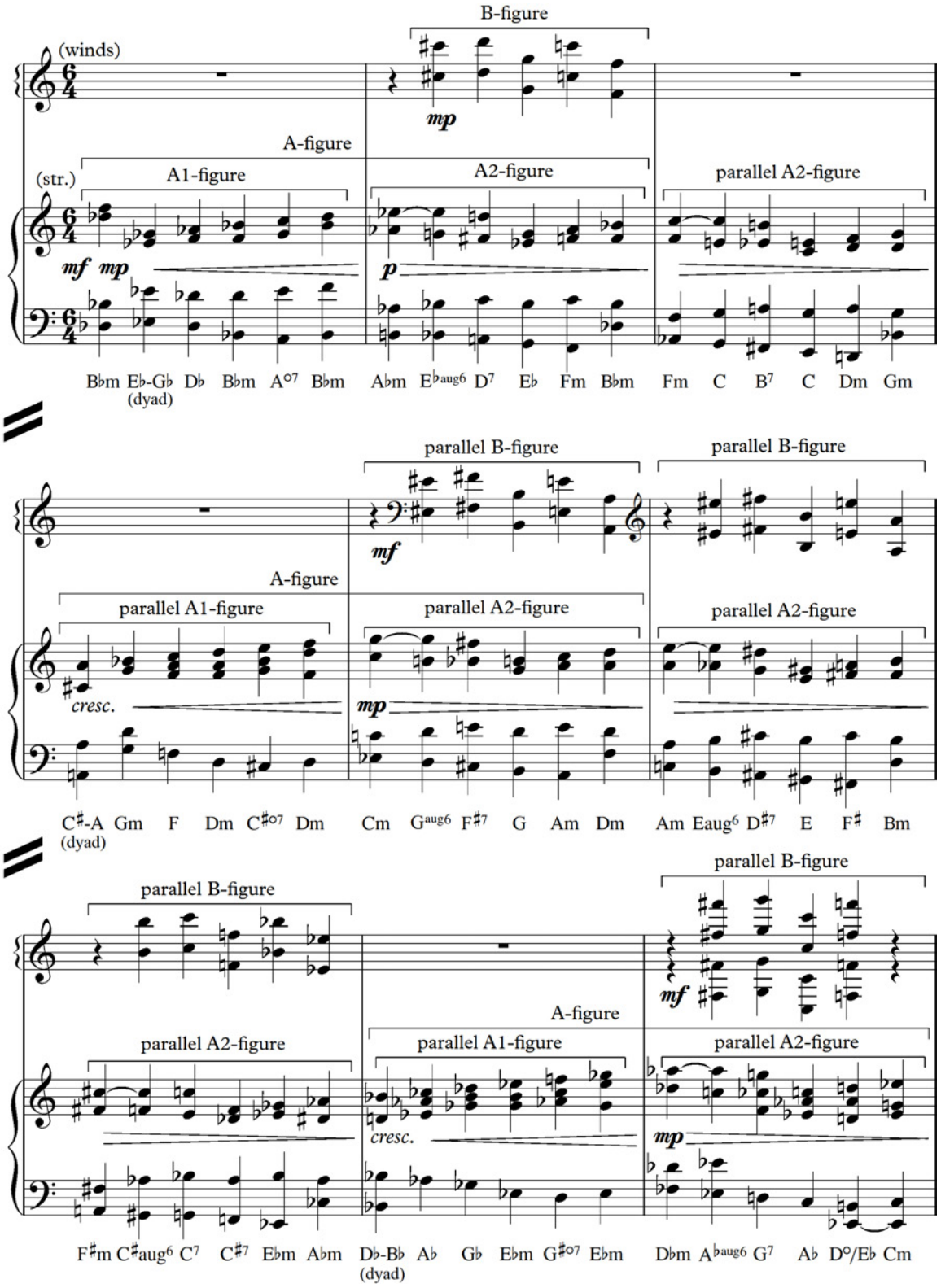
Fast-forwarding a century to 1902, consider Sibelius' Second Symphony. Not far into the first movement, we find the following (see Example 6):



Example 6: Excerpt from Sibelius, Symphony no. 2/I, reduction with harmonic analysis

The Roman numeral analysis is given again to demonstrate its limitations. The chordal analysis explains more, especially as the material continues transposed; but the parallel-figure analysis in Example 7 contextualizes the chordal progressions:

[27] This, incidentally, demonstrates the limitation of Common Practice tonal theory; which, as articulated in textbooks, fails to explain all things from Corelli to Brahms. Indeed it explains much, but where it falls short, parallelism offers succor. More examples of this are not difficult to find, particularly among later nineteenth-century repertoire. Consider, for example, the Inferno from Liszt's *Dante Symphony*, which I analyze in "Pain and Pleasure in Liszt's Dante Symphony," *The Journal of the American Liszt Society* 65 (2014), pp. 37–58.

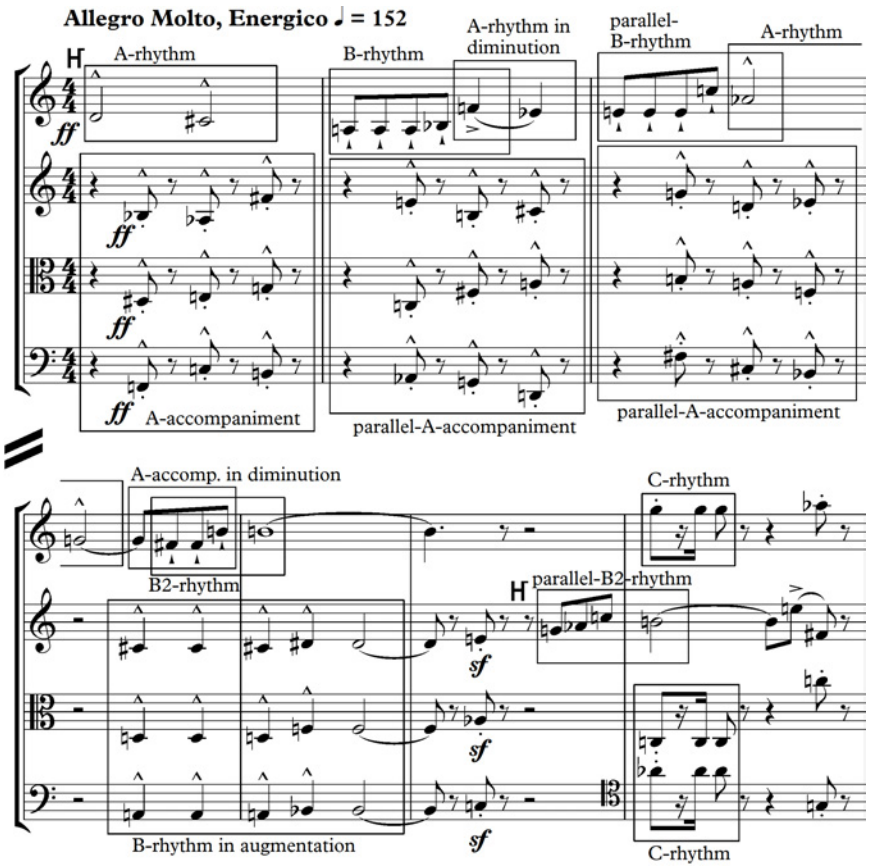


Example 7: Excerpt from Sibelius, Symphony no. 2/I, reduction with analysis

Once again, in the absence of functional tonality, parallelism becomes the driving force of musical syntax, reflecting the hand of human intent. From a more basic perspective, however, all the chords are parallel to each other in that, being triadic, they contain some combination of minor and/or major thirds. I defined "complexity" with respect to parallelism as "a minimum of two distinct sounds or musical ideas"; this subsumes *harmonic intervals*. The fact that these repeat with variation in the Sibelius, as well as in the foregoing examples, means that the structures are built with the very bricks of parallelism.

Parallelism, again, does not apply merely to motives, "figures," and themes—not to mention period forms, expositions, and recapitulations—but also to the more basic elements of musical construction: intervals and melodic steps. Pre-tonal Western music, then, features parallelism no less than tonal and even non-tonal music. Renaissance polyphony, for example, may lack motivic development and thematic repetition, but is replete with the varied repetition of consonant intervals, as well as the consistent treatment of dissonant ones, forming a hierarchical pattern through which a stream of atomic parallelisms flow.

What then of non-triadic music? Parallelism may embrace it as well. Consider Schoenberg's famous Fourth String Quartet. The analysis in Example 8 demonstrates the varied repetition of rhythmic motives in the opening bars of the work:



Example 8: Schoenberg, excerpt from String Quartet no. 4, with analysis

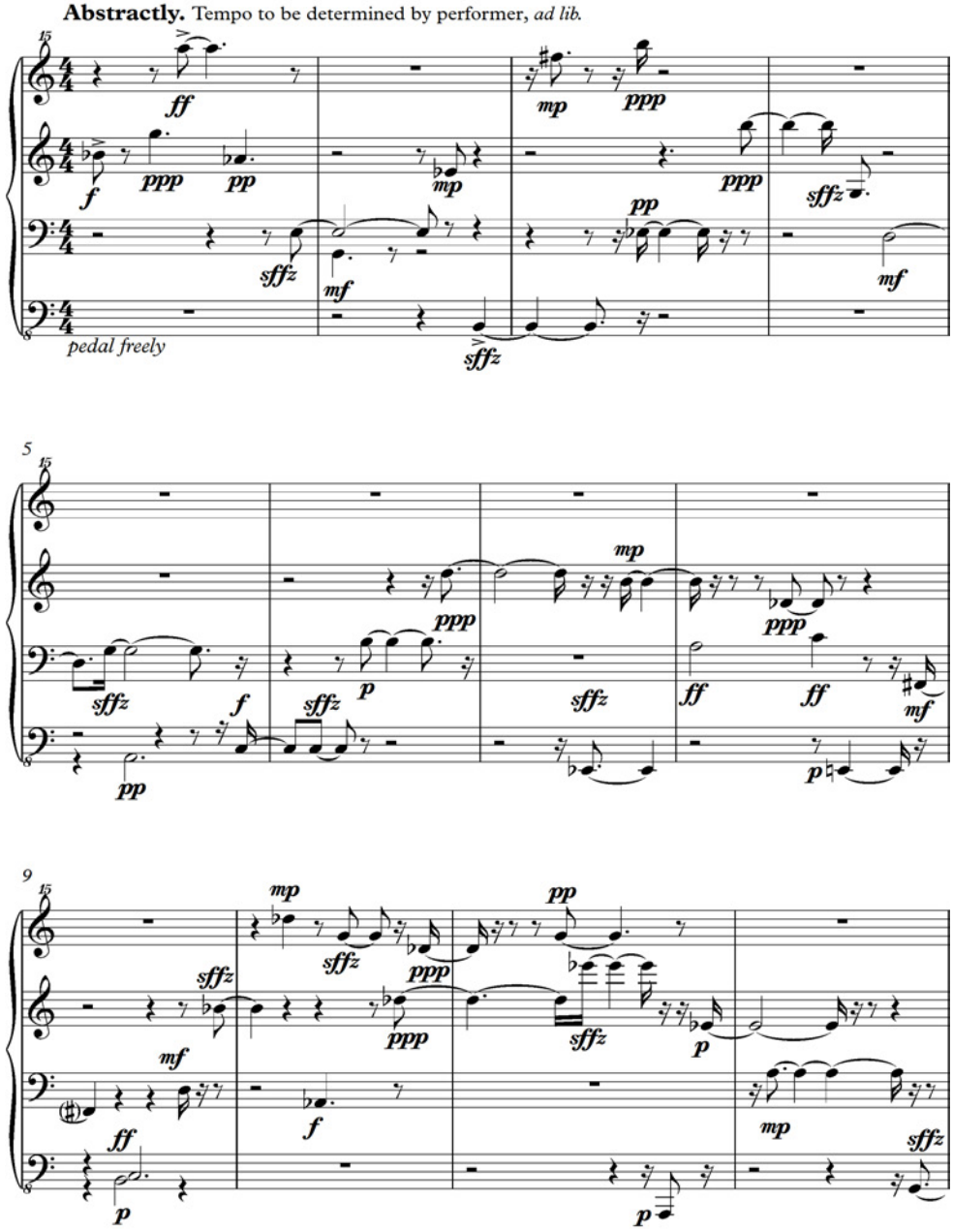
Here, the varied repetition creates musical logic, and the signature of human intent. Schoenberg wrote that "comprehensibility in music seems to be impossible without repetition."[28] The comprehensibility of his Fourth String Quartet does not, I believe, depend upon explicit perception of the tone row and its transpositions, inversions, and combinations, but (in part) upon the intuitive rhythmic motives and melodic intervals compared and contrasted with one another as if in the manner of Mozart.

The analysis of parallelism as sketched in these examples is essentially the analysis of small-scale form; it defines relationships between present musical ideas and past and future ones. As a means of discovering musical logic, it explains compositional structure in a way similar to Roman numeral analysis: "These sounds are interpreted *thus* because of those preceding ones." Meanwhile, its application extends well beyond tonal music.

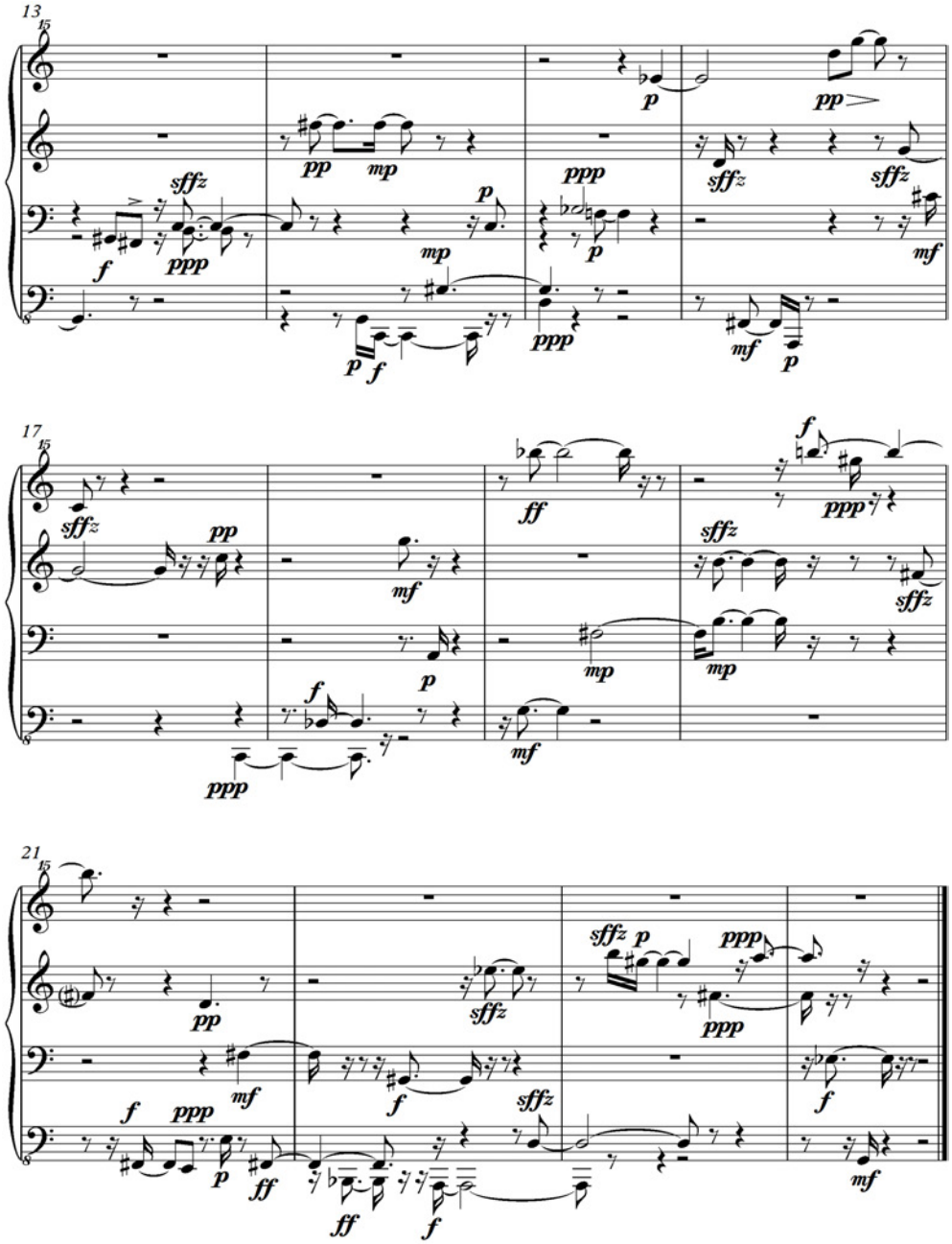
As a final example, consider a piece I composed, the *Contingency Theme* for solo piano, the first in a set called *The Contingency Etudes*. This piece was conceived by abstracting the variables of pitch, register, velocity, duration, and silence and assigning random values to them using computer software. This was done twice, and the two sequences were layered into two-part counterpoint. The transcription that results in a pastiche of total aleatorism.[29] (see Example 9).

[28] Quoted in Luis-Manuel Garcia, "On and On: Repetition as Process and Pleasure in Electronic Dance Music," *Music Theory Online* 11/4 (2005).

[29] In the "variations" and etudes that follow this piece, one or more of the musical variables are taken under compositional control while the rest are left to chance as determined by the values of the Contingency Theme. Overall, this set features a gradual transition from the chance-determined Contingency Theme to the composer-determined Free Etudes that conclude the set. See "What are the Contingency Etudes," at http://gregorykyle.com/the-contingency-etudes/ (accessed Feb. 11, 2015).



Example 9: Contingency Theme for solo piano, mm. 1-12



Example 9, continued: Contingency Theme for solo piano, mm. 13-24

Simple repetitions are evident: e.g. in mm. 5-6 the pitch C2 repeats across the barline (the dynamics and rhythm not repeating); and in m. 14, F#5 repeats similarly in the same register. There are even some "complex" repetitions—parallelisms—separated by intervening material: a minor-second harmony, B and C, in the bottom staff of m. 9, which occurs again an octave up in m. 14 (NB: the bottom staff reads 8bv throughout, and the top staff 15ma throughout); and a pitch sequence from B7 to G#7 in m. 20, which (ignoring again the rhythm and dynamics) repeats two octaves down in m. 23. For events such as these to be heard as parallel (as Babbitt says) the listener must perceive and remember them. Yet the intervening material—what Margulis in another context phrased

the “barrage of new stimuli”[30]—makes this difficult if not impossible. Consider Lerdhal and Jackendoff: “The more parallelism in musical structure one can detect, the more internally coherent an analysis becomes, and the less independent information must be processed and retained in hearing and remembering a piece.”[31] By its very nature, the Contingency Theme either places high demands on the listener's memory, or else none at all, as nothing in it is intended for comparison with anything else. Finally, Ockelford's suggestion bears remembrance: "for composers and performers to communicate purposefully with listeners requires perspects to be ordered in a perceptible way."[32] In the Contingency Theme, the perspects are not ordered, and it thereby effectively communicates the absence of purpose. It also confirms the significance of parallelism: when musical structure is left to chance, parallelism is present, if at all, only in extremely minimal form—consisting of no more than two notes, repeated distally, and never including all the perspects involved (pitch-class, register, duration, and dynamic) as they appear in the original pattern. Directly sequential, "proxal" parallelisms of the sort imagined in the thought experiments and viewed in the musical examples above, furthermore, are non-existent. A "constant stream of metaphors" is nowhere in evidence.

As in Cagean aleatory, the purpose of The Contingency Theme is to remove purpose; but here the rhetorical gesture is different: the Contingency Theme is a blank canvas upon which order is subsequently imposed in stages; or a Representation of Chaos which precedes a gradual process of creation. Nevertheless, the absence of formal coherence—or "aformality"—denotes the absence of any guiding hand of intent.

Concluding Remarks

As a theory of interpretation, the "logic of parallelism" explains the organization and theoretical perception of musical structure. The shared ability to recognize parallelism brings author and listener together, and becomes a basis of musical communication. The value of this is not to be diminished. Bernstein describes musical communication as "warmth, understanding, revelation." Elaborating, he calls it "the tenderness we feel when we recognize and share with another human being a deep, unnameable, elusive emotional shape or shade."[33] The logic reflected through parallelism enables music to function as a medium whereby souls meet to reason, laugh, weep, embrace, or even to secede together, revolt, resist, defy—to cast away stones or gather stones together.

Bernstein's intrinsic-metaphor-theory reflects a view of music that allows the art form to remain consistent within itself without dependence upon extra-musical references or associations. I do not believe that my argument here contradicts this view. If intentionality can be a metaphorical attribute of sound—i.e., if sound can be "intentional" as much as it can be defined by "these pitches, rhythms, and timbres"—and intentionality is therefore not *merely* an extra-musical phenomenon, then music can stand independently of concrete extra-musical associations *while* possessing meaning beyond

[30] Margulis, *On Repeat*, p. 44.
[31] Fred Lerdhal and Fred Jackendoff, *A Generative Theory of Tonal Music* (Cambridge, Massachusetts: MIT Press, 1983), p. 52.
[32] Ockelford, *Repetition in Music*, p. 20.
[33] Leonard Bernstein, *The Infinite Variety of Music* (New York: Amadeus Press, 2007. Orig. Publ. Simon & Schuster, 1966), p. 11.

its mere physicality. It occupies the domain of "the soul" as well as the purely physical domain of sound, and thus inhabits a metaphysical dimension beyond the literal sonic attributes of which it is made.

Abstract

Leonard Bernstein postulated that music generates intrinsic meanings of its own through a "constant stream of metaphors." Repetition, particularly varied repetition, is the mechanism of musical metaphor, and creates self-referential meaning within music. However, such repetition, conveniently termed "parallelism," is meaningful beyond musical self-reference in that it implies intentionality. The theory that parallelism is one of the important means by which music reflects intentionality is elaborated. First, the theory is substantiated with various thought experiments, and corroborated by other authors; then examples of music are analyzed to demonstrate its ability to help inform the interpretation of meaning in music.