A Theory of Recontextualization in Music: Analyzing Phenomenal Transformations of Repetition

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This paper introduces a theory of recontextualization in music, establishes its breadth of application, and uses the theory to explore phenomenal transformations of repetition in music by Feldman, Haydn, Morris, and Bach. Two contrasting examples, from Morton Feldman's *Crippled Symmetry* and the first movement of Joseph Haydn's Piano Sonata No. 50 in C Major, introduce the concept of recontextualization. After some preliminary definitions, the theory defines two basic concepts, ideas and instances, and three means for recontextualization—changes in active contextual criteria, segment boundaries, and structural interpretation. Detailed analysis of excerpts from Robert Morris's *By Far* (1995), a composition for piano solo based on a twelve-tone array, and Johann Sebastian Bach's "Christus, der uns selig macht" (BWV 620), a canonic prelude from the *Orgelbüchlein*, use the theory to explore changing relations between instances and their musical contexts.

THINGS CHANGE. OUR PERCEPTIONS of things change. Context changes our perceptions of things. Much of what we do as music analysts is predicated, in some way, on the recognition and modeling of repetition. Equivalence and similarity relations, transformational networks, theories of form, motivic analyses, "hidden repetitions" in Schenkerian analysis—all rest on a concept of repetition that is at some level literal. Repetition presumes recognition of a "thing" that is repeated; to recognize this "thing," we must abstract the "thing" from its context. As John Rahn has noted, "abstraction-from-context is the only kind of abstraction there is. This is the operation that makes the notion of a thing."[1] And yet, when we listen to music, we hear musical "things" *in contexts.* This move from conceptual recognition of things-abstracted-from-contexts to experience of how-

things-sound-in-context is often elided in the course of doing analysis as if the concept of repetition were phenomenally transparent. The elision is perfectly serviceable, even useful, when our main interest is repetition as such, perhaps as a basis for modeling similarity or transformations. But it serves us poorly when the subject of analysis shifts to the distinctive sound of a musical passage in which repetitions are not only, or primarily, perceived as such.

Consider the passage from Morton Feldman's *Crippled Symmetry* (1983), a trio for flute/bass flute, vibraphone/glockenspiel, and piano/celesta, shown in Example 1. Like much of Feldman's late music, it is based on a set of repeated patterns—the pitch-orderings $\langle C\flat_5, B\flat_4, G\flat_5, C_5 \rangle$ in the flute; $\langle E\flat_4, D\flat_5, C_6, D_5 \rangle$ in vibraphone, and $\langle D\sharp_6, F_5, E_4 \rangle$ in piano/celesta. These are subject to slight temporal adjustments—the "crippled symmetries" that inspire the title and recall Feldman's fascination with anomalies of weave and dyes in Anatolian rugs. There are three such adjustments: changing

[1] Rahn 1993, 50–1.

EXAMPLE 1. *Feldman, Crippled Symmetry, page 10, lines 2 and 3.*

ratios of durations within the pattern; changing the number of beats each pattern occupies; and changing the proportions between pattern and silence. As in *Why Patterns?* (1978), an earlier and shorter piece with the same instrumentation, the score is not synchronized—that is, it is essentially a set of precisely-notated independent parts in which vertical alignment does *not* translate to temporal synchrony and so the three instruments begin and end Example 1 (p. 10, systems 2

and 3) at different times.[2] Rhythmic complexities within and among parts suggest that each performance will be different, but all three figures persist long enough to ensure a passage

2   On the recording by the California EAR Unit (Bridge CD 9092 A/B, 1999), the three parts begin their figures on page 10, system 2, within 7 seconds of one another. The vibraphone appears first, at track 2, 3′23″, followed by the piano/celesta, and finally the flute at 3′30″.

of a minute or so in which they intermingle in ever-changing alignments.

Temporal adjustments to pattern repetition within parts conjoin with fortuitous synchronies among parts to remarkable effect as the passage unfolds. Pitch proximity draws attention away from what happens within a part to connections across parts. See Example 2. Only one of the five available semitones occurs as a direct succession within a part (F_5–E_5, split between piano and celesta); one is an indirect succession ($D\flat_5$–(C_6)–D_5, vib.) and three cross instruments (C_5 fl./$D\flat_5$ vib.; C_6 vib./$C\flat_6$ fl.; F_5 cel./$G\flat_5$ fl.). As the figures intermingle, their individual repetitions are subtly transformed by timbral and chromatic inflections across instruments. The effect is most pronounced when one focuses on the vibraphone, as its timbre mediates between the more penetrating flute and intermittent chimes from piano and celesta.[3] The flute's C_5 and $C\flat_6$ rub up against the vibraphone's $D\flat_5$ and C_6; the F_5–E_5 succession in celesta and piano trickle off or meander to $G\flat_5$ in the flute. Notes of one figure become embedded in, part of, the contour of another (e.g., aligning the vibraphone's low $E\flat_4$ with or near the flute's $G\flat_5$ transforms what remains, in some sense, a "repetition" of "the flute figure" into a near contour-inversion of itself). As rhythmic realignment among the three figures gently mixes their pitches and timbres, a stream of new material emerges.

Listening to this passage is pleasantly peculiar, the shifting nuances and delicate vanishings of its individual figures intriguing.[4] While I *can* abstract from the musical surface to recognize the individual repetitions as repetitions, as a lis-
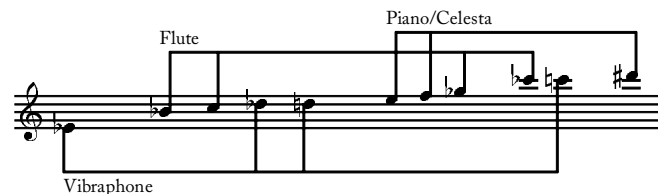
EXAMPLE 2. *Pitch content of figures.*

tener I am rather drawn into their subtle and persistent phenomenal transformation. This is the kind of aural experience I am interested in—one that revels in the misfit between repetition as a concept and how, on certain occasions, a "repetition" may be effectively transformed by a change in musical context. To give this kind of experience (and our subject) a name, I offer the term *recontextualization*. Recontextualization indicates a (listener's perception of) phenomenal transformation of repetition (of some thing—a musical idea as I shall soon define it) induced by a change in musical context. It is a strange kind of repetition—better, an *estranged* repetition, in which repetition doesn't sound (primarily) like repetition. This paper introduces a theory of recontextualization in music that supports analytic inquiry into the workings of such musical experiences. It does so by recognizing, rather than only abstracting from, aspects of musical context in its definition of a "thing" and how things may be perceived in particular musical contexts, and by introducing means to analyze phenomenal transformation in terms of musical particulars and their structural interpretations.

In the Feldman passage, recontextualization becomes a compositional technique; phenomenal transformation of repetition creates coherence and continuity, an autogenetic approach to musical form. Such passages are common in certain of Feldman's late works; similar results obtain in some of Steve Reich's phase compositions (e.g., *Piano Phase* [1966] and *Violin Phase* [1967]) as well as from Stravinsky's use of

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3 While the flute is more prominent, there is good reason to take the vibraphone as a point of reference, for it is this figure that has dominated the 20 minutes or so of the composition thus far.

4 I think of this remarkable statement from the artist Mu Xin: "Music is a form of art constituted in its vanishings" (Mu Xin 2001, 137).

superimposed ostinati.[5] But phenomenal transformations of repetition are hardly a twentieth-century invention; they also occur, in various guises and with striking effect, in much earlier music.

Consider the first movement of one of Haydn's "English" Piano Sonatas, no. 50 in C major, the opening theme of which is shown in Example 3(a). The movement is a monothematic sonata form, in which group I and II are distinguished tonally and texturally rather than thematically. This poses a compositional challenge in the recapitulation: how to maintain balance and articulate form between groups I and II, where the same theme is scheduled to return twice in the tonic? Haydn's solution involves recontextualization, in two stages. First, a dreamy reminiscence of the main theme appears in A♭ in the development, a rare moment of calm often highlighted in performance by open pedal (Example 3[b]).[6] The precise staccato and essential I and V harmonic functions that have characterized the theme to this point give way to a legato melody in the chromatic world of

♭VI, transforming the theme into a distant memory of itself. Then, when group II begins in the recapitulation, it summons this A♭ reminiscence as its primary referent rather than the more recent C-major statement of group I: the theme returns in C as expected, but now with the left hand up in the treble, legato, with the hint of a canon first in *inversus* (mm. 120–1), then *rectus* (mm. 122–3), added above (Example 3[c]). This time, we are in a *different* distant place, as the C-major tonic itself becomes a point of discovery. Linking three thematic statements across distinct musical contexts, Haydn transforms what might have been a redundant return into something striking and new: as the A♭ reminiscence recontextualizes the main theme, group II now recontextualizes the recontextualization.[7] The distinctive character of this sonata form depends on the phenomenal transformation of thematic "repetitions" in the development and recapitulation. To hear these repetitions *only* as repetitions is to miss the point: each repetition has a life of its own, informed by changes of key, texture, and context—including its role and location in the form.

Despite their obvious differences in style and syntax, the Feldman and Haydn examples have enough in common to sketch the kind of thing in which I am interested. One might wonder, Why the fuss—isn't this just varied repetition? At first it might seem so. But consider three arguments to the contrary: (1) Logic dictates that literal and varied repetition are mutually exclusive. Yet literal repetitions can be recontextualized, as in the Feldman—notice that there are some repeat signs in the vibraphone and piano parts; (2) Varied repetition need not recontextualize. Example 4 shows a brief passage for voice from "Prière exaucée" (m. 6), the ninth song from Messiaen's *Poèmes pour mi*, in which three literal repetitions of the pitch ordering ⟨G_4, A_4, $D♭_5$, $F♯_5$⟩ (in two cases, also the rhythm) anchor successively longer melis-

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5 Herman Sabbe has also identified what I call recontextualization as a common feature of Feldman's late music: "In short: similar information is being presented in dissimilar/similar contexts; literal or modified repetitions occur in literally repeated or modified contexts" (Sabbe 1995, 9). On Stravinsky's ostinati, see Horlacher 1992 and 2001; and van den Toorn 2001.

6 Example 3(b) is transcribed from the Henle edition edited by Georg Feder, based on Haydn's autograph which includes the open pedal marking. The Bärenreiter edition also indicates open pedal. László Somfai reviews various interpretations of the effect Haydn intended including raising the dampers and an *una corda* effect. He concludes: "My interpretation is that in these two places the joint use of both pedals is implied." However, he goes on to say: "By the way, it is far from proved that the *open Pedal* inscription after the *pp* sign stems from Haydn's hand" and, in note 23, "Evidently, Haydn left the manuscript of this sonata in London with Mrs. Bartolozzi . . . the dedicatee, who kept the work in her repertoire but delayed its publication for some years . . . It could be that the words *open Pedal* and the crossed wavy line . . . were added by Mrs. Bartolozzi, or by the engraver, in place of Haydn's original instructions, if there were any" (Somfai 1995, 140).

7 The sense of recontextualization is enhanced by the use of open pedal, as in the recording by Garrick Ohlsson on Arabesque Recordings (CD ZZ6625, 1992).
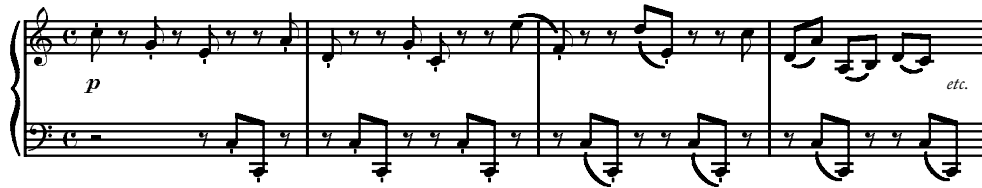
EXAMPLE 3(A). *Haydn, Piano Sonata No. 50, in C, First Movement, mm. 1–4.*
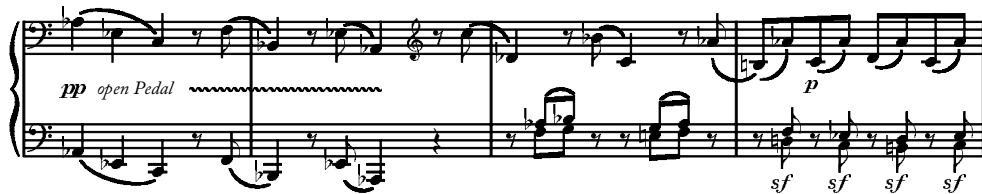
EXAMPLE 3(B). *Haydn, Piano Sonata No. 50, in C, First Movement, mm. 73–6.*
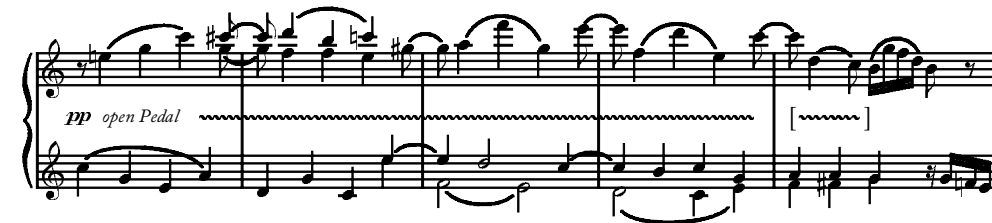
EXAMPLE 3(C). *Haydn, Piano Sonata No. 50, in C, First Movement, mm. 120–4.*

mas. Each melisma is a varied repetition of the original, but rather than transform it, the successive extensions only reify it;[8] (3) Like literal repetitions, varied repetitions can be re-

8   Similar examples abound in Messiaen's music. See, for example, *Petits esquisses des oiseaux,* V. "Le Rouge-gorge," and *Quatour pour le fin du temps,* especially movements II and VI.

contextualized, as in the Haydn example. But then it is best to use both terms, since "varied repetition" and "recontextual-ization" have different connotations. "Varied repetition" focuses on repetition that survives a change of context; it essentially disregards changes in musical context and their influence. Conversely, "recontextualization" emphasizes a

EXAMPLE 4. *Messiaen, Poèmes pour mi, "Prière exaucée," m. 6.*

change of context that transforms (literal or varied) repetition into a phenomenally estranged repetition. This phenomenal transformation contradicts the standard meaning of "repetition." In this sense, recontextualization is not a kind of varied repetition but its opposite, signaling perception not of repetition but of *change.*

Quotation fulfills the setup conditions for recontextualization—repetition with an explicit change of context, usually across works or composers.[9] But the essence of recontextualization is the *phenomenal transformation* of repetition prompted by a change in context. If a quotation is simply set down in a new context rather than more actively transplanted, there is no recontextualization. In contrast, consider Berg's invocation of

the opening of *Tristan* in the last movement of the *Lyric Suite,* mm. 26–7, shown in Example 5. Berg weaves the quotation into its new context, shading its boundaries and redistributing its two characteristic chromatic pitch lines among instruments. As in the *Tristan* prelude, the cello begins the quotation, $\langle A_3, F_4 \rangle$, but surrenders its continuation to the first violin, $\langle E_4, E\flat_4 \rangle$. The chromatic rise originally in the oboe is now apportioned among three instruments: $A\flat_4$ to the first violin, $\langle A_4, B\flat_4 \rangle$ to the viola, and B_4 to the second violin. A *ritard* marks the start of the quotation in the cello and another its end in the second violin, helping to lift it from the otherwise steady eighth-note surface rhythm at both ends. Near the close of Berg's string quartet, we stumble into the nineteenth-century chromatic tonality of *Tristan,* echoes of double reeds, and perhaps an ironic hint of the start of a lengthy drama. A compelling example of quotation that is also recontextualization, Berg's "Tristan" suggests the power and evocative potential of their combination.

A THEORY OF RECONTEXTUALIZATION IN MUSIC

A theory of recontextualization must help an analyst explain why some changes of context sound transformative (to him or her) and others don't. What is it about the "thing repeated," the contexts under consideration, and how these interrelate, that motivates (or constitutes) the sense of transformation? Can we formulate general principles, acting

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9   Quotation functions very differently in music than in language, most likely because music and language raise such different questions with regard to meaning. In music, quoting out of context may well be the norm, with "out of context" read in two senses. First, musical quotations are not only taken out of, but *remain outside,* their original contexts: in language an author can reconstruct a sense of the original context in the new one by paraphrasing (what he or she takes to be) its meaning, but music lacks a comparable use of paraphrase such that an attempt to recreate the original context in the new one becomes indistinguishable from and thus part of the quote itself. Second, musical quotations often remain clearly distinct from (again, outside) rather than subtly woven into, their new contexts where they may function primarily as signs. Both "out of context" situations are exceptional rather than the norm in spoken and written language (especially in scholarly writing).

EXAMPLE 5. *Berg, Lyric Suite, VI, mm. 26–7.*

singly or in combination, that will help us analyze these experiences and identify them with musical particulars and aspects of interpretation?

We begin with the first question. The delimiting commas suggest three areas of inquiry: the "thing," contexts under consideration, and their interrelations. The third relates the first two. But to what extent are the first *two* distinct? As Rahn pointed out, when we recognize a "thing," we abstract the "thing" from its context. Setting his words back in (a larger) context: "abstraction-from-context is the only kind of abstraction there is. This is the operation that makes the notion of a thing. A thing as grasped is itself abstracted from any possible context. *A thing endures for us, temporally, by virtue of abstraction from changes-of-context.*"[10] If this last sentence seems almost redundant, that "things" are inherently distinct from contexts, in the context of Rahn's paper as a whole, it also suggests the opposite: that "things" are also *abstracted from*—in the sense of *derived from, constituted or mo-*

tivated by—changes of context.[11] For Rahn, intimate and shifting relations among things and contexts become the

[11] Three passages from Rahn's formal model of "live repetition" (which denotes the full spectrum of repetitions animated by changes of context that is the stuff of music, including the more extreme cases I call recontextualizations) cumulatively point toward this second interpretation.

The first lays out the basic model: "live repetition: how does it work? Let us ask a schema of bare repetition, A = {a, then-a}. The schema A itself is outside time, but it is a schema of a temporal experience: first I experience a, then then-a, which is a again. The context changes: a is not then-a. . . . A the global thing is the change of context. The change of context *constitutes* A and *reflects back into* each a . . ." (Rahn 1993, 50, italics in original).

The second clarifies that A is a context that is a change-of-context: "How is the global thing A = {a, then-a} describable as *the change of context?* It is itself a context; but a change-of-context may be a context" (Rahn 1993, 51, italics in original).

The third explores further the permeability between contexts and things—first, in the fusion of context and thing that is then-a; then in the reflection from the larger context A = {a, then-a}, back into a. Here a thing (a) is abstracted from a context (A) in the sense of derived from,

10   Rahn 1993, 50–1, emphasis mine.

basis for a theory of musical meaning, with powerful and evocative analogies to meaning in life.[12] Our more specialized interest in recontextualization as a particularly vivid shade of what Rahn calls "live repetition" (roughly, the recognition that each repetition has some life of its own) is well-served by two points that emerge from Rahn's discussion of things and changing contexts. First, abstracting things from contexts is not simple but complex: we recognize things not only apart from contexts, as figure-ground relations, but also in part *because* of contexts—in particular, the changes-of-context that support the recognition of repetition.[13] Second, as changes of context implicit with repetition reflect on, refract, and even transform how we perceive musical "things," they are as essential to musical experience as the "things" themselves (and are, for Rahn, the basis for musical meaning).

Having used a change in context to explore the mutual permeability of things and contexts, we now look at a musical "thing," one context in which we hear it, and how these are related. Once again language suggests a simple figure-ground relation: we hear the thing *in* a context. But in prac-

tice, things are more complex: the thing is in the context, but the context also permeates the thing, is part of what the "thing" is, inasmuch as it is a *musical* thing with a certain sound.[14] Understanding that aspects of a thing's context may reside in what we recognize as the thing itself is an important step toward understanding phenomenal transformations of repetition. It suggests that "things" are not only sets of properties, but also of *relations*—relations to aspects of the context the thing is abstracted from that are somehow also part (and partly constitutive) of it.[15] This suggests a mechanism (or explanation) for the phenomenal transformation of repetition: when a change-in-context changes the set of relations active between the thing and its context in an important way, the sound of the thing is transformed.

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constituted by it, hence my interpretation in the text. "So the basis for cognizing a is there, and then-a is a with added context—specific context—context of {a, then-a}. When we re-cognize a in then-a, we cognize anew the added context that makes a then-a, a new context that is *fused with* and *originally presented with* the a of then-a. In fact the a of then-a is secondary, derived, an abstraction from the primordially presented cognition of then-a. So recognition is derived from cognition: cognition gives then-a, then abstraction gives a-from-then-a, which we recognize as a. (But remember that recognition conditions cognition.)" (Rahn 1993, 51, italics in original.)

12 "A piece of music for Mary is the life Mary lives alongside of her life. Because music is temporal, Mary can experience it as she experiences (abstracts, constructs) her own life, as an ongoing project of the repetition that is changes-of-context that is meaning. The depth and subtlety she asks of the music will be the depth and subtlety she has brought her own life to" (Rahn 1993, 53).

13 This idea is formalized in the concept of contextual criteria, defined briefly below, and discussed in depth in Hanninen 2001.

14 Catherine Hirata offers this beautiful and radical statement concerning the sound of one pitch in the first of Morton Feldman's *Last Pieces:* "I was beginning to sense a new meaning in that expression 'the sounds themselves.' No, not an issue of that F's sounding in the composition just as it would on its own. Rather an issue, just, of that F's having a sound all on its own—even after it is in the composition. Of its having a certain integrity. Of being able to focus on the F—in such a way that everything going on between the first chord and the F is somehow projected onto the F, is experienced as *part of* the sound of the F" (Hirata 1996, 11). Another prominent voice in this direction is Joseph Dubiel, who, in the course of examining the sonic particularity of the prominent move from D♯ to C♯ in the first movement of Beethoven's Violin Concerto, asks: "Do we know so much about how a context can influence a sound?" (Dubiel 1999, 269). David Lewin draws an important distinction between events and individual perceptions of them with a formal model in which the role of context is explicit: p = (EV, CXT, P-R LIST, ST-LIST). The four arguments are: EV = "sonic *event* or family of events being 'perceived' "; CXT = "a musical *context* in which the perception occurs"; P-R LIST = "list of pairs (p_i, r_i); each specifies a perception p_i and a relation r_i which p bears to p_i; and ST LIST = "list of statements $s_1,...s_k$ made in some stipulated *language* L" (Lewin 1986, 335).

15 One way this happens is through fixing boundaries between thing and context: boundaries necessarily impinge on and thus involve both. These may be supported by sonic and/or contextual criteria, as defined below.

Preliminary definitions. We now proceed to the theory via some preliminary definitions drawn from my general theory of musical segmentation. Definitions more essential to the theory of recontextualization will follow.[16] For the reader's convenience, all first citations of defined terms will be in bold italic.

A *segment* is a grouping of tones (or other musical events) recognized by an analyst as a readily audible unit. Segments may be embedded in one another or overlap. A *segmentation* is an analytic parsing of a musical passage into segments; it reflects an analyst's interpretation of significant groupings and their relationships. A segmentation need not partition musical events, and different analysts may offer different, equally cogent and aurally persuasive segmentations of the same passage.

Segments are supported by one or more criteria. A *criterion* is a rationale for cognitive grouping. Criteria are of three basic types: sonic, contextual, and structural. Of the three, contextual criteria are most important for the theory of recontextualization, for only they define the "things" (that we will define as musical ideas) whose manifestations (instances) are influenced by a change of context. Sonic and structural criteria are also important, for they contribute to two of the theory's three means for recontextualization.

A *contextual criterion* identifies a characteristic of a grouping with a propensity for association among groupings within a musical context under consideration. Contextual criteria are activated by repetition; they indicate equivalence or similarity in non-linear musical spaces including pitch contour, duration series, pcset, scale degree ordering, scale-degree set, set class, etc.[17] For example, the pitch interval ordering ⟨+10, +11, −10⟩ is one contextual criterion associated with the vibraphone figure in the Feldman excerpt. Its pitch ordering, ⟨E♭$_4$, D♭$_5$, C$_6$, D$_5$⟩, and set-class, 4-1[0123], are two more. We name contextual criteria with the letter "C" for "contextual," followed by the subtype (pitch ordering, set-class, etc.) and individual criterion in subscript: e.g., $C_{pitch \langle E♭4, D♭5, C6, D5 \rangle}$ or $C_{SC\ 4-1[0123]}$. Within a musical space such as pcset or set class, no criterion is inherently stronger or weaker than another. Rather, it is the potential of a criterion to associate two or more groups of tones within a particular musical context that may encourage an analyst to invoke that criterion as a rationale for segmentation.

A *sonic criterion* (indicated with the letter "S") responds to disjunctions between "primitives" in a musical system identified as attributes of individual tones, such as pitch, duration, dynamics, etc. The largest disjunctions within a musical dimension mark sonic boundaries: for example, in the Feldman, the measures of silence within each part constitute relatively large disjunctions between attack points and so mark sonic boundaries in that dimension.

A *structural criterion* (indicated with "T") is a structural interpretation defined by or formulated with respect to a particular theoretic orientation (adopted, invoked, or developed by an analyst) and used as a rationale for a musical grouping. For example, an analyst might use "row segment" or "third-progression" as a criterion for segmentation. The designation "row segment" is in the province of twelve-tone theory which interprets and renders it intelligible: a row segment is part of a particular kind of pitch-class ordering (the row) that serves as a structural element in a twelve-tone composition; to call a set of tones a row segment identifies them with a particular set of order positions within a specific

16 Sonic, contextual, and structural criteria; instantiation, coincidence, and realization; and their interactions to produce musical segments are discussed in detail in Hanninen 2001. There, I distinguish two types of segments, phenosegments and genosegments. For sake of simplicity, I render that distinction here as one between segments and instantiations. The "segment" of this article corresponds to a phenosegment. Here "instantiation" has two meanings: (1) a mapping from a criterion to a grouping; (2) the grouping thus recognized. This second meaning corresponds to "genosegment."

17 While pitch is a linear dimension, the space populated by all pitch contours is multi-dimensional, involving various kinds of embedding and partial ordering among pitch contours.

row form and with the harmonic content and properties for invariance thus implied. Similarly, "third-progression" is interpreted by Schenkerian theory as a particular configuration and differentiation of tones with respect to a hierarchy of structural levels: one tone (the first or last) is prolonged by two others in stepwise sequence, with the whole taking its place within a structural hierarchy of events in a tonal composition.

Contextual and sonic criteria are general; they participate in virtually all music analysis. Contextual criteria associate groupings of tones according to a specific dimension and entity, and can serve as the basis for cognitive categorization. Sonic criteria distinguish boundaries between groupings. In contrast, structural criteria are special: they are active only when an analyst explicitly asserts or invokes a specific theoretic orientation as the basis for interpretation.[18]

18   It should be understood that in music theory, as in the sciences, there is no fast distinction between observation language (here, sonic and contextual criteria) and theoretic language (structural criteria). The distinction becomes intelligible and meaningful with respect to a particular analytic (or experimental) context, and the theoretic orientation (if any) *at the forefront* of the investigation. In other words, observational and theoretic terms are a continuum; individual terms are not absolutely one or the other, but *function as* one or the other relative to a particular theory or theories in use or at issue. Philosopher Bas van Fraassen frames the pragmatic distinction this way: theoretic terms are those "introduced or adapted for the purposes of theory construction" (van Fraassen 1980, 14). I draw an analogous, essentially pragmatic distinction between, on the one hand, sonic criteria, contextual criteria, and contextual associations that recognize repetitions of ordered or unordered sets of primitives such as pitches, pcs, pitch intervals, contours, durations, attack-point intervals, etc.; and, on the other, structural criteria and structural interpretations of such sets formulated and intelligible only with respect to a particular theoretic orientation.

All contextual criteria, and even sonic criteria, presume at least a minimal theoretic orientation—$C_{pc\{256\}}$ presumes a concept of pitch, to within octave and enharmonic equivalence; $C_{SC\ 4-1[0123]}$ presumes transpositional and inversional equivalence among sets and configurations of interval classes; $C_{SD\langle 3432\rangle}$ presumes a theory of scale degrees as significant entities in a tonal context. In this limited sense, "theory" does contribute not only to interpretations cast as structural criteria but also
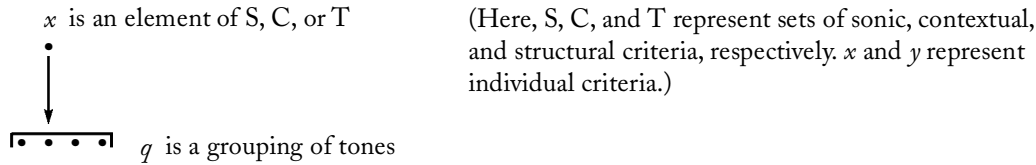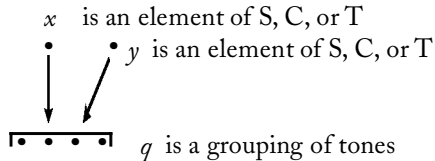
Criteria come to support segments through three types of mappings from criteria to groupings of tones. These are instantiation, coincidence, and realization. ***Instantiation,*** illustrated in Example 6(a), is a mapping from a single contextual, sonic, or structural criterion x to a grouping of tones q that models (some part of) an analyst's rationale for recognizing q as a musical grouping. We say that criterion x is *instantiated* in a grouping q; conversely, grouping q is *an instantiation of* or *instantiates* criterion x.[19] For example, the contextual criterion $C_{pitch\ \langle E\flat 4,\ D\flat 5,\ C6,\ D5\rangle}$ is instantiated in each repetition of the vibraphone figure in Example 1.

In analytical practice, individual criteria often support many different groupings. While a sonic or structural criterion may recognize more than one grouping, any contextual criterion must, by definition, support at least two groupings: that is, since contextual criteria are activated by repetition in particular musical contexts, each active contextual criterion must have at least two instantiations.

Mappings from criteria to groupings are also often many-to-one: an analyst may cite multiple criteria as rationales for a single grouping. ***Coincidence,*** illustrated in Example 6(b), is a many-to-one mapping between two (or more) individual criteria x and y and a single grouping of tones q. Two or

to the cognitive groupings prompted by associations and modeled by contextual criteria. But, as in the sciences, there is an important difference in praxis between terms such as pcs, pcsets, SCs, and scale degrees that are generally employed nominally *as if* neutral and uninterpreted—more as observation language prerequisite to an analytic interpretation than part of the interpretation per se—versus terms such as "row segment" or *Urlinie,* which are clearly part of (and essentially limited to) the particular theoretic orientations that define them and actively convey particular structural interpretations at issue (modeled by structural criteria).

19   For criteria that designate ordered or unordered sets (directly or indirectly: i.e., set-class is deduced from an unordered set), the criterion and grouping generally have the same number of elements. However, inclusion relations are of course possible; these are rendered "incl C_x" (for contextual criterion C_x).

x is an element of S, C, or T

(Here, S, C, and T represent sets of sonic, contextual, and structural criteria, respectively. x and y represent individual criteria.)

q is a grouping of tones

EXAMPLE 6(A). *Instantiation.*

x is an element of S, C, or T

y is an element of S, C, or T

q is a grouping of tones

EXAMPLE 6(B). *Coincidence.*

more instantiations are *coincident* when they identify the same grouping. They *conflict* when the groupings they define overlap but are not embedded.[20]

The third type of mapping, ***realization,*** is a special case of coincidence in which one of the two instantiated criteria x and y is structural, while the other is sonic or contextual. Realization is essential to my theoretic account of structural interpretation.[21]

Of musical context, we take a broad view informed by David Lewin's work on interrelations between musical perceptions and contexts.[22] I define a ***musical context*** as one or more musical passages enriched by the combined workings of particular sonic and contextual criteria and structural interpretations recognized or invoked by a listener. A musical context in this sense is far more than a physical stimulus (or the approximate prescription for one notated in a score); it is the *music* the analyst hears in the passage(s) identified as

20   When the instantiation of one criterion is embedded in that of another, the two instantiations are *compatible.* This provides for cases of varied repetition, embellishment, or simply formal inclusion. Given a segment Q, the designation "incl C_x" among its supporting criteria indicates that the instantiation of criterion C_x is embedded within the boundaries of segment Q. The elements of Q grasped by criterion "incl C_x" may be either adjacent or nonadjacent in Q.

21   For a detailed account of structural criteria and realization, see Hanninen 2001.

22   Lewin has advanced an inclusive view of context and its influence on the perception of individual instances. He writes: "The argument CXT specifies a musical *context* in which the perception occurs." With regard to a particular perception, he continues, "CXT is all-of-Figure 1(c) [a brief example, in musical notation, indicating the listener's current point of attention], and also a culturally conditioned theoretical component that makes us responsive to categories we call beats, keys, tonics, dominants, et al." (Lewin 1986, 335).

context, a particular way of hearing what he can only point to on the page. Musical contexts are not limited to sets of events that are temporally or registerally adjacent; a context may include several passages from disparate points in a composition (as in the three moments from Haydn's sonata discussed earlier). Listeners and analysts may, and often do, invoke more than one context at a time (recall Haydn's handling of group II in the recapitulation and note that the theme in group II of the exposition also receives a countermelody). To speak of a change in context usually implies a comparison between two or more musical passages, with one of these being a passage that involves a continuous span of events proximate in time (previous and following) and in register (higher and lower). But since *how one listens* is part of the context, a (duly motivated) change in theoretic orientation applied to a single passage also amounts to a change in context (e.g., is Berg's quotation from *Tristan* tonal, or not?).

Essential definitions. Now to definitions essential to the theory of recontextualization. An ***idea*** is a set of one or more contextual (not sonic or structural) criteria. Ideas have (and manifest in) instances.[23] We name ideas mnemonically. For example, ARCH = {$C_{\text{pitch} \langle E\flat 4, D\flat 5, C6, D5\rangle}$, $C_{\text{cseg} \langle 0132\rangle}$, $C_{\text{SC } 4-1[0123]}$} highlights the pitch contour of Feldman's vibraphone figure; WEDGE = {$C_{\text{pitch} \langle C\flat 6, B\flat 4, G\flat 5, C5\rangle}$, $C_{\text{cseg} \langle 3021\rangle}$}, the flute figure.[24]

An ***instance*** is a grouping in which the instantiations of (all or most of) the contextual criteria in the set that defines an idea coincide. We name instances by appending a sub-

script numeral to the name of the corresponding idea: ARCH$_1$ and ARCH$_2$ denote two distinct instances of the idea ARCH defined above.

Formal relations among contextual criteria, instantiations, ideas, and instances can be summarized in two sets of analogies:

1) Element is to set (of one or more elements) as contextual criterion is to idea and as instantiation is to instance; and

2) Rationale is to grouping of tones as contextual criterion is to instantiation and as idea is to instance.

An idea must have at least two instances. To define a set of criteria as an idea implies that the analyst regards its instances (and the contextual associations among them) as analytically significant. Contents of the set are a matter of analytical judgment and interpretation. The criteria the analyst includes reflect his or her own perceptions, interests, and practical intent: which musical features best characterize a particular way of hearing or a particular set of musical relationships the analyst wants to highlight and explore? Weaker criteria logically implied by stronger ones (e.g., pitch contour and set class are both determined by the vibraphone's pitch ordering) need not be included, but it is often useful to do so, for they may capture additional associations to other groupings that otherwise would be lost.

An idea is in some respects similar to a motive, but there are important differences.[25] Motives tend to be very short; to call something a motive suggests it has many instances and that these have a certain priority in a composition. An idea, in contrast, may encompass an entire passage (as in Morris's *Canonic Variations*, see below) and it may have only two instances. All motives are ideas but not all ideas are motives.[26]

Crucial to the theory of recontextualization is the distinction between instances and segments. *Instances do not neces-*

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23   In practice, ideas are also analytically abstracted from instances that form readily audible segments, much as Rahn both constructs the context A = {a, then-a} and abstracts (in the sense of deduces) a from it.

24   "Cseg" indicates a contour segment, "an ordered set of c-pitches in c-space" (Marvin and Laprade 1987, 228). In a cseg, positive integers denote high and low relative to a lowest pitch represented as 0. For example, $\langle C_4, C^{\sharp}_4, B_2 \rangle = \langle 120 \rangle$. Robert Morris introduced the concepts and terminology for c-space, c-pitch, and contour (for contour spaces, contour pitches, and Marvin/Laprade's "cseg") in Morris 1987, 23–7.

25   Elsewhere, I have defined motive as a set of contextual criteria. For the original, more specific definition, see Hanninen 1996, 409–10. Hanninen 2001 discusses relations between structure and motive.

26   My use of "idea" is also distinct from Schoenberg's. Schoenberg describes "idea" various ways at different times, but in sum his writings

sarily translate to the readily audible units we call segments. Ideas have instances, and musical context influences how listeners perceive instances. Instances may correlate with segments, or they may not. Conversely, segments need not be instances of ideas. For example, a segment supported only by sonic criteria cannot be an instance. (It may, however, be recognized for other reasons.) Segments are aural phenomena; instances that do not form segments deemed aurally significant by an analyst remain (only) conceptual in nature.

Individual listeners often perceive different segments or ascribe different perceptual or analytical prominence to them. Essentially, this means that one analyst finds the workings of particular sonic, contextual, or structural criteria more (or less) compelling (in particular contexts, for particular reasons) than another. Rather than prescribe conditions for perceiving segments that generalize across listeners, I am interested in two things: (1) what prompts individual analysts to recognize one segment rather than another,[27] and (2) the potential for connections among ideas, instances, and segments to change with a change in context.

Three means. Linking the concepts of *idea, instance,* and *segment* into a chain takes us from repetition as an abstraction to the perception of particular segments. An idea is a set of

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point to "idea" as a comprehensive view of a musical composition that involves many perspectives on one of its parts (Schoenberg 1995, 17). Defined as a set of contextual criteria, our "idea" in the theory of recontextualization is closer to Schoenberg's description of the musical "object": "Every object is a composite and hence breaks down into parts. Thus an object can be recognized as a whole (that is, by the cohesion and effect of its components), or by a few or many of its parts" (Schoenberg 1995, 145).

27 For this to be the case, the segment must be supported by at least one sonic or contextual criterion (often several); the segment is a grouping that corresponds to the (coincident) instantiation(s) of these criteria. There is often some correlation between the perceived strength of segments and the number of criteria that support them, but the former does not reduce to the latter. For more on the subject, see Hanninen 2001.

attributes with active potential for association in one or more musical contexts. As we have seen, ideas manifest in instances; instances may, but do not necessarily, correspond to musical segments. To recognize a segment's analytical significance on certain occasions, we add another concept: **structural interpretation**, as conveyed by a particular structural criterion.

The experience of recontextualization is necessarily subjective. Yet like so much in music, it can be remarkably intersubjective. (Is there *not* something striking going on in the Feldman and Haydn passages?) Using the concepts we have developed, we can analyze particular cases of recontextualization—that is, particular musical *situations* associated with this kind of experience—by examining links in the chain of *ideas–instances–segments–structural interpretations.* Each link offers a means—a source or resource—for phenomenal transformation induced by a change in musical context: changes in the active contextual criteria (ideas–instances–segments), segment boundaries (instances–segments), or structural interpretation (segments–structural interpretation). These three means for recontextualization are functionally independent. They can operate individually or in any combination, and together can account for the great diversity in musical practice and experience.

(1) Change in active contextual criteria (ideas–instances–segments). Consider two instances of an idea X, X_n and X_m, that correspond to segments in different musical contexts, perhaps many measures apart. Contextual criteria active in the vicinity of X_n may differ from those surrounding X_m. As a result, the change in context from X_n to X_m may activate different members of X; alternatively, it may activate one or more contextual criteria instantiated coincident with X_m and perceived as characteristics of its corresponding segment but not in the set of contextual criteria that define the idea X.[28]

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28 This situation differs from a change in segmentation involving contextual criteria (described below) in that here the integrity of the *instance–segment* relationship is unaffected.

Or, local activity of contextual criteria not in X may draw attention away from and, in effect, deactivate one or more contextual criteria in X instantiated in X_m. Such changes in active contextual criteria are at work in the three Haydn excerpts of Example 3. As we move from Example 3(a) to (b), staccato and the original tonic give way to legato and the chromatic submediant; from (b) to (c), the legato is preserved but A♭ returns to C major. Each instance offers a different glimpse of the idea; the idea seems to transform as some contextual criteria are dropped from an instance or others added.

It is important to note that contextual criteria often change from one passage to another, even from one moment to the next. Such changes are part of how music goes. Changes in the activity of contextual criteria constitute potential for recontextualization but do not guarantee it; the two are related not by logical implication but by matters of degree and analytical interpretation. For the analyst, then, the question is not "When do changes in active contextual criteria *necessarily* produce recontextualization?" (perhaps a question for research in music cognition), but "How does *this* recontextualization (that I am interested in) work? Does *it* involve significant changes in the activity of contextual criteria?"

We should also note that changes in the contextual criteria active for different instances of an idea are inherent in the analytic process. The relationship between ideas (and, for that matter, motives) and instances is fluid and flexible—fluid in the sense that influence flows in both directions, and flexible in that each instance of an idea need not instantiate all contextual criteria in the set that defines it, but only most or the strongest of these. To define an idea, the analyst constructs a set of contextual criteria; the contents of this set identify particular means for association among a particular set of segments the analyst is interested in. These segments will have some contextual criteria in common, but probably not all. Which criteria define the idea and which are ancillary or ad hoc? As the analyst defines, and redefines, the

idea, he or she moves along the chain from segments to idea and back again, renegotiating the relationship between ideas and instances. If this is recontextualization, it is of a trivial kind inseparable from the analytic process itself.

The seed of recontextualization per se lies in the *result* of this continual renegotiation of borderline cases that is the idea. Recontextualization, by any means, concerns a misfit between a listener's concept of a thing and a particular manifestation (repetition, instance) of that thing in a particular context. The experience of recontextualization is inherently related to one's definition of the idea: how, whether, a "thing" (idea) sounds transformed by a change of context depends, of course, on what one considers the "thing" to be. That the *concept* of a thing and an aspect of musical experience—curiously palpable yet also so elusive—turn out to be integrally related may seem either surprising or obvious (perhaps both). But in clarifying their relationship, we gain a point of entry for the analysis of musical experience.

(2) Change in segment boundaries (instance–segment). Instances involve only contextual criteria; segments reflect the workings of both sonic and contextual criteria. As a readily audible unit, every segment must have at least some support from sonic criteria such as disjunctions in pitch, in dynamics, between attack points, etc., that articulate its boundaries and lift its contents from surrounding events. Where sonic disjunctions and the instantiations of active contextual criteria articulate the boundaries of an instance, that instance is also a segment. Where these conflict—the most compelling sonic disjunctions and contextual associations either subdivide the instance or fail to grasp its boundaries—they discourage or even suppress aural recognition and no segment forms; the instance dissolves in the musical texture.

Given an idea and a set of instances, the relationship between instances and segments may change over time. Some instances may form clear segments; others may not. How these are disposed in time is critical and warrants analytical attention. An established correlation between instances and

segments may dissolve;[29] a new relationship between instances and segments may emerge. Perhaps there is no clear trend, and instances appear, disappear, or continually fluctuate in strength. Changes in segmentation recontextualize ideas by changing our perceptual contact with them. In the Feldman excerpt, the persistent realignment among the three instruments' figures continually readjusts the relative strengths of sonic disjunctions in pitch, attack points, timbre, and dynamics. On occasions, it also suggests new contextual associations among pitch orderings formed across instruments. The resultant quality and continuity of the passage suggests how effective changes in segmentation can be as a means for the phenomenal transformation of repetition.

(3) Change in structural interpretation (segment–structural interpretation). Segments need not have structural interpretations, but when they do, changing the relationship between a segment and its structural interpretation constitutes a third means for recontextualization. Given an idea X, two instances X_n and X_m that both correspond to segments, two distinct contextual criteria C_1 and C_2 from the set that defines X and appear in both instances, and two distinct structural interpretations, T_1 and T_2, there are two possibilities:

(a) The structural interpretation associated with a single contextual criterion C_1 changes from T_1 to T_2 (e.g., a pc interval ordering may occur at different sets of order positions in a row, or within a row versus between rows that unfold simultaneously; reharmonizing a repeated phrase of a chorale melody may change patterns of resolution and embellishment, and thus the structural interpretation of the phrase as a whole);

(b) A change in the contextual criterion that is the focus of analytic concern from C_1 to C_2 inspires a corresponding change from T_1 to T_2 (e.g., C_1 and C_2 grasp the pitch ordering and rhythm associated with segments of a pitch-class row and a timepoint row respectively).

As a further consideration, it is also possible to change the structural interpretation of a single instance (i.e., $X_n = X_m$) from T_1 to T_2. In this case, and as an addendum to both basic possibilities above, the move from T_1 and T_2 may involve a more fundamental shift in theoretic orientation. For example, with respect to J. S. Bach's "Christus, der uns selig macht" considered below, we note that both modal and tonal contexts—and the interaction between modal and tonal interpretations—influence Bach's canonic setting.

Some preliminary concepts; a chain of ideas, instances, segments, and structural interpretations; and three means for recontextualization identified with the links in this chain provide a conceptual framework for analyzing the phenomenal transformations of repetition we call recontextualization. Before proceeding to analytic applications of the theory, we briefly step back for some perspective on the theory itself—what kind of theory it is, and some aspects of its application.

The theory provides concepts and mechanisms for exploring diverse individual cases of recontextualization recognized by an analyst. It is not a taxonomy, nor is it predictive, prescriptive, or objective. Rather, it is a flexible, precise, and intersubjective language, a tool that encourages subtle interpretation and its articulate expression in music analysis and critical studies, guided by the various interests and tastes of the individual analysts who use it. Throughout this paper, the musical interpretations advanced are mine; the theory does not provide them, but enables, supports, and renders them intelligible, as it would the interpretations of others as well as specific points of contact and difference between us. Moreover, the theory opens a realm in which such discourse takes place; it identifies a subject within the (superficially rather uninteresting) subject of repetition. Previously recalcitrant "peculiar repetitions" become invitations; the misfit

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29 My use of the term "dissolve" differs significantly from Schoenberg's use of "dissolution" and "liquidation." Schoenberg describes *liquidation* as "gradually eliminating characteristic features, until only uncharacteristic ones remain, which no longer demand a continuation. Often only residues remain, which have little in common with the basic motive" (Schoenberg 1967, 58). Assuming a loose correspondence between Schoenberg's "motive" and our "idea," liquidation is closer to a change in active contextual criteria than to a change in segmentation.

between the concept of repetition and the experience of phenomenal transformation becomes a conceptual space in which, sensitized by language, we are suddenly able to discern and record detail.

<div align="center">TWO SKETCHES</div>

Through the creative imagination of individual composers, recontextualization can draw rich connections between relatively isolated events or become a mode of presentation and continuity in its own right. Here, we study its workings in select passages from two works that, in very different ways, employ recontextualization as a compositional technique: *By Far* (1995) by Robert Morris and the chorale prelude "Christus, der uns selig macht" by Johann Sebastian Bach. At times, we will explore the workings of a detail; at other times, we will make more general observations on techniques or passages. Such shifts in focus suggest the range of musical situations and analytical approaches available to studies of recontextualization.
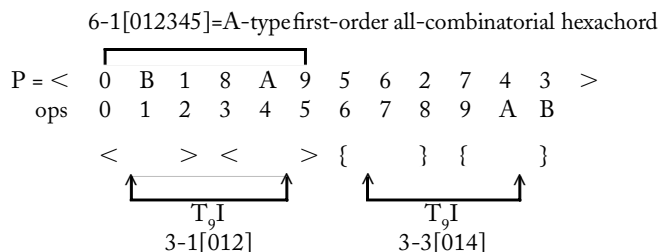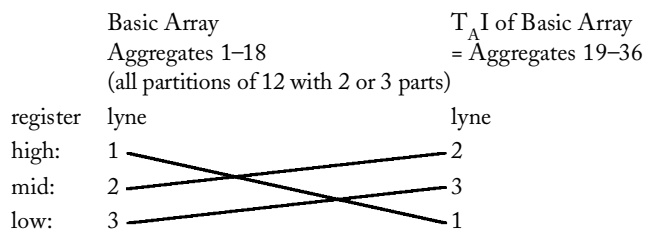
Robert Morris, By Far (1995). By Far is a set of three pieces for piano solo composed by Robert Morris in 1995. The music is full of sonic character, quirky moments, elusive qualities, and interesting details, details inspired but not determined by the twelve-tone row and all-partition pitch-class arrays on which it is based. Milton Babbitt has said that an important difference between post-tonal or twelve-tone music and tonal music is its *contextuality*—essential materials are defined within individual pieces rather than outside them.[30] In twelve-tone music, and particularly in that based on twelve-tone arrays, contextuality is informed and shaped by structural consistency of a row and aggregate formations. Composing with arrays facilitates, even encourages, recontextualization as a compositional practice, for what recontextualization does is take a contextually-defined idea—say, one

that originates with a characteristic realization of an interval pattern in the row—and change its relationship to surrounding context—realization of the rest of the row, realizations of other rows in lynes of the array that unfold in the same time span, structurally-equivalent aggregates elsewhere in the array, etc. In twelve-tone composition, Schoenberg found a solution to the problem of contextuality: how to control and create consistency in pitch material unique to individual compositions. This study of recontextualization in *By Far* looks at the other side of the issue: how one composer continually creates fresh material from an elegant twelve-tone structure.

We begin with a look at that structure. The three pieces of *By Far* employ the twelve-tone row P = ⟨0B18A9562743⟩. Example 7(a) shows some of its properties for combinatoriality and invariance. The three pieces are based on different, successively longer, pitch-class arrays: I, II and III. The arrays have different partition schemes but all complete twelve-tone aggregates throughout. Array I has 3 lynes and 36 aggregates. These divide into a basic array of 18 aggregates with all partitions of 12 into two or three parts (i.e., there is no 12 partition), followed by its transformation under $T_A I$ with lyne exchange (see Example 7[b]).[31] In general, array lynes are realized in distinct registers. These vary in width and pitch range according to the number of lynes active in the piece or passage. Lynes do not necessarily stay in register throughout a piece; in the first piece, they ex-

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30   Babbitt 1987, 9. See also Babbitt 1973.

31   Array II is a 4-lyne array of forty-eight aggregates, comprised of two 2-lyne I-combinatorial subarrays. Each subarray has twelve blocks, successively related by T_B; blocks of the two subarrays are staggered to produce combinatoriality in the array as a whole. Morris's choice of the four rows in the first block guarantees that the complete array includes each of the 48 members of the row class once. Array III is based on a 5-lyne array of 110 aggregates. These subdivide into a basic array of forty-seven aggregates, followed by its transformation under $RT_3 I$ overlaid by sixteen additional rows to produce aggregates 48–110. Morris maintains twelve-tone combinatoriality in this part of the array by splitting each of sixteen aggregates from the basic array in two, then overlaying

6-1[012345]=A-type first-order all-combinatorial hexachord

$$P = <\ 0\quad B\quad 1\quad 8\quad A\quad 9\quad 5\quad 6\quad 2\quad 7\quad 4\quad 3\quad >$$

ops   0   1   2   3   4   5   6   7   8   9   A   B

<   > <   > {   } {   }

T_9I T_9I

3-1[012]   3-3[014]

EXAMPLE 7(A). *The row and some of its properties.*

Basic Array	T_AI of Basic Array
Aggregates 1–18	= Aggregates 19–36
(all partitions of 12 with 2 or 3 parts)	

register	lyne		lyne
high:	1		2
mid:	2		3
low:	3		1

EXAMPLE 7(B). *Schematic of Array I.*

change registers at aggregate 19.[32] Overall, however, a lyne → register rule obtains, such that pitch-class relations among row segments often translate to pitch transformations in the music.

Example 8 shows the first eleven aggregates of Array I; these underlie the first twenty-six measures of music given in

Example 9. (For a complete score for Piece I and a recording of all three pieces, please visit the *Music Theory Spectrum* multimedia annex online.)[33] Brackets in the score locate selected instances of four ideas: TWIST, WIGGLE, REACH, and NUDGE. Example 10(a) gives a representative instance of each idea, followed by a list of contextual criteria that define it. TWIST is the pitch interval ordering ⟨−1, +2⟩ or its R/I transformation; WIGGLE, two or more quick shakes up or down on pitch interval 1 or 2; REACH, the pitch interval ordering ⟨+1, +3⟩ (REACHUP) or its inversion ⟨−1, −3⟩ (REACHDOWN), both yielding a member of 3-3[014]; and NUDGE, a semitonal move up (NUDGEUP) or down (NUDGEDOWN) from a longer note to a shorter one. Example 10(b) identifies each of the four ideas with sets of order positions in the row where it may occur. Each correspondence highlights a *possibility* for musical realization; it does not guarantee that an instance will form, much less that a listener will hear that instance as a clear segment. All four ideas involve aspects of musical realization, at least in the move from orderings of pitch-class intervals in the row to the orderings of pitch intervals that define the ideas.[34] WIGGLE's characteristic shake and the rhythmic profile associated with the clearest instances of NUDGE arise solely in realization. Note the complementary interleaving of pc interval patterns associated with TWIST and REACH at order positions 0–3 and 8–11: the TWIST associated with adjacent order positions 0, 1, 2 occurs within REACH at

33 This score excerpt, the score and recording available through the *Spectrum* multimedia annex www.societymusictheory.org/spectrum, and all musical examples appear with permission of the composer. The complete score is available from Morris Music in Rochester, New York.

34 Because the four ideas TWIST, WIGGLE, REACH, and NUDGE involve pitch intervals much smaller than the average interval between rows realized in different registers under the prevailing lyne → register rule, instances of each idea in Piece I tend to be realized from order positions within a single row. In other situations, this need not be the case however. Given a different set of ideas or set of realization rules, instances may arise among two or more rows in counterpoint.

the new row to produce combinatoriality. The third array is the only one to employ horizontal pitch-class weighting—i.e., pitch-class repetition within a lyne across an aggregate boundary.

32 In Piece II they migrate across registers; in Piece III, registral realization of the overlaid rows is somewhat free; it often crosses registers held by other lynes and may temporarily nudge their realizations slightly up or down.

ag.	1	2	3	4	5	6	7
m.	1	4	8	11	13	15	17
partition:	$3^2 6$	138	156	$1^2 10$	2,10	4,8	25^2
	$T_A P$			$RT_4 P$		$RT_8 P$	
Lyne 1:	A9B	68734052	1]	78B6A9120*5	34]	B03A	21564
	$T_1 P$						$RT_5 P$
Lyne 2:	102	9BA	67385	4]			8907B
	$RT_A IP$		$RT_7 IP$			$T_8 P$	
Lyne 3:	763845	1	029BA]4	3	0512A9B687]	87946512	A3

*Ag. 4, lyne 1: order reversal on entry for pcs 2 and 0.

ag.	8	9	10	11
m.	20	23	26	28
partition:	$2^2 8$	147	6^2	246
		$T_B IP$		
Lyne 1:	97	8]B0A312		659478]
	$RT_B IP$			
Lyne 2:	A231645]8	7	495621	3A
		$T_5 IP$		$RT_3 IP$
Lyne 3:	0B]	5649	780B3A	12]0B

EXAMPLE 8. *Morris, By Far, Array I, aggregates 1–11.*

order positions 0, 1, and 3; under retrograde, the opposite obtains for REACH and TWIST at order positions 11, 10, 9, and 11, 10, 8 respectively. This suggests one way to recontextualize either idea in favor of the other simply by adjusting the strength of connection between adjacent and nonadjacent tones in realization.

Given the row and pc array structure for aggregates 1 through 11, TWIST, WIGGLE, NUDGE, and REACH are all readily available throughout mm. 1–26, but in the music they have different patterns of formation and interrelation, as Example 9 shows. TWIST, WIGGLE, and NUDGE are established as musical ideas from the start, through a combination of sonic salience and repetition in close proximity.

The piece begins with a chromatic flicker in the high register around $B\flat_5$, answered by a similar flicker two octaves

Accidentals affect only the notes they immediately precede; naturals are solely precautionary.

EXAMPLE 9. *Morris, By Far I, score, pp. 1–2 (mm. 1–26).*

EXAMPLE 9. [*continued*]

lower starting from F$\sharp_3$ (mm. 2–3). The pairing of these two gestures, its prominence at the start of the composition, and alignment with pitch-class complementation between two 6-1[012345] hexachords (the row hexachord) to complete the first aggregate, all suggest that these gestures hold the kernel of a significant idea; given the sequel, the association between gestures in mm. 1–2 and 2–4 is best interpreted as a web of relations among three ideas, TWIST, WIGGLE, and NUDGE. The first gesture opens with TWIST$_1$, extended into WIGGLE$_1$. (Throughout I number only those instances actually discussed rather than only referenced in the text. There are others; some of these are indicated by brack-

EXAMPLE 9. [*continued*]

ets, some shown in subsequent examples.) The left hand responds with a NUDGEUP from D♭ to D♮, which is echoed in the right hand NUDGEUP$_1$ from B♭ to B♮ (m. 1). After a brief silence, the low register enters to complete the first aggregate with TWIST$_2$, ⟨F♯$_3$, E$_3$, F$_3$⟩, likewise extended into WIGGLE$_2$ and accompanied by a NUDGEUP, ⟨G$_2$, G♯$_2$⟩. The high register returns in mm. 4–6 as TWIST$_3$ unfolds in ⟨F♯$_5$, G♯$_5$, G$_5$⟩, followed by a NUDGEDOWN from B$_3$ to B♭$_3$. Associations among multiple instances of all three ideas, bolstered by support from sonic criteria, renders all of these (at least to my ear) either clear musical segments in their own right, or defining features within slightly longer segments. The relative clarity of these segments establishes a context for perceiving altered or less salient instances of each idea as the piece goes on, such as TWIST$_4$ succeeded by WIGGLE$_3$ in m. 10 (where the first two attack points of TWIST are fused, and the right hand's A♭$_4$ interrupts WIGGLE$_3$, which flows right into a wiggle-like alternation between E$_3$ and F$_4$). Thus, a pattern of relations among the three ideas is established: TWISTs tend to lead to WIGGLEs accompanied (in another voice) by NUDGEs.

Recontextualization of TWIST begins in m. 11, when the last note of TWIST$_5$, ⟨G$_5$, G♯$_5$, F♯$_5$⟩, wanders into an inner voice (*forte*) as the outer voice gives the continuous rising line ⟨G$_5$, G♯$_5$, B$_5$⟩. A similar fusion occurs in mm. 18–19 involving TWIST$_7$, ⟨G♯$_4$, A$_4$, G$_4$⟩, and the rising line ⟨G♯$_4$, A$_4$, C$_5$⟩, as is seen in Example 11(a). While this fusion suggests a change in active contextual criteria (i.e., the activity of a new contextual criterion that recognizes this association as a partial ordering involving four notes), the perceptual result is complicated by changes in segmentation. A rest nearly two quarters in length silences TWIST$_7$ after its opening semitone; the association between NUDGEDOWN$_1$, ⟨D$_7$, C♯$_7$⟩, and NUDGEUP$_2$, ⟨G♯$_4$, A$_4$⟩, by pitch inversion recommends this ⟨G♯$_4$, A$_4$⟩ semitone as a local point of closure, detaching it from G$_4$ and threatening to dissolve TWIST$_7$.

Yet for a listener who attends to them, other aspects of the local context (and here I will use the surrounding passage of mm. 11–25) can support perceiving TWIST$_7$ as a segment, albeit one that sounds very different from earlier instances such as TWIST$_1$, TWIST$_2$, or TWIST$_3$. These aspects are other instances of TWIST in the vicinity, repetitions that support recognizing REACHUP as a distinct idea, and a detail of realization in mm. 18–19. We consider these in turn. First, four instances of TWIST tumble through the bass line in mm. 15–16; three follow in mm. 21–2 (the orderings ⟨G♭$_5$, E$_5$, F$_5$⟩ and ⟨G♭$_5$, A♭$_5$, G$_5$⟩ form

TWIST₁

WIGGLE₁

TWIST idea:

$\{$ $C_{(\text{pitch intervals }\langle -1, +2\rangle)}$;
$C_{(\text{pc intervals }\langle B2\rangle)}$;
$C_{(\text{cseg }\langle 102\rangle)}$ $\}$

WIGGLE idea:

$\{$ $C_{(\text{pitch interval 1 or 2})}$;
$C_{(\text{at least two shakes, contour }\langle 0101\rangle \text{ to within R/I})}$
$C_{(\text{durations, sixteenth notes or faster})}$ $\}$

Pc, pitch intervals to within R/Tn/I transformations.

REACHUP₁

NUDGEUP₁

REACH idea:

$\{$ $C_{(\text{pitch intervals }\langle +1, +3\rangle)}$ to within I;
$C_{(3\text{-}3[014])}$ $\}$

NUDGE idea:

$\{$ $C_{(\text{pitch interval }+1)}\}$ to within I;
$\{$ $C_{(\text{durations }\langle \text{long, short}\rangle)}$ $\}$
(NB: Rhythmic criterion active only in strongest instances.)

EXAMPLE 10(A). *Contextual criteria for four musical ideas, with initial representative instances.*
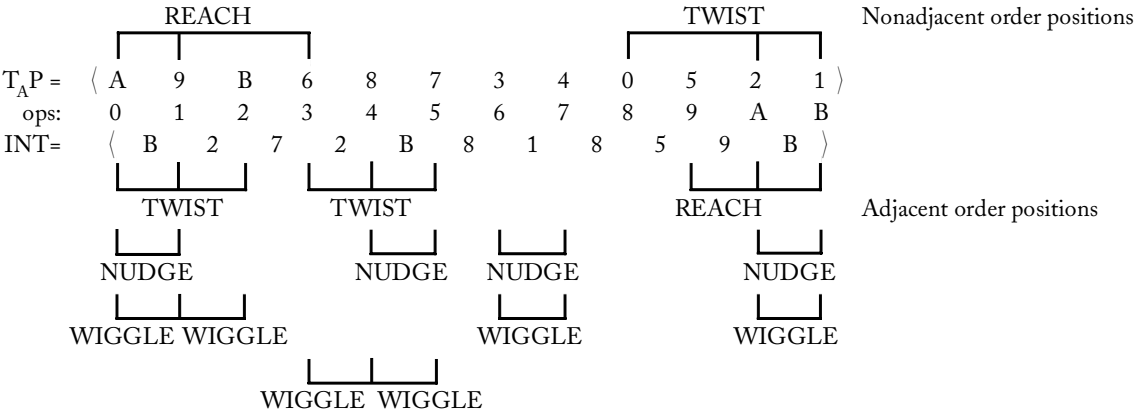
EXAMPLE 10(B). *Structural origins of TWIST, REACH, WIGGLE, and NUDGE in the row.*
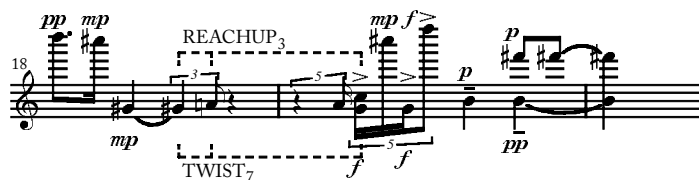
EXAMPLE 11(A). *Recontextualization of TWIST and REACHUP: Resegmentation and continuity mm. 18–19.*
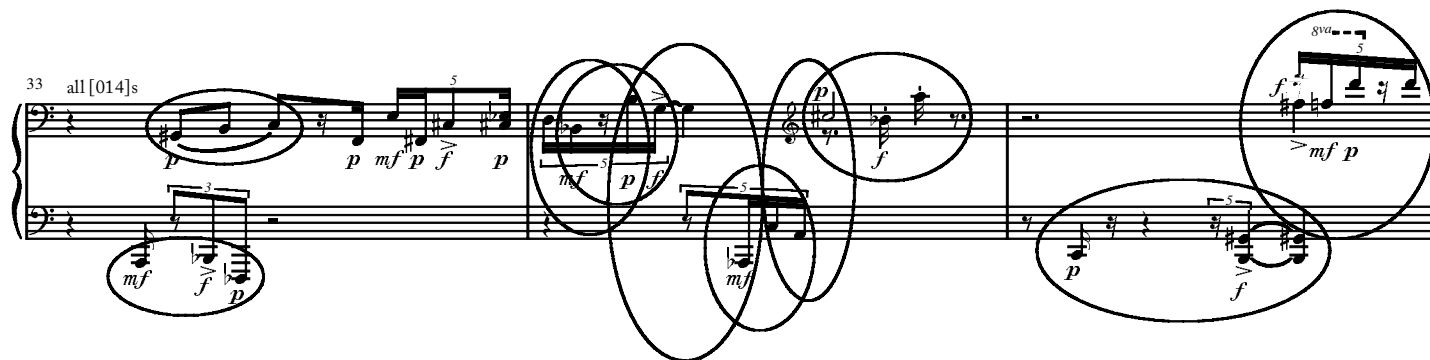
EXAMPLE 11(B). *Emergence of HOOK[014] idea, mm. 33–5.*

particularly strong segments), and two more conjoin with WIGGLEs in mm. 24–5. These instances vary in strength as segments, but their associations with one another prime us to recognize additional, perhaps hidden instances of TWIST, such as $TWIST_7$. Second, there is also incentive to hear the rising lines in mm. 11 and 18 as two subtle instances of a distinct idea REACHUP and thus interpret each fusion of attack points as a polyphony of ideas rather than a borderline instance of TWIST. REACHUP is clearly established later when the pitch ordering $\langle B_6, C_7, E\flat_7 \rangle$ (a strong contextual criterion active only for this pair of instances) is repeated between $REACHUP_2$ in m. 17 and $REACHUP_4$ in m. 24. Both are strong segments. With subsequent hearings, the contextual criteria that relate these segments to one another can draw in the more subtle

$REACHUP_1$ (m. 11) and $REACHUP_3$ (m. 18), as instances in polyphony with $TWIST_5$ (m. 11) and $TWIST_7$ (m. 18). Third, in a significant detail of realization, the repetition of A_4 after the rest in mm. 18–19 suggests a resumption of activity that encourages listeners to follow both $TWIST_7$ and $REACHUP_3$ from their opening $\langle G\sharp_4, A_4 \rangle$ semitone through to completion in G_4 and C_5 respectively. With repeated hearings, the rest fills with expectation, a silence energized by desire for completion. The potential energy of the silence-as-interruption and the complex of factors working both for and against perception of $TWIST_7$ become part of how it sounds in context, transforming the experience of repetition from recurrence to discovery.

The nexus of relations among TWIST, WIGGLE, REACHUP, and NUDGE in mm. 1–26 is characteristic of

the first piece, but these ideas are not always active. Example 11(b) skips a few bars to mm. 33–5, where instances of a new idea, HOOK[014], proliferate, articulated through temporal adjacency within and across lynes. Six of the ten instances have three distinct attack points and an angled contour (cseg $\langle 102 \rangle$ or its R/I/RI transformation); the remaining four, through harmonic consistency, are drawn in as instances of an idea with stronger and weaker manifestations.[35] As HOOK[014] saturates the surface, TWIST, WIGGLE, REACH, and NUDGE all disappear, though still available in the array. Conversely, at the start of the piece where those ideas dominate the surface, occasional instances of HOOK[014] are unlikely to be perceived as such. (Return to Example 9.) For example, in mm. 2–4, the pitch orderings $\langle G_2, F\sharp_3, D\sharp_3 \rangle$ (mm. 2–3) and $\langle E_3, F_3, G\sharp_2 \rangle$ (mm. 3–4) instantiate the two criteria that define HOOK[014], but in this context there is little incentive to hear them as segments: they are marginalized by the more active and persuasive TWIST, WIGGLE, and NUDGE. Long latent in the row structure (3-3[014] occurs at order positions 5–7, 6–8, and 9–B), the HOOK[014] idea emerges only well into the piece in a brief passage that revels in its two relatively unrestrictive contextual criteria that involve set-class and pitch contour.

As the preceding examples suggest, the formation of ideas prerequisite for recontextualization stands in complex relation to details of realization. Exactly how the two interrelate in a particular case depends, in part, on the idea in question —to what extent are its definitive criteria largely given by a row segment in conjunction with realization rules (e.g., REACHUP, as $C_{\text{pitch interval } \langle +1, +3 \rangle}$), or inherently the province of realization (e.g., WIGGLE, a nonstructural repetition of a semitone or major second)? To examine the role of realization in forging a particularly compelling association between

instances of an idea, let us look more closely at REACHUP$_2$, REACHUP$_4$, and details of their immediate contexts, mm. 17–18 and mm. 24–5 respectively. These are shown in Examples 12(a) and 12(b). (See also Example 9.) The critical repetition of pitch ordering $\langle B_6, C_7, E\flat_7 \rangle$ that motivates the association originates in the row structure: the pitch-class segment at order positions (11, 10, 9) of RT_8P (in REACHUP$_2$) returns at (0, 1, 3) of T_BIP (in REACHUP$_4$). Each time, the ordering is realized as a clear segment: REACHUP$_2$ is isolated from all surrounding events by a combination of changes in register, dynamics, rests, and attack point distances; the segment that contains REACHUP$_4$ and WIGGLE$_4$, by register, dynamics, and attack point distance. (Recalling that TWIST and REACH interleave in the row may also lead one to notice a recontextualized TWIST$_6$ in m. 17, dissolved by a rest and a repeated $E\flat_7$ such that it does not form a segment.) Invariance of the entire hexachordal pcset {A,B,0,1,2,3} in the high register comes from the row structure, but note a detail of the realization that strengthens the aural connection: WIGGLE$_5$ in m. 25 ($C\sharp_7$–D_7) recalls not only WIGGLE$_4$ (B_6–C_7) in m. 24, but also NUDGEDOWN$_1$, $\langle D_7, C\sharp_7 \rangle$, which rounds out activity in the high register in m. 18. The pitch-class ordering of NUDGEDOWN$_1$ is given by the row, but in m. 25 it is not: the row gives $\langle C\sharp, D \rangle$, the order in which the pcs enter. Adding the WIGGLE in realization allows two logically contradictory sets of connections to operate: one local to mm. 24–5, and one that recalls mm. 17–18, as $\langle B_6, C_7, E\flat_7 \rangle$ is again followed by $\langle D_7, C\sharp_7 \rangle$, a move that enhances the strength of connection available in the array. The association between REACHUP$_2$ and REACHUP$_4$ that recommends REACHUP as an idea involves at least four factors: correspondences between row segments; their realization as musical segments associated by pitch intervals (REACHUPs); realization of other ideas in each immediate context (WIGGLE, NUDGEDOWN); and finally, aspects of realization that set each entire complex of ideas off from its surroundings—in this case, by changes in register.

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35   The 66% ratio of these six instances to the nine that have three distinct attack points is exactly chance (for three distinct attack points, there are six possible contours; four of these are transformations of cseg $\langle 102 \rangle$). This does not make the *perceptual import* of associations among so many instances in such close proximity any less persuasive, however.

EXAMPLE 12(A). *REACHUP$_2$ and its immediate musical context, mm. 16–18.*

EXAMPLE 12(B). *REACHUP$_4$ and its immediate musical context, mm. 24–25.*

For a final example of recontextualization in Piece I, let us look at the last measure, shown as Example 13. Pitch structure comes from aggregate 36, a transformation of aggregate 18 under $T_A I$ and lyne exchange. This transformation places $RT_A P$—the retrograde of the row that opened the piece—in the lyne realized in the highest register, offering an opportunity for an R-relation with the top line of aggregates 1–2. The active lyne that brings the piece to a close realizes the row segment $\langle 786B9A \rangle$, order positions (5–0) of $RT_A P$ in m. 73, as a pitch retrograde of the opening, two octaves higher. (See mm. 1–7 on Example 9.) But it is not only that: where the opening bars focused on TWIST

and WIGGLE, by the end of the piece REACHUP has also been established. In the final flourish, changes in dynamics $\langle f, p, f \rangle$ separate the $F\sharp_7$ that concludes TWIST from the B_7 that ends REACHUP, so that the four-note sequence $\langle G_7, G\sharp_7, F\sharp_7, B_7 \rangle$ articulates both ideas. In a sense, the closing gesture recontextualizes the pitch-class segment it recalls by changing its function: rather than introducing and establishing ideas successively as in mm. 1–26, it brings ideas together, integrating them into a single figure that recalls multiple origins.

To compose or analyze music with twelve-tone arrays is to focus on relations between structure and realization and

EXAMPLE 13. *TWIST, WIGGLE, and REACHUP in final row statement of Piece I, m. 73.*

how these may be renegotiated in the course of a composition. This renegotiation suggests an interesting parallel with the theory of recontextualization: the relation of structure to realization in array composition is much like that of ideas to segments and interpretations. The composer writing music with twelve-tone arrays, and the analyst exploring recontextualization in this music (or for that matter, any other) are exploring the same space between concept and phenomenon and its potential as a source for musical transformation. This abstract affinity suggests that recontextualization may be particularly apt as a compositional technique for this music in ways that, say, developing variation is not: unlike developing variation, which implies changes in note-to-note successions, recontextualization takes the structural consistency of pc orderings in the array as a premise and focuses instead on their changing musical manifestations. Interplay between structure and realization shapes the idea itself: an idea may meld a certain structural consistency in the array—such as pitch-class interval orderings associated with row segments, or aspects of aggregate formation—with aspects of realization, such as a pitch contour, rhythm, dynamic profile, articulation pattern, etc. Over time, as various instances of an idea manifest in different musical contexts, a listener's sense of and perceptual contact with the idea changes with the clarity and strength of individual segments, the contextual criteria active, and perhaps also the analyst's structural interpretations of individual criteria and segments.

In *By Far*, we have gone deep into the study of recontextualization by scrutinizing details as well as by tracing the histories and changing contexts for a select group of ideas. All four ideas are rooted (to some extent) in row segments and thus in individual rows. There are some cases of recontextualization that associate passages across pieces in *By Far* through counterpoints of rows; perhaps most prominent in this respect is a recomposed return of the opening measures of the first piece in m. 23 of the second piece. But the real *tour-de-force* in this respect is Morris's *Canonic Variations* (1992), a piece for two pianos in which recontextualization is not *a* compositional premise but *the* compositional premise.[36] The piece has fourteen sections (or "variations," A, I–XII, and AA on Example 14). Each combines two subarrays, one in each piano; each subarray completes twelve-tone aggregates and has a distinct pitch realization that will return later in the composition; each combination of subarrays also completes twelve-tone aggregates. Excepting the

36   Work on *Canonic Variations* as part of my dissertation was what originally prompted me to introduce the term "recontextualization" and to subsequently develop a theory of recontextualization in music. What I now call recontextualization is clearly fundamental to Morris's compositional design for the piece and its realization, although he did not originally call it that. For more on the structure of *Canonic Variations*, its realization, and analysis of selected variations see Hanninen 1996, Chapter 6.

Variation	A	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	AA
Piano I	x	a	b	c	d	e	f	b	a	d	c	f	e	x
Piano II	y	g	h	i	j	k	g	l	i	h	k	j	l	y

EXAMPLE 14. *Morris,* Canonic Variations: *The fourteen variations as pairs of subarray realizations.*

first and last sections that frame the work, the first half of the piece presents twelve pitch realizations (a–l), six in each piano; in terms of the theory of recontextualization, these are twelve ideas. These recombine in the second half of the piece such that each pitch realization in Piano I eventually occurs against two different pitch realizations in Piano II; that is, each idea appears in two contexts, these being the two distinct pitch realizations in the opposite piano. Each pitch realization is recontextualized as interactions between the pianos lead to changes in segmentation, active contextual criteria, and structural interpretation (for example, where new regularities in combinatorial potential emerge between the pianos, or there are changes in the multiple-order property). This recontextualization of pitch material is clearly audible, with pitch registers and ordering maintained but for rhythmic adjustment. The complex network of pitch realizations and their changing musical contexts create a highly original, polymorphic, musical form and a rewarding musical experience.

Johann Sebastian Bach, "Christus, der uns selig macht," BWV 620. This second analytical sketch uses the theory of recontextualization to explore perceptual transformations associated with canon in a tonal setting. "Christus, der uns selig macht" is one of the forty-six chorale preludes from Johann Sebastian Bach's *Orgelbüchlein.* It exists in two versions. According to Russell Stinson, the earlier of these, BWV 620a, was composed in Weimar, likely during 1716–1717; the later, a revision in black ink atop the original autograph

in brown, in Leipzig, sometime in 1726.[37] Bach set the phrygian chorale melody several times: in addition to the *Orgelbüchlein* settings it appears twice in the *St. John Passion* BWV 245 (No. 21, "Christus, der uns selig macht," and No. 65, "O hilf, Christe, Gottes Sohn"), and in two additional four-voice settings (BWV 283 and BWV 747.)[38] BWV 620 is canonic throughout: the entire chorale melody appears in canon at the (double) octave between soprano and pedal, enriched on two occasions by canonic imitation between the two inner parts, also at the octave (the latter do not figure in this analysis). The prelude is chromatically rich, reflecting its Passiontide text and the compositional tensions inherent in canonic treatment of a phrygian tune in four-part tonal harmony.

A significant implication of the canon at the octave as a compositional technique is that beginnings and endings of phrases in the outer parts are staggered. In the interests of musical continuity, one or the other will preside to dictate

37 Stinson divides composition of the *Orgelbüchlein* into three phrases: Early (1708–1712); Middle (divided into Middle I, 1712–1713 and Middle II, 1715–1716); and Late (1716–1717). He places BWV 620a in the "Late Compilation Phase" in Weimar (Stinson 1996, 17) and, after Heinz-Harald Löhlein, BWV 620 in Leipzig (Stinson 1996, 14).

38 Peter Williams traces the text of "Christus, der uns selig macht" to "a version of the fourteenth-century Passiontide hymn *Patris sapientia, veritas divina,* published 1531 in the first German hymnbook of the Bohemian Brethren" (Williams 1980, 54). Settings of the melody appear as Nos. 81, 113, 198, and 307 in Riemenschneider's collection of 371 chorale harmonizations.

a point of initiation or local closure for the texture as a whole. As each phrase of the chorale initiated in the top voice moves to the pedal, patterns of relative motion and stability within the phrase are reconfigured by changes in the harmonic settings of individual tones and their locations relative to cadence points. Despite the ostensible repetition, the two instances of each phrase in manual and pedal *sound* different. In effect, the canon engineers not so much the repetition of each phrase as its recontextualization, an aspect of the prelude that becomes increasingly intriguing with successive hearings focused alternately on top voice and pedal.

Example 15 shows the eight phrases of the chorale as it appears in two of Bach's four-part harmonizations, Riemenschneider Nos. 198 and 307. Phrases 3 and 4 return as phrases 7 and 8, but for a metric shift and the significant addition of A♮ as the peak of phrase 8; Bach articulates the correspondence with near-repetition in all four voices of BWV 620. Other prominent echoes among phrases involve phrase 5, which recalls the start of phrase 1 a perfect fifth lower; and the return of D–C–B at the end of phrases 1, 2, and 6.

Example 16 transcribes the canonic voices from BWV 620 phrase by phrase (the *dux* sounds an octave higher); figured bass indicates harmonic structure and some prominent linear motions in inner voices. Comparing the canon with the chorale melody in Example 15 turns up many adjustments in rhythm and meter. Two eighth notes often become a dotted eighth and sixteenth; the first, last, and highest notes of individual phrases are often doubled or even tripled in duration (e.g., the A and D that begin phrase 2 and phrase 4 in the pedal, or the D just before the peak of phrase 6). Rhythmic adjustments also occur within the prelude between *dux* and *comes* statements of the same phrase (e.g., the start of phrases 2, 4, and 8). As is typical among Bach's nine canonic chorales in the *Orgelbüchlein*, chorale phrases in BWV 620 succeed one another without interludes and often overlap. A bracket below the start of each phrase indicates the number of beats that separate *dux* and *comes* entries; delays of 2 or 3 beats (as in phrases 1, 2, and 8) indicate a

change in metric position from the former to the latter. A second bracket above the end of each phrase shows the number of beats' overlap between a phrase ending in the *comes* and the next phrase starting in the *dux*. The overlap tends to soften phrase boundaries, especially in the *dux*, which tends to defer to cadence points and phrase entries articulated by the *comes* in the bass. Reading through the canon with special attention to the figured bass points up more differences between *dux* and *comes*. As individual tones of the chorale melody move from the top voice into the pedal, they often appear in new harmonic contexts. Notes once dissonant become consonant; chord tones become nonharmonic tones; passing tones and agents in local dominant to tonic motions become goals.

The theory of recontextualization equips us for detailed study of Bach's canon with its subtle and surprising shifts as individual phrases of the tune move from manual to pedal. We define each of the eight phrases of the chorale melody as an idea, using their individual orderings of pitch-classes conjoined with pitch intervals as contextual criteria. Manifestations of each phrase in the manual (*dux*) and pedal (*comes*) are distinct instances. To keep their registral positions at the forefront of discussion, we name phrases of the *dux* SP1 (soprano phrase 1), SP2, etc., through SP8; *comes* phrases are BP1 (bass phrase 1) through BP8.[39] Recontextualization in the prelude occurs through two means that here are closely intertwined: changes in segment boundaries, often associated with phrase overlap; and changes in structural interpretation associated with reharmonization.

Recall that instances are not necessarily strong segments. As each tone in SP and BP instances assumes its place in a particular harmonic context and the succession of phrases

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39   While Bach's setting of phrases 3 and 4 largely returns with phrases 7 and 8, there is reason to number the phrases consecutively throughout: phrases 4 and 8 are distinct, given the addition of A♮; for phrases 3 and 7, recontextualization involves only soprano and bass within each phrase—the association between phrases is essentially repetition.

EXAMPLE 15. *"Christus, der uns selig macht": Chorale melody (from Riemenschneider No. 307).*

in *dux* and *comes* gives way to a through-composed canonic composition, individual instances may lose some of their identity as perceptual units. First and last tones may or may not be marked as points of entry or arrival, and harmonic and contrapuntal activity in other voices may thwart a cadence or mask initiation. Drawing a distinction between instances and segments allows us to consider to what extent each instance *sounds* like a segment—a perceptual unit with clear boundaries, both a beginning and an end—in the context of the full four-voice texture. Distinguishing instances from idea facilitates study of the phenomenal particularity of chorale phrases in manual and pedal that recognizes but is not subsumed by their common pitch-ordering and interval pattern. Partly due to its connection with phrase overlap, recontextualization is especially striking in this piece at the first or last note of individual phrases, and that is where we will focus our analysis.

Example 17 provides a score for the first half of the prelude (mm. 1–13): the first four phrases of the chorale melody in top voice and pedal and the start of Phrase 5. *Dux* phrases begin in mm. 1 (SP1), 3 (SP2), 6 (SP 3), 9 (SP4), and 12 (SP5); *comes* phrases in mm. 1 (BP1), 4 (BP2), 7 (BP3), 10 (BP4), and 13 (BP5). The canon implies a compositional problem—how to integrate *pairs* of phrase endings only a few beats apart into a continuous musical setting? The solu-

tion rests in the nonequivalence of voices in a four-part texture: the outer voices carry the same melody, but they have different functions in the texture as a whole. The bass presides as the voice that controls harmonic succession and articulates points of cadence; the top voice is (only) the most prominent of the upper three voices, all of which rely on the bass for support and harmonic interpretation.

SP1 begins the prelude alone but is immediately joined by a countermelody in the alto. One beat later the tenor enters, imitating the countermelody at the octave; the bass enters last, an eighth rest later, on beat 3. As the four voices enter from high to low, they point toward the bass E that provides harmonic support for the E repeated in SP1. Phrase 1 has seven attack points, four Es followed by the stepwise descent D–C–B. The two-beat delay from SP1 to BP1 yields a *dux-comes* composite spanning nine beats (from the start of SP1 on the first beat of m. 1 to the end of BP1 on the first beat of m. 3) and five vertical intervals (two E octaves followed by a passing 7th and descending parallel 6ths). Inner voices complete the canon's harmonic setting, which moves to a B dominant seventh-chord as a transient goal, placed on the downbeat of m. 3 by the last B of BP1. In comparison, the B that ends SP1 is weak, for reasons that emerge upon scrutiny of the surrounding context (mm. 1–3). After the four Es that begin phrase 1, the first move in SP1 from E to D stands

EXAMPLE 16. *Bach, "Christus, der uns selig macht" (BWV 620), canon.*

out; it initiates the descent through C to B where SP1 ends. Just as SP1 completes phrase 1 on B, however, the D reappears in BP1, offering the first hint of a canon at the octave between outer parts. The D in BP1 supports a $\frac{4}{2}$ position of an E dominant seventh, much as the D in SP1 entered as the seventh of an E dominant seventh in root position. Significantly, though, *as* a seventh, the D in BP1 begs resolution and so rules out any sense of cadence on the B above in SP1. As the bass resolves its seventh from D to C, something noteworthy happens to the final B of SP1—it gives way to an A supplied by the alto at the right time (beat 4) and in the right register. As the alto completes the voice-leading business of SP1, it blurs what might otherwise have been a

segment boundary at the end of SP1. Unlike the bass, where the final B of BP1 is at least a provisional harmonic goal, the last B of SP1 does not even define the end of a segment; it is simply the last note the *dux* offers before dropping out.

A look at Bach's setting of phrase 2 introduces three new considerations: rhythmic and metric adjustments, phrase overlap, and the potential for associations among phrases. Where SP1 (and BP1) preserves the equidistant attack points and metric placement associated with phrase 1 in Bach's homophonic settings, SP2 has rhythmic and metric adjustments that extend the tune from eight to ten beats; also, SP2 begins on beat 4, not beat 1. A three-beat delay between *dux* and *comes* locates the start of BP2 on beat 3.

EXAMPLE 16. [*continued*]

Metric position and harmonic setting color the head tones of SP2 and BP2 differently. SP2 begins as an upbeat, with its initial A held over the barline to become a 4–3 suspension resolving to G♯ in m. 4. The G♯ becomes a dominant agent which prepares, and resolves to, the A-minor triad that marks entry of BP2 on beat 3. The change in metric position for the initial A from SP2 to BP2 and its structural reinterpretation from an unstable melodic tone to the root of a local A-minor tonic make the start of SP2 and BP2 sound different. But there are also similarities: in a small rhythmic ad-

justment, Bach extends BP2's opening A from two beats to three, transforming the chord root into a bass suspension that resolves to G♯ over the barline as before.

With SP2 now ten beats in duration, with three beats' delay between SP2 and BP2, and with this one-beat extension in BP2, the *dux-comes* composite for Phrase 2 spans fourteen beats, from the last beat of m. 3 to the downbeat of m. 7. Due to the rhythmic adjustment in BP2, both SP2 and BP2 end on downbeats. That both phrases 1 and 2 end D–C–B suggests an additional potential for resonance in

EXAMPLE 17. *Bach, "Christus, der uns selig macht," mm. 1–13.*

harmonic treatment between the ends of SP1 and SP2, and BP1 and BP2. These interact in interesting ways. Although now on a downbeat, the last B of SP2 remains weak. Once again, it comes over a D in BP2 and is harmonized with a dominant function that requires resolution (now a vii°$^4_3$ of A minor, articulated by inner voices). As before, when the D in BP2 moves on to C, SP2 drops out and the alto provides an A in the right register to continue the line (m. 6, beat 3).

This time, phrase overlap introduces an noteworthy wrinkle: SP3 picks up the alto's A on beat 4, and begins a new phrase as BP2 proceeds to a close. The alto's A, and the relation of top voice to bass, softens both the end of SP2 and start of SP3, largely erasing segment boundaries at these points. Meanwhile, BP2 ends with B on the downbeat as in BP1, but Bach recomposes the harmonic setting for the D–C–B descent rather than repeating it. The final B of BP2 supports

EXAMPLE 17. [*continued*]

a 7–6 suspension into a vii^{o6} that emerges with the G♯ in the tenor on the second beat of in m. 7; this time, even the B in the bass line is not a point of cadence, but instead demands continuation to A, first supplied in the right register by the tenor on beat 3 and transferred to the pedal when BP3 begins on beat 4. Like SP2, the end of BP2 is largely erased by registral interactions with an inner part and demands for tonal resolution. Recontextualization from SP2 to BP2 is enhanced by the recollection and recomposition of the end of the SP1–BP1 pair with the subsequent pair, SP2 and BP2.

Drawing on our detailed analysis of Bach's canonic setting of phrases 1 and 2, we can accelerate the discussion of phrases 3 and 4 and their recollection in phrases 7 and 8. Except for the complication of phrase overlap, SP3 begins much like SP2: an A on beat 4 is held over the barline to become a nonharmonic tone requiring resolution to G♯. (Here, resolution is transferred to the alto, an octave lower). As

noted earlier, the first A of BP3 is marked, but primarily as a point of local harmonic resolution and completion of linear motion rather than (only) of initiation. This web of relations among melody tones in manual and pedal, their metric placement, and the harmonization at the juncture of phrases 2 and 3 becomes a model for Bach's handling of phrases 3 and 4. Like SP3, SP4 also begins on a weak beat (beat 2), with a D that becomes a 7–6 suspension into C♯ over the final E of BP3 (beats 3 and 4). Enriched by a G♮ and B♭ in alto and tenor, the interval E–C♯ outlines a diminished seventh sonority that begs resolution and forces continuation past the final E of BP3 to the D that begins BP4. Reflecting the large-scale repetition in the chorale melody, the entire arrangement returns at the juncture between phrases 7 and 8 in mm. 20–1.

The chorale melody's near-repetition of phrases 3 and 4 as phrases 7 and 8, and the modified transposition relationship

between phrase 1 and phrase 5 suggest a two-part form of phrases 1–4 and 5–8.[40] This gives the juncture of phrases 4 and 5 (mm. 11–13) special significance in the prelude as a whole, and indeed it turns out to be a significant place. The final E of SP4 falls on beat 3 of m. 11, but its harmonization with a diminished seventh chord in $\frac{4}{3}$ position renders it an active tone without cadential effect. As at the end of SP1 and SP2, SP4's descending line is picked up by the alto (which touches on E in beat 4 and continues to D after the bar line), but this time, a leap in the top voice to the repeated As that begin SP5 and that recall the start of SP1 disturbs the continuity. This abrupt recollection in the top voice is striking, but its image in the pedal is even more so. According to the canon, the leap away from the final E of phrase 4 reappears in the pedal, but now there is no lower voice to continue the line on to D. The bass simply leaps away from the last E of BP4, which supports a diminished triad, to the A that begins BP5 (m. 13, beat 1), set with a $\frac{6}{4}$ moving to a $\frac{5}{3}$. In a remarkable moment without precedent (or successor) in the prelude, *both* the last note of BP4 and start of BP5 become harmonically unstable. At the same time, given Bach's choices for metric placement, rhythmic interpretation, as well as a slight tweak that extends the opening D of SP4 from two beats to three in BP4, the canon offers a further twist: because the chorale melody repeats the ⟨F, E⟩ that ends phrase 4 right after the ⟨A, A, A, G⟩ that opens phrase 5, the canon produces two measures of double counterpoint involving the fragments ⟨A, A, A, G⟩ and ⟨F, E⟩ (mm. 12 and 13). Bringing many of these observations together allows us to make a key point with respect to the form as a whole: the leap in pitch leap from E to A, conjoined with the recollection of phrase 1 at the start of phrase 5, clearly marks the ends of both SP4 and BP4 as segment boundaries, but

the harmonic setting of the final E as a diminished sonority and exchange of outer voice fragments between mm. 12 and 13 provides conflicting information, denying any sense of closure at the end of phrase 4.

The strategic value of this exceptional passage becomes clear when we compare Bach's setting of phrase 4 (Example 17, mm. 9–12) and phrase 8 (Example 18, mm. 20–5). (Recall that he respects the near-repetition of phrases 3 and 4 as phrases 7 and 8 of the chorale melody.) SP8 and BP8 begin as before, with the D that begins SP8 on beat 2 of m. 20 becoming a 7–6 suspension into a diminished sonority that resolves as BP8 enters on the downbeat of m. 21. Where SP4 lasted ten beats from beat 2 to the end of beat 3, the addition of A♮ as the peak of the line (and a G leading to it) extends SP8 to thirteen beats, from beat 2 to (the end of) beat 2. Reversing the durations associated with the final ⟨F, E⟩ motion from half–quarter to quarter–half places the arrival on the last E of SP8 on beat 1. As before, the descent to the E that ends SP8 continues to D in the alto; in an embellishment of the final cadence, a leap to A in the top line recalls the E–A leap at the juncture of SP4 and SP5 in mm. 11–12. Here, however, passing motions in inner voices interpret the move to E as a local resolution, albeit a provisional one. As in phrase 4, a slight rhythmic adjustment on the D that opens phrase 8 (extended from two beats in SP8 to three in BP8) conjoins with three beats' delay between SP8 and BP8, so that they both end on downbeats a full measure apart. A second adjustment reverses the durations associated with ⟨G, F⟩ from half–quarter in SP8 to quarter–half in BP8, moving the penultimate F so crucial to the phrygian cadence to beat 3 and strengthening the final cadence to E. This time, the segment boundaries at the end of SP8 and BP8 are not only readily identifiable, but articulated tonally as resolutions. Set up (but not required!) by the interval of a fourth between E and A, the cadential evasion at the juncture of phrases 4 and 5 is finally answered, and recontextualization emerges as a compositional device above the phrase level to become an articulator of form.

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40 The two-part form is confirmed by rhyme patterns in the text of M. Weisse's hymn from the first German hymnbook of the Bohemian Brethren published in 1531, reproduced in Williams 1984, 54.

EXAMPLE 18. *Bach, "Christus, der uns selig macht," mm. 20–5.*

Focusing on Bach's treatment of the first and last tones of individual phrases as they appear in top voice and pedal has inspired numerous comparisons and observations that reduce to essentially two intimately connected means of recontextualization: changes in segment boundaries, which in turn are often prompted by changes in harmonization (i.e., the structural interpretation of individual tones relative to notes in other voices and their collective function in harmonic progressions). A conceptual framework for analyzing phenomenal transformations of repetition, the theory has helped us frame questions, organize a mass of analytical detail, and identify some subtle and qualitative aspects of a listening experience with musical particulars. Yet the prelude remains ripe for wholly another study of recontextualization, to be explored not within the prelude alone but through comparative analysis of the chorale melody "Christus, der uns selig macht" in modal and tonal contexts.

This would be a significant project in its own right; here, we only outline some of its landmarks.[41]

Because BWV 620 is based on a phrygian chorale melody, it necessarily involves both quotation and recontextualization: quotation in that it employs a pre-existing melody, and recontextualization by structural interpretation as Bach recasts characteristically phrygian melodic patterns in the context of eighteenth-century tonal harmony. Of the chorale's eight phrases, seven end with a semitone descent (to B or E), a standard phrygian cadential pattern that poses challenges in tonal settings. When this semitone descent appears at the end of a phrase in the soprano, it admits motion to a tonal half-cadence; this is how Bach sets the pattern every time it occurs in his two nearly-identical four-voice homophonic

41 See Burns 1995 and Lester 1989, especially Chapters 8 and 9, as well as pp. 156–61.

settings Riemenschneider Nos. 198 and 307.[42] In BWV 620, Bach's decision to set the chorale in canon at the (double) octave between outer voices introduces a formidable complication, for it places these characteristic phrygian cadential patterns in the pedal where they are fundamentally at odds with the root motions by fifth typical of tonal cadences. As we have seen, Bach often handles these phrygian descents in the bass not as cadences, but as passing tones to the first note of the following phrase (e.g., the B that ends BP2 and BP6, and the E that ends BP3 and BP7). Thus, interactions among modal patterns, tonal harmony, and the outer-voice canon motivate some of the changes in segment boundaries we have observed. These interactions also affect relations among phrases at the level of form. As we have seen, Bach articulates the close melodic relation between phrases 3–4 and phrases 7–8 with near-repetition in his canonic setting (compare mm. 7–12 and 19–24) that suggests a two-part form. It is interesting to note that in the homophonic settings, where the phrygian influence is largely confined to the melody, this two-part form is less clear: there are subtle differences between the harmonizations of phrases 3 and 7, but significant ones between phrases 4 and 8. Apparently, it is the expansion of phrygian influence from the melody alone to a compositional constraint acting on *both* outer voices and their vertical relation within a tonal context that inspires the two-part form of the prelude. Further investigation of interactions among modal patterns, their tonal reinterpretation, and constraints and implications of a strict canon at the octave (acting collectively as motivation for recontextualization via changes in segment boundaries, structural interpretation of individual tones and chorale phrases, and associations between phrases in the large-scale form) might well continue in the direction outlined here, taking at least a three-pronged approach of comparative analysis among the modal melody,

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42 As noted earlier, Riemenschneider Nos. 81 and 113 share what is essentially the same tune, but there are some differences in melodic structure and rhythm that can affect the cadential approach.

Bach's canonic prelude, and his homophonic settings of the same melody.

CLOSING REMARKS

The four pieces discussed in detail in this article are a diverse group linked by a curious sort of musical experience in which repetitions don't necessarily sound like repetitions. In each case, characteristic and formative consistencies in compositional technique recommend we shift our analytic focus away from simple recognition of repetitions toward questions about phenomenal transformations of repetition and precisely how these contribute to the musical particularity of each composition. The theory of recontextualization renders the misfit between repetition as a concept and as a musical experience a subject for analysis in its own right, and it provides a conceptual framework for analyzing phenomenal transformations of repetition according to the (perhaps combined) means that produce them—changing relations among ideas and instances, instances and segments, and segments and their structural interpretations. Equipped with a theory that allows us to explore the chasm between the concept of repetition and how a particular repetition actually sounds to us in musical context, we can ask new kinds of questions, examine the workings of recontextualization within and among pieces, and uncover significant differences and commonalities along the way.

Granting their commonality as illustrations of recontextualization, the Feldman, Haydn, Morris, and Bach pieces involve different means as well as mixtures of means. In the excerpt from Feldman's *Crippled Symmetry*, recontextualization occurs primarily through changes in segment boundaries, with occasional activation of new contextual criteria where particular counterpoints or concatenations of figures are themselves repeated. As pitches and attack-points of the three figures intermingle, new proximities arise among events in different figures. Sonic criteria recognize these proximities and recommend new segment boundaries in

pitch, time, or other dimensions for the texture as a whole that often conflict with and mask individual instances. The result is a fluid surface in which the three figures fluctuate in strength of presence. In contrast, the three thematic statements in the exposition, development, and recapitulation of Haydn's sonata movement maintain a clear correspondence between instances and segments, but the distinctive use of legato and open pedal that associate the second and third instances activate new contextual criteria. Combined with the return to C major that associates the first and third instances, these nuances of association among instances affect the relation between idea and instance. Changes in segment boundaries and in active contextual criteria combine in Morris's *By Far*, where interactions with material in other voices and the emergence of new ideas recontextualizes instances of TWIST, REACHUP, and HOOK[014]. Finally, in the Bach chorale prelude, we can trace recontextualization to a number of interesting misfits between instances and segments associated with changes in harmonization, often ultimately motivated by Bach's adaptation of a phrygian chorale tune to a tonal canon at the octave.

Four pieces as disparate as those by Feldman, Haydn, Morris, and Bach should suffice to establish that a theory of recontextualization in music has broad applications that transcend style and syntax and that can support new and fruitful kinds of analytical inquiry. But why not offer further food for thought (or temptation)? Examples abound in any number of pieces that, like Feldman's piece, involve the reconfiguration or realignment of repeated figures; in addition to Steve Reich's phase compositions and Stravinsky's superimposed ostinati to which we have already alluded, we might add Feldman's *Why Patterns?* and Ligeti's piano *étude* "Automne à Varsovie," Book 1, No. 6 (1985). More like the Haydn example (in that recontextualization both delineates form and ensures continuity and change) is the continually evolving reharmonization of the opening melody that delineates sections in Debussy's *Prélude à l'après-midi d'un faune*. Recontextualization by structural reinterpretation has many

examples in the tonal literature: strict canon, diminution and variation, reharmonization, and enharmonic reinterpretation are vast resources for recontextualization by structural reinterpretation in tonal contexts. As in Bach's BWV 620, strict canons that involve the bass are especially interesting, for these typically bring not only reharmonization but striking transformations in how individual tones in a melody function in the texture at large—a passing dissonance may be unobtrusive in an upper part but sound very powerful when it appears in the bass. As for recontextualization by enharmonic reinterpretation, one could hardly ask for a clearer or more strategic demonstration of its potential for dramatic effect than that at the climax of the *Tristan* prelude. For a study of recontextualization involving a change in theoretic orientation, one might take up Colin McPhee's *Tabuh-Tabuhan* (1936), a magnificent orchestral work in which McPhee's transcriptions and knowledge of traditional Balinese gamelan repertory and practice meet his background as a Western composer of contemporary music in a concert tradition. The piece is full of melodies and rich sonorities that recall and reinterpret sounds of the gamelan but also reward pitch-class set analysis.

Two more recent pieces that employ recontextualization as a compositional technique and will especially reward analysis from this point of view are Feldman's *Piano* (1977) and Ralph Shapey's *Night Music II* for Violin, Viola, and Electronic Tape (2000). Like Morris's *Canonic Variations*, both involve superimposition of substantial musical passages. The autograph for Feldman's *Piano* consists of 55 systems, each seven bars long. In her analysis of *Piano*, Paula Kopstick Ames cross-references these to pages and systems in the published score and describes Feldman's compositional technique: "Feldman often used individual systems in their entirety as self-contained musical entities, superimposing them one on top of another to form new musical entities."[43]

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43   Ames 1995, 102.

From system 29 to the end, the process of recontextualiza-
tion is nearly continuous: systems 29 and 30 combine as sys-
tem 31; systems 32 and 33, as system 34; system 35 com-
bines aspects of systems 32 and 34; systems 37 and 38 return
in combination as system 47; systems 44 and 45 combine as
system 49; systems 49 (i.e., 44 and 45) and 51 combine as
system 50.[44] Much as in *Crippled Symmetry* where Feldman
superimposes individual figures, here his superimposition of
entire systems reconfigures inter-event proximities and dis-
tances in pitch, time, and dynamics in the texture as a
whole, and affects segment boundaries accordingly. Shapey's
Night Music II takes a compositional strategy based on
recontextualization even further, extending the idea to a full-
third of the composition—several minutes of music. The
piece is for one performer. It begins as a violin solo; a record-
ing of the opening solo is then combined with a new pas-
sage performed live; the resulting duo is similarly recorded
and played back with a third passage performed live.[45]
The opening violin passage ultimately occurs three times;
the second live passage, twice; and their combination as a
duo, twice. Each constitutes an idea, with the individual
(literal, live vs. taped) repetitions its instances. Once again,
the superimposition of different ideas reconfigures prox-
imities in pitch and time, and activates new potential for
contextual associations among groups of tones. The renego-
tiation of segment boundaries and emergence of new con-
nections that arise only with each successive combination
creates a play of musical similarity and difference in which
the idea of the idea, rather than of its repetition, becomes
transparent.

If most pronounced in Morris's *Canonic Variations,*
Feldman's *Piano,* and Shapey's *Night Music II,* all of which
employ a compositional strategy of recontextualization

through superimposition, the basic relation of superimposi-
tion or layering is shared, at least to some degree, by most
examples of recontextualization discussed in this article.
That layering should be a kind of common denominator is
no coincidence: layering is implicit in the abstraction of an
idea (more specifically, of a particular instance of an idea)
from a musical context. We began with the observation that
to recognize repetition is to abstract or separate a thing from
a context; along with Rahn, we enriched this point of view
with a complementary perspective: that things are abstracted
from (in the sense of recognized-because-of) changes of
context. Through the theory of recontextualization and its
analytic application, we have developed a third approach,
one concerned with the mutual permeability of idea and
context, as well as with how changing the latter can phe-
nomenally transform "repetitions" of the former. Detailed
analysis of the Morris and Bach pieces, with special atten-
tion to commonalities and individuating features of repeti-
tions *within*—that is, imbued by—particular musical con-
texts, suggests the scope and subtlety of relations between
musical things and contexts, and repetitions and musical ex-
periences, that can be gained through further reflection on
aspects of recontextualization in music.

REFERENCES

Ames, Paula Kopstick. 1995. "Piano (1977)." In *The Music of
Morton Feldman.* Edited by Thomas DeLio. New York:
Excelsior, 99–141.
Babbitt, Milton. 1973. "Since Schoenberg." *Perspectives of
New Music* 12: 3–28.
———. 1987. *Milton Babbitt: Words About Music.* Edited by
Stephen Dembski and Joseph N. Straus. Madison,
Wisconsin: University of Wisconsin Press.
Burns, Lori. 1995. *Bach's Modal Chorales.* Stuyvesant, NY:
Pendragon Press.
Dubiel, Joseph. 1999. "Composer, Theorist, Composer/
Theorist." In *Rethinking Music,* edited by Nicholas Cook

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44   For the most part, these preserve rhythm as well as pitch. There are also
a few other small correspondences; I have noted only the primary ones.

45   Shapey employs the same strategy in *Night Music I* for three flutes and
tape (2000).

and Mark Everist. New York: Oxford University Press, 262–83.

Feldman, Morton. 2000. "Crippled Symmetry." In *Give My Regards to Eighth Street.* Edited by B. H. Friedman. Cambridge, MA: Exact Change Press.

Hanninen, Dora A. 1996. "A General Theory for Context-Sensitive Music Analysis: Applications to Four Works for Piano by Contemporary American Composers." Ph.D. dissertation, University of Rochester.

———. 2001. "Orientations, Criteria, Segments: A General Theory of Segmentation in Music Analysis." *Journal of Music Theory* 45. Forthcoming.

Hirata, Catherine. 1996. "The Sounds of the Sounds Themselves: Analyzing the Early Music of Morton Feldman." *Perspectives of New Music* 34: 6–27.

Horlacher, Gretchen. 1992. "The Rhythms of Reiteration: Formal Development in Stravinsky's Ostinati." *Music Theory Spectrum* 14: 171–87.

———. 2001. "Running in Place: Sketches and Superimposition in Stravinsky's Music." *Music Theory Spectrum* 23: 196–216.

Lester, Joel. 1989. *Between Modes and Keys: German Theory 1592–1802.* Stuyvesant, NY: Pendragon Press.

Lewin, David. 1986. "Music Theory, Phenomenology, and Modes of Perception." *Music Perception* 3: 327–92.

Marvin, Elizabeth West and Paul A. Laprade. 1987. "Relating Musical Contours: Extensions of a Theory of Contour." *Journal of Music Theory* 31: 225–67.

Morris, Robert D. 1987. *Composition with Pitch-Classes: A Theory of Compositional Design.* New Haven: Yale University Press.

Mu Xin. 2001. "Who is Truly Fearless?" In *The Art of Mu Xin: Landscape Paintings and Prison Notes.* Introduction by Alexandra Munroe. New Haven: Yale University Press.

Rahn, John. 1993. "Repetition." *Contemporary Music Review* 7: 49–57. Reprinted in Rahn, *Music Inside Out: Going Too Far in Musical Essays.* Introduction and commentary by Benjamin Boretz. Amsterdam: Gordon and Breach. 2001.

Sabbe, Hermann. 1995. "The Feldman Paradoxes." In *The Music of Morton Feldman,* edited by Thomas DeLio. New York: Excelsior, 99–141.

Schoenberg, Arnold. 1967. *Fundamentals of Musical Composition.* Boston: Faber and Faber.

———. 1995. *The Musical Idea and the Logic, Technique, and Art of its Presentation.* Edited, translated, and with a commentary by Patricia Carpenter and Severine Neff. New York: Columbia University Press.

Somfai, László. 1995. *The Keyboard Sonatas of Joseph Haydn: Instruments and Performance Practice, Genres, and Styles.* Chicago: University of Chicago Press.

Stinson, Russell. 1996. *Bach: The Orgelbüchlein.* Monuments of Western Music Series. George B. Stauffer, Series Editor. New York: Schirmer Books.

van den Toorn, Pieter. 2001. "Stravinsky, Adorno, and the Art of Displacement," paper presented at the Society for Music Theory meeting in Philadelphia, November 2001.

van Frassen, Bas C. 1980. *The Scientific Image.* Oxford: Oxford University Press.

Williams, Peter. 1980. *The Organ Music of J. S. Bach. (Cambridge Studies in Music.)* Volume 2. Cambridge: Cambridge University Press.