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By Richard Cohn

An interplanetary visitor asks: "What is music?" The question requires a complicated response, but you want to be concise, so you might say, "Music is patterns of sound, in patterns of time." You might add that it is an activity by and for humans, who use it in every known culture to fulfill a range of functions, and ascribe to it a range of significatory powers.

If the visitor now asks, "What is music theory?" you might answer something like: "It aims to understand patterns of sound in patterns of time, and how humans process, interpret, and assign meaning to those patterns."

The visitor, who is a very quick study, might then say, "Since there are two types of patterns, I would imagine then that music theory is organized into two major branches." This is another tough one, but you again want to avoid a tedious answer. So you say, "Right! Our encounters with music involve mentally filtering sound through two regulative systems. TONALITY studies how we process, interpret, and ascribe meaning to pitched sounds. METER studies how we do the same for sounds in time." You might then hasten to add that even though those two systems are in principle independent of one another, they are richly interactive.

Examining now some textbooks on music theory, our visitor is puzzled. "I now understand a lot about tonality, how the mind makes sense of patterns of sound. But I understand very little about meter, how the mind makes sense of patterns of time. Each table of contents has between twenty and thirty chapters on tonality, but only one or two chapters on meter. Evidently the authors of these textbooks believe that students should study only one of these two branches of musical patterning, even though you implied that they are equally central to the experience of music."

Looking now at some educational curricula, the visitor finds the same imbalance. "I see that human music students, in their late adolescence, dedicate perhaps two years of part-time study to learning music theory. From what you told me, I would have expected one year on tonality, and one year on meter. But I find no institution that teaches these two topics with anything close to parity. Why is there a mismatch between what you say that music theory is, and what everyone learns about music theory?"

I can't begin to predict how you might answer this question, because I can't come up with a sensible answer myself. I will, however, present some preliminary speculations later in this paper.

Music theory has perpetuated the tonality/meter asymmetry through many generations, as if it were a natural state of affairs and the only option available. The encounter with the interplanetary visitor suggests a perspective from which to view this asymmetry as peculiar, and ripe for examination.

I

At least since ancient Greece, thinkers about music have intuited a deep analogy between pitch and time. The analogy has at least eight facets: (1) Both are strictly ordered on a continuous spectrum; (2) the mind organizes both continuous spectra into sets of points; (3) those points are understood to be equally spaced, even though they are not exactly so when physically measured; (4) those punctuated lines are wrapped into cycles; (5) one of the cyclic positions has an orienting function (tonic, downbeat);[1] (6) from the remaining points, a maximally even selection is made;[2] (7) the maximally even selection iterates through one or more subsequent levels; and (8) the relationship between elements that are adjacent at some level is mapped onto the biological and physical world through a cluster of metaphors such as stability, magnetism, attraction, and energy.[3] Thus meter and tonality regulate their domains in parallel, in terms of both syntax and semantics, and structure and experience.

These affinities are inherited by the institutions through which music has been disseminated and perpetuated in the European notated tradition. One such institution is the notation itself, which represents music as a stylized Cartesian grid, with one axis for pitch

[1] Jay Rahn, *A Theory For All Music: Problems and Solutions in the Analysis of Non-Western Forms* (University of Toronto Press, 1983).

[2] John Clough and Jack Douthett, "Maximally Even Sets," *Journal of Music Theory* 35 (1991): 93–173.

[3] Concerning the history of these ideas, see Lee Rothfarb, "Energetics," in *The Cambridge History of Western Music Theory*, ed. Thomas Christensen (Cambridge University Press, 2002), 927-55. For a recent application see Steve Larson, *Musical Forces: Motion, Metaphor, and Meaning in Music* (Indiana University Press, 2012).

and one for time, both punctuated if not quite uniformly spaced.[4] Both domains are regulated by *signatures*, dually mounted at the head of a score. In our musical culture, signatures are conveyors of quantitative information: which tones are in the scale, and how many beats of what duration occur in each measure. Until around 1800, though, signatures regulated a good deal more. Under tuning systems that preceded equal temperament, key signatures reflected a difference in micro-tuning.[5] Similarly, in part due to their association with social dance, each meter signature communicated a difference in micro-timing, as well as characteristic tempi (*tempo giusto*) and accentuation patterns.[6] In both domains, that surplus was associated with semantic qualities: moods, affects, and contexts. Like Renaissance modes and South Asian ragas, signatures referenced emergent phenomena that bundled a set of disparate properties, both quantitative and qualitative.

Both systems of associated moods and contexts decayed around the turn of the 19th century.[7] Without their surplus, the signatures converted to conveyors of quantitative information and lost their audible distinctiveness. In the domain of pitch, one key signature sounds like another, except for that minority of listeners with absolute pitch. Entire pieces can transpose without change of structure, experience, or identity. It is no coincidence that, at this rough historical moment, scale degrees emerge as default classifications for tonal events.

Similarly, in the domain of meter, many metric notations lost their distinctiveness. Consider the three notations in Figure 1. Once they become dissociated from their tempo giusto qualities, it becomes difficult to assert an audible distinction between them.

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[4] For representations of music that more closely approximate a Cartesian grid than does standard notation, see the web site of Stephen Malinowski, http://www.musanim.com.

[5] Rita Steblin, *A History of Key Characteristics in the Eighteenth and Early Nineteenth Centuries* (University of Rochester Press, 2002).

[6] George Houle, *Meter in Music, 1600–1800: Performance, Perception, and Notation* (Indiana University Press, 1987).

[7] See Steblin, *A History of Key Characteristics*; Danuta Mirka, *Metric Manipulations in Haydn and Mozart: Chamber Music for Strings, 1787–1791* (Oxford University Press, 2009); and Roger Matthew Grant, *Beating Time and Measuring Music in the Early Modern Era* (Oxford University Press, 2014).

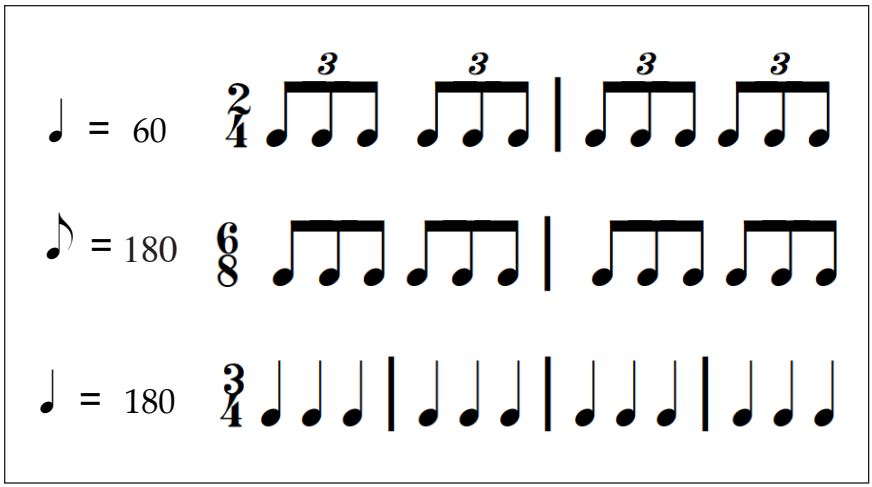

Figure 1. Three notations of a single heard meter

Yet here we arrive at the first way that tonality and meter are differently treated. In the domain of tonality, this loss of distinctiveness is universally accepted. But not so in the domain of meter: many musicians will attest that, even stripped of their tempo giusto historical context, there are nonetheless significant qualitative distinctions between these three notations, to a degree that is often said to affect the identity of the artwork. Although no educational institution would ask students to identify a key signature (i.e., an absolute transposition) on the basis of uncontextualized auditory input alone, students are commonly asked to distinguish by ear between the three notations in Figure 1.

These asymmetries are related to ones in our systems of musical education, earlier observed by our inter-planetary friend. Characteristically, a music theory textbook contains a single chapter on meter, positioned early in the book, among a small cluster of chapters on rudiments. The chapter begins with a catalogue of durational symbols, proceeds to a definition of meter, reviews the standard six-fold classification of meters, and establishes the relationship between these classes and the notational conventions of meter signature and bar line. Although this chapter is remedial, it makes a significant contribution to the primary business of the book, as it prepares the lesson in appropriate positioning of dissonances and harmonic changes, which are central aspects of European tonal practice. Accordingly, the more sophisticated textbooks indicate that the strong/weak distinction, which guides

these aspects, is present at several distinct levels of the metric hierarchy: on- and off-beats, strong and weak beats, first and third beats, and even between successive downbeats of a hypermeasure. Beyond this, a textbook might devote a paragraph or two to several additional metric topics, such as hemiola, syncopation, and types of accentuation, either to fill out this early-chapter introduction, or as a stand-alone chapter that appears later on. Otherwise, it's all tonality all the time.

Turning now to the substance of these chapters, here are four definitions of meter from the early chapters of recent American harmony textbooks, authored by four former presidents of the Society for Music Theory and one former editor of this journal.

- "Beats are . . . grouped into a regular repeating pattern of strong and weak. This is the *meter*."
- "This pattern of stressed and unstressed beats results in a sense of metrical grouping or meter."
- "Meter provides the framework that organizes groups of beats and rhythms into larger patterns of accented and unaccented beats."
- "**Meter** is the arrangement of rhythm into a pattern of strong and weak beats."[8]

Four elements recur in these definitions: beats; patterns; grouping (arrangement, combination); and strong/weak (accented/unaccented, stressed/unstressed). The same four elements appear in Johann Phillip Kirnberger's definition of meter from 1776, but substituting "regularity" for pattern and "segment" for group:

> When we hear a series of beats (*Schlage*), we divide them metrically (*taktmässige*), and arrange those regular divisions into segments (*in Glieder ordnen*)….We place an accent on the first beat of each segment (*den ersten Schlage eines jeden Gliedes einen Accent legen*).[9]

[8] In order, the quoted passages are from Joel Lester, *Harmony in Tonal Music*, Vol. 1 (New York: Alfred A. Knopf, 1982), 82 ; Robert Gauldin, *Harmonic Practice in Tonal Music* (New York: W.W. Norton, 1997), 18; Steven G. Laitz, *The Complete Musician* (New York: Oxford University Press, 2003), 28–29; and L. Poundie Burstein and Joseph N. Straus, *Concise Introduction to Tonal Harmony* (New York: W. W. Norton, 2016), 10.

[9] Johann Philipp Kirnberger, *Die Kunst des reinen Satzes*, Vol. 2 (Berlin and Königsberg: Decker und Hartung, 1776), 114–115.

Kirnberger's definition was customized for the only musical repertory that he knew, a system of tempo giusto in which it was necessary to pin meter to two pulses in the metric hierarchy via the meter signature, in order to communicate the tempo and mood of the composition. Today's music student exists among a wider variety of musical styles, eras, and cultures, whose metric qualities are not necessarily those of Dittersdorf.

The system by which music theory textbooks classify meter is older yet. Students learn that there are six kinds of meter: duple, triple, and quadruple, each in a simple and compound version. This classification was initially introduced by Étienne Loulié, musical servant of the Duchesse de Guise, in 1696.[10]

What is putatively being classified here is *meter*, a sounding property of a composition or improvisation as organized by the listening mind. But what is actually being classified here is not the set of pulses and pulse relations that the listener is hearing; rather, it is the *meter signature*, representations that the performer is seeing, using the notational conventions that were developed for 18th-century music. Because of the micro-timings, accentuation patterns, and tempi with which meter signatures were associated under the system of tempo giusto, in the 18th century these distinctions in representation, such as those indicated in Figure 1, reflected a distinction in sounding experience, i.e., a distinction with a difference. But this is a difficult position to hold for music already in the early 19th century. As I have already illustrated in my discussion of Figure 1, the mapping of meter signatures onto metric experience is far from one-to-one.

To summarize: we teach almost nothing about meter. What little we do teach is customized to the compositional practices of 250 years ago, in a pre-hypermetric era of tempo giusto, when it could be reasonably said that "the meter" of a composition was co-extensive with its meter signature. More than two centuries of changes in musical style and compositional technique, a sustained encounter with musics of the Eastern and Southern hemispheres, and forty years of intensive research in the field of musical meter by music theorists and music psychologists have made little impact on the way that musical meter is taught in institutions of higher education, to the extent that it is taught at all.

[10] Houle, *Meter in Music*, 36.

II

In order to highlight the peculiar nature of this situation, I want to propose a pseudo-curriculum where the relative percentage of attention to meter vis-à-vis tonality is inverted. I call it a pseudo-curriculum because I am not advocating that it be used as a guide to teaching students. Some historical context will help readers understand why this caveat is necessary. I once proposed another pseudo-curriculum, in order to reflect on some aspects of the then-current state of music theory.[11] After an oral presentation of that paper at an SMT plenary session, one member of the audience, misunderstanding my intention, rebuked me for telling colleagues how and what to teach, and with such a wrong-headed set of ideas at that. So I am eager to forestall any such misinterpretations.

With that caveat in place, ladies and gentleman, let me welcome you to Music Theory 101, the first semester of your four-semester sequence.

MUSIC 101. First-Semester Music Theory

Basics of Meter

Week 1.	The Neurobiological Basis of Meter: Entrainment and Projection
Week 2.	Pulse, Tactus, and Subjective Metricization
Week 3.	Two Kinds of Minimal Meter: Duple and Triple
Week 4.	The Metric Hierarchy and Deep Meter
Week 5.	Notational Matters: Durational Symbols, Meter Signatures and Bar Lines
Week 6.	Tactus and the Idea of the Primary Level. Conducting Patterns.
Week 7.	Classifications of Meter
Week 8.	Representing Meter: Dot Notations and Ski-Hill Graphs
Week 9.	*Key Signature, Scale, and Chord. The 13 Kinds of Tonality.*
Week 10.	Kinds of Phenomenal Accent
Week 11.	Metric Induction
Week 12.	*Consonance and Dissonance*
Week 13.	Second Species Counterpoint (Controlling Two Levels of Pulse)
Week 14.	Third Species Counterpoint (Controlling Three Levels of Pulse)
Week 15.	Fourth Species Counterpoint (Pulse Displacement)

[11] Richard Cohn, "Music Theory's New Pedagogability," *Music Theory Online* 4, no. 2 (1998).

Like the standard curriculum now in use, this mirror curriculum focuses on one of the two regulative systems through which listeners process music. There are nonetheless two weeks, italicized in the syllabus, that are set aside to learn the rudiments of the other regulative system. Here are some features of those lessons on tonality.

In Week 9, we define and classify the thirteen kinds of tonality that occur in music. Just as students now learn a notationally based definition of meter, in my proposed curriculum they learn a notationally based definition of tonality, as "the arrangement of musical pitches into scales via key signatures."

Current textbooks assume that, once students can appropriately classify the meter of a composition into one of six categories according to their meter signature, they know enough about meter to go forward with their studies of tonality. This mirror curriculum assumes inversely that, now that students can appropriately classify the tonality of every composition into one of thirteen key signatures, they now know enough about tonality to go forward with their studies of meter.

The first semester culminates in some lessons in species counterpoint, when students learn how to simultaneously control two and then three levels of pulse (second and third species), and to coordinate a single pulse with its displaced image (fourth species), all skills that are fundamental to metric composition in the European style. But to do this correctly requires students to distinguish consonant from dissonant intervals, and so a second unit on tonality is added late in the semester by way of preparation.

If you feel the desire to stamp my pseudo-curriculum PREPOSTEROUS, as I expect you will, then I invite you to reflect on its mirror image, which is something like the actual curriculum that you and I have been teaching for years. Does the mirror reflect the PREPOSTEROUS stamp onto that curriculum as well? If not, why not?

III

What motivates the tonality/meter asymmetry in music theory pedagogy? Any response is undoubtedly complex, weaving together many distinct strands, each of which is complex on its own terms, independent of the others. Here I simply lay out for consideration some strands that occur to me, without making any claims concerning their pertinence or explanatory value.

1) The first component, and the one most inherent to the substance of music, is the complexity of time itself: insubstantial, intangible, unfathomable. Because meter inherits this complexity, it is too difficult to study: either you sense it or you don't.

2) Our musical culture simultaneously harbors a contrary impulse, which is to view meter as too simple to require close examination. On this view, meter is about isochronously cycling small numbers whose content and order are learned in early childhood. What theory worth studying could attach to that? This impulse sits particularly comfortably within the European tradition, which historically has staked its claim to superiority on its sophisticated system of tonality, acceding metric complexity to the civilizations south of the equator.[12]

3) A related ideology associates tonality—and hence a Northern sensibility—with the mind, and the metric complexity of the south with the body.[13] The linkage of meter to the body, most evident through dance, is reinforced by neurobiological findings which show that pulse entrainment is closely bound to motor centers in the brain, centers that are involved with pre-conscious "first thinking" rather than the conscious and calculating "second thinking" that is characteristically the concern of musical studies in the academy.[14] The asymmetric valuing of mind and body is mapped onto the relation between tonality and meter, insuring that the Northern brand of superiority is the superior kind of superiority to possess. Like many ideologies, these ones need not be held consciously or explicitly in the modern academy, much less be endorsed by it, in order to work on contemporary sensibilities via the mechanisms of cultural transmission through historical time.

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[12] Kofi Agawu, *Representing African Music: Postcolonial Notes, Queries, Positions* (Routledge, 2003).

[13] Susan McClary and Robert Walser, "Theorizing the Body in African-American Music," *Black Music Research Journal* 14, no. 1 (1994): 75-84.

[14] Aniruddh D. Patel, *Music, Language, and the Brain* (Oxford University Press, 2007).

4) We can also identify some historical circumstances that are specific to the way that music has been institutionalized in the European academy. The harmony/counterpoint/form troika arrived early in the 19th-century conservatory, complete with supporting textbooks and entrenched pedagogies. The conservatory, "conservative" in at least the pre-political sense of the term, has conserved pedagogical practices as well as repertories. And it has done so with such weight that its inertial character has survived the subsequent migration of musical training into the liberal arts college, where pedagogical conservation is characteristically (if sometimes slowly) trumped by new research.

5) In the contemporary conservatory and university, these last concerns merge with more practical forces that nurture pedagogical inertia. These include the following:

- the strict bounding of music theory's share of the curriculum, which insures that music theory pedagogies operate in a zero-sum habitus: any addition of meter entails a painful subtraction of tonality that, in the best cases, involves materials lovingly and creatively cultivated by teachers over a period of years
- expensive mega-textbooks that run students through uniformly structured multi-year curricula dedicated primarily to tonality and quasi-exclusively to pitch structure
- national certifying bodies and, in some countries, testing regimens that reward accession to that uniformly standard curricula, punish violations, and consequently deter curricular innovation
- pressure on post-graduate programs to apprentice future music theory teachers into the standard curriculum, deterring innovation at the level where it would most naturally emerge

Determining which of these strands and sub-strands have explanatory value, and untangling them from each other, would be a complex project that would most benefit from the skills of scholars trained in educational and cultural history.

IV

What would be gained by including meter as a robust partner in a music theory curriculum? I will make the case from two perspectives, one oriented toward the music theory's position in the liberal arts and humanities, and the other toward its function in the conservatory. The first involves ethical and pragmatic issues that have long been part of the quiet dialogues that music theorists have with each other in private, if less so in the public sphere. I have little new to say on these matters; I treat them briefly here simply to remind readers of their relevance to the particular issue I engage in this paper.

The ethical issue pertains to the focus on the classical music of European tonality, particularly as practiced in a roughly two-century span with Beethoven at its chronological fulcrum, and Vienna at its geographical one. Although there are many virtues to this curriculum, particularly if it is informed by historical awareness, it is deeply inconsistent with other strands of academic culture, and with values that many music teachers and scholars bring to other aspects of their lives.

To act on those values is to situate European classical music as a species of a universally human activity of music-making, manifest in many musical materials and syntaxes that invite many kinds of music theory.[15] Most of these musics engage both tonality and meter, whose dual status as regulative systems that transform sound into music is evidently situated in human biology, if also profoundly molded by the particularities of place and time, of culture and history.[16] The principles and protocols of Classical tonality, though, make poor candidates for generalization and adaptation, as they are founded in harmonic and polyphonic practices that are idiosyncratic from the perspective of the musics of the world.

Theory of musical meter suffers few such limitations. A general theory of meter, suitable for analysis of historical European

[15] Two publications intended for the classroom that boldly moved in this direction were Robert Cogan and Pozzi Escot, *Sonic Design: The Nature of Sound and Music* (Prentice Hall, 1976); and David Ward-Steinman and Susan L. Ward-Steinman, *Comparative Anthology of Musical Forms* (Wadsworth Publishing Company, 1976). Both appeared exactly forty years ago, when meter was beginning to come front and center in both music theory and psychology.

[16] Gary Tomlinson, *A Million Years of Music* (MIT Press, 2015).

classical traditions, is adaptable to a number of other metric musics, including jazz, American and global popular repertories, electronic dance music, and musics of Latin America, the Caribbean, Western Africa, Southeastern Europe, India, etc. In each case, metric theory requires customization to the particularities of the music and the musical culture, and also benefits (especially from an ethical standpoint) by interaction with music theory as it has developed within those cultures. But the gap is, in principle, much smaller. Less of the technology developed for European meter needs to be parked on the shelf, in comparison with the case of European tonality. Accordingly, if one wants to teach a theory of European classical music that is generalizable to the musics of the world, there is a strong incentive to teach a theory of meter, and very little incentive to teach the sort of theory of tonality that is represented in our current textbooks and curricula.

The ethical concerns emphasized above overlap with more pragmatic ones. When Anglophone students listen to music, and develop the sort of curiosity about it that can be serviced by a music theory course, what they are listening to is not the music that we teach.

Simply as a matter of pedagogical efficacy, there is benefit to teaching students about music they already know and care about, at the same time that we satisfy our Humboldtian commitments by opening up new musical universes that our students never imagined.

V

The second concern involves considerations particular to the classical music still at the core of conservatory training. What I would ultimately like to argue is that exposure to a theory of meter will encourage classical performers to imagine scores in more flexible and interesting ways, and to develop inner hearings that lead to the kinds of performances that our musical culture tends to value. This is a difficult argument to make on paper, in part because the attributes that make a performance both interesting and appropriate are, by their nature, not subject to consensus. So I will initially adopt a more modest agenda: to suggest that a theory of meter will help musicians to render scores "correctly," i.e., to play the right notes in the right order and at the right time (to within the tolerances of tempo elasticity and expressive variation). There is a

better chance of making a convincing argument here, since fidelity to the score is indisputably a fundamental and shared value within the community of classical music performers and teachers.

To make this case, I introduce Gideon, my former neighbor with whose family I once shared an apartment wall. Gideon was a musical but by no means precocious child. Day after day I heard Gideon playing "Für Elise." Beethoven! I'm certain that his parents were very proud to say that their ten-year old was playing the music of that composer.

But Gideon wasn't quite playing Beethoven. Every time that he reached the dominant prolongation at bar 12, he couldn't determine how many times to alternate D♯ and E before cascading down to the tonic A. He was performing these measures as if there was a fermata over the middle of bar 13 and an indication to slowly trill ad libitum. I had a similar difficulty, as a young pianist, in keeping my place. And I sense, from the smiles and nods that I receive whenever I mention this passage to an audience, that others are familiar with it, too.

The problem is not unique to students and amateurs; it plagues some of our greatest concert artists as well. On his second *volta* through these measures, Artur Schnabel extends by one extra ♪, playing one too many D♯/E alternations.[17] On his first trip through the same music, Alfred Brendel contracts by the same amount, playing one alternation too few.[18] (Both of these passages are available through the JMTP web site at http://music.appstate.edu/about/jmtp/articles.) Schnabel and Brendel have well deserved reputations as among the most scholarly of musicians, for whom textual fidelity is a particularly cherished value. Schnabel edited the Beethoven sonatas, and Brendel wrote an essay titled "The Text and its Guardians."[19] There is no question that these are errors, rather than "textual variants" (as one pianist colleague tried in desperation to argue to me). The miscountings occur only once within their respective performances; every other time that they

[17] Artur Schnabel, *Beethoven Piano Works*, Volume 10, 1937-38, Naxos Historical #8110764. This is distinct from Schnabel's 1932 recording of "Für Elise," which is the one currently posted on YouTube, where Schnabel adopts a slower tempo and plays it to perfection.

[18] Alfred Brendel, *Beethoven Variations and Vignettes*, Volume 3, 1992, Vox. Brendel recorded this piece many times; both of the ones currently posted to YouTube are of different performances.

[19] Alfred Brendel, *Music Sounded Out* (New York: Farrar Strauss, 1990), 54.

reach the dominant prolongation, they reliably measure out the correct number of D♯/E alternations before discharging to the tonic.

Why is this passage hard, even for the finest musicians? Certainly not because of the technical demands of the passage. The left hand is inactive, and the right hand plays two adjacent pitches, one at a time, in a moderate tempo. If the demands are not physical, then they must be cognitive. To get this passage right, these pianists don't need to return to the practice room and work on their scales and arpeggios. They need to sit with the score and think about it, until they form a clear mental image of how to render it as notated. (It was Schnabel who liked to say: "First hear, then play.")[20] And this project will benefit from a systematic framework that will guide their thinking.

What makes musicians lose their bearings is the difficulty of hearing the notated downbeats as downbeats. As shown in Figure 2, the four-bar passage consists of three gestures: a series of upward rising E's in multiple octave, an alternation of neighboring pitches, D♯5/E5, and a cascading descent to A. Only the first of these gestures initiates on a notated downbeat. Moreover, the gestures that do occur on the downbeats of bars 13-15 occur amidst ongoing gestures that lack internal points of articulation. To mentally mark the notated downbeats feels artificial, and disrupts the natural flow of the passage.

The solution is to hear the passage as if Beethoven had written three measures of $\frac{2}{4}$ or a single measure of $\frac{3}{2}$, rather than four measures of $\frac{3}{8}$; that is, to hear the 𝅘𝅥𝅯 units grouped duply at three successive levels so as to project a 𝅗𝅥 pulse, which conflicts with and momentarily overrides the notated 𝅗𝅥. downbeat pulse.

Figure 2 numbers the sixteenth notes from 0 to 24, which respectively mark the arrival of the dominant and its resolution to tonic. The notated downbeats are multiples of six; the phenomenal accents from which the alternative meter is constructed occur at multiples of eight.

[20] Artur Schnabel, *My Life and Music* (New York: Dover Publications, 1988), xiii.

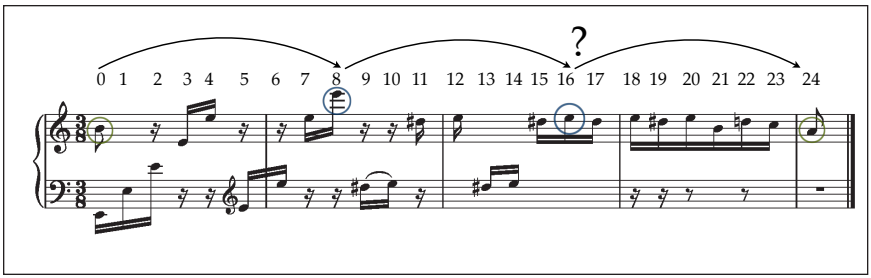

Figure 2. "Für Elise," mm. 12–15, with superimposed half-note pulse

Point 8 is where the octave gesture completes, just before the D♯/E alternation is launched. It naturally accrues a phenomenal accent, as the apex of the gesture and indeed the highest pitch of the piece so far. Point 16 is more problematic. In its own context, it bears the same problem as the downbeats of bars 13 and 14: the D♯/E alternation just drives right through and keeps on going. But the larger musical context provides a strong motivation for hearing an articulation at point 16: this is the moment when the reprise is re-engaged. Once the passage is heard in this way, the D♯/E alternation locks into the projected 𝅗𝅥 pulse, and there is no reason to play any more or fewer notes than what Beethoven wrote.

This solution has a consequence for how we hear the eight-beat anacrusis elsewhere in the composition, including at its opening. Musical cognition mandates that we hear "parallel passages in parallel ways."[21] Overriding this mandate taxes cognitive resources as much as artificially pumping accents onto the notated downbeats of bars 13–15. Accordingly, we have strong reason to hear the opening eight-beat anacrusis as beginning at a metrically accented point, and projecting a 𝅗𝅥 pulse, as if it were beginning on beat 2 of an incomplete $\frac{3}{4}$ measure. This hearing, too, follows naturally from the shape of the passage: the only motivation to accent the E on the downbeat of m. 1 is that it follows a bar line. The accentuation that would normally accrue to that point is siphoned both an ♪ earlier, to the accent of initiation in bar 0, and an ♪ later, to the point where the descent to A is launched. This interpretation of the anacrusis is then inherited each time that it returns, including at mm. 4–5 and at the lead-back from bar 8a to the repeat of the opening. In both these latter cases, the anacrusis occurs on beat 2 of a *complete* $\frac{3}{4}$ measure.

My goal here is to suggest how a systematic approach to meter

[21] Fred Lerdahl and Ray Jackendoff, *A Generative Theory of Tonal Music* (Cambridge: MIT Press, 1983), 75.

will help performers to negotiate a passage that is cognitively challenging. That said, though, once one learns to hear a passage in a particular meter, it is difficult to unlearn it, and difficult to project some other meter in performance. And this metric interpretation is likely to have further consequence for the theme as a whole. If bars 4–5 triply group a ♩ pulse across two measures, and bars 12–15 triply group a 𝅗𝅥 pulse across four measures, what of the six measures that separate these two passages? They consist of two three-bar units, the first of which ends the first reprise (bars 6–8b), and the second of which begins directly after the double bar (bars 9–11). These six measures all project the notated ♩. downbeat pulse clearly, and so it is the ♩. pulse that is triply grouped. This suggests hearing the three-counted units as participating in a process of incremental expansion, as follows:

bar 2:	♪ pulse triply grouped	across 1 bar
bar 3:	♪ pulse triply grouped	across 1 bar
bars 4–5:	♩ pulse triply grouped	across 2 bars
bars 6–8:	♩. pulse triply grouped	across 3 bars
bars 9–11:	♩. pulse triply grouped	across 3 bars
bars 12–15:	𝅗𝅥 pulse triply grouped	across 4 bars

The same expansion occurs again when the reprise leads back to the repetition of the theme's second part.[22] Figure 3 graphically summarizes this hearing.

[22] Scott Murphy introduces the three-counting heuristic in "On Metre in the Rondo of Brahms's Op. 25," *Music Analysis* 26, no. 3 (2007): 323-353.

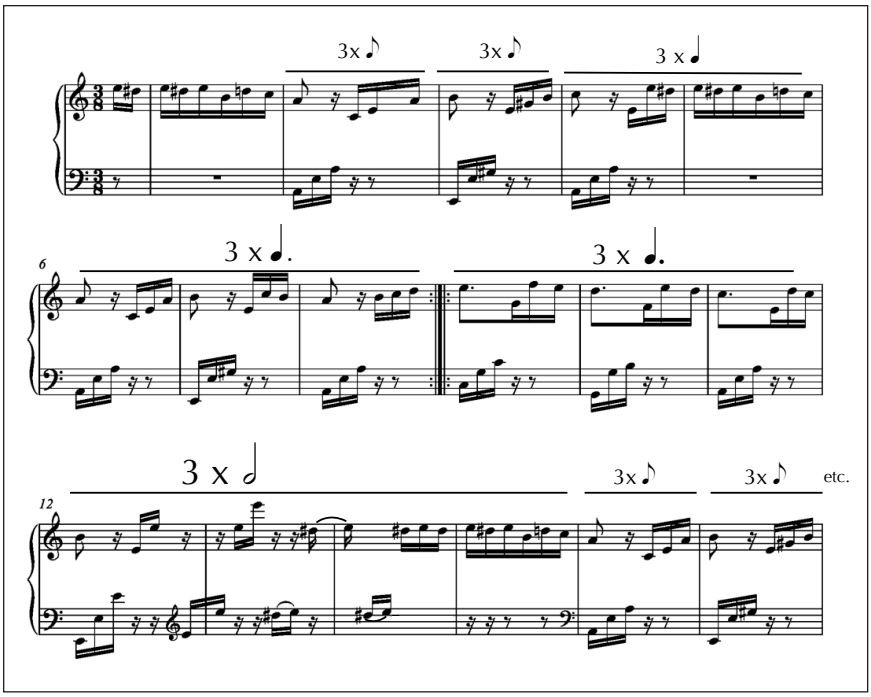

Figure 3. "Für Elise" theme, with expanding triple meters, first version

This analysis assumes that bars 2 and 3 conform to the $\frac{3}{8}$ meter signature. However, many performers instead project, and many listeners entrain to, a ♪. pulse in bars 2–3 and similar passages, thus triply grouping the sixteenth note rather than the eighth. According to this hearing, the triple grouping of 𝅘𝅥𝅯 "jumps" directly to the triple grouping of 𝅗𝅥., omitting the triple grouping of ♪. that is mandated by Beethoven's meter signature, and the $\frac{3}{8}$ meter does not appear until the first episode. Bisection of bars 2 and 3 is supported by Beethoven's 1822 recomposition of "Für Elise," which introduces a textural accent at the midpoints of these and similar bars.[23] Figure 4 provides a graphic summary of the metric expansion across the opening 16 bars of "Für Elise," according to this latter hearing.

[23] See Barry Cooper, "Beethoven's Revisions to 'Für Elise,'" *The Musical Times* 125, no. 1700 (1984): 561–563. The ♪. pulse is also clearly heard by the author of the contrafactum text in a 1986 commercial for hamburgers: "Oh I wish I were already there, instead of here, playing this song." See https://www.youtube.com/watch?v=-2yklZeEbFE.

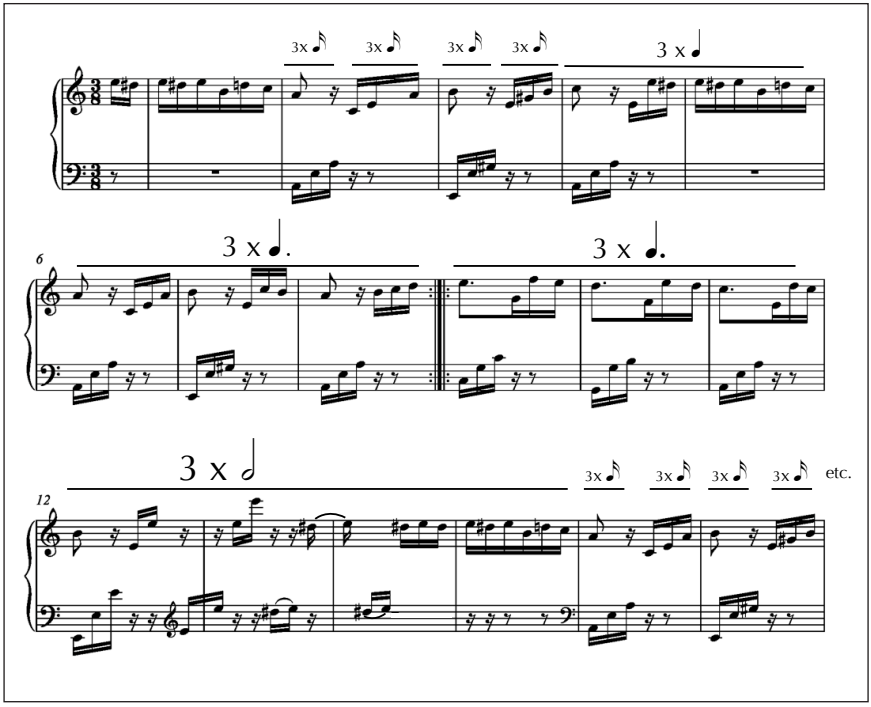

Figure 4. "Für Elise" theme, with expanding triple meters, second version

From this investigation of an 'easy' piece for novices, one might infer that metric analyses of other compositions that we have long known, and think we know completely, will also invite us to hear them in ways that might not have occurred to us otherwise. As music theorists, we can model a method for exploring the ubiquitous dynamics of metric complexity, and give young musicians the technical capacity to launch their own explorations. Is it possible that the value they gather from such explorations might equal the value they gather from learning to properly double $\frac{6}{3}$ chords, avoid augmented seconds, distinguish German from Italian sixths, identify hybrid periods, and recognize all-combinatorial hexachords? Perhaps even exceed that value?