Playing Chopin's Tupleted Fioraturas in the Twenty-first Century

Ira Braus

Harald Krebs's recent work in the theory of metrical dissonance proves that "grouping dissonances" (polyrhythms) in nineteenth-century music challenge musicians to this day.[1] The present study, building on Krebs, will discuss what the writer calls the "tuplet paradox," a performance practice linked to Chopin's tuplet-notated fioraturas. To understand the paradox, we must remember that tupleted fioraturas notate dislocation (deliberate asynchrony) between the hands, see Example 1, mm. 2-3. Such notation captures a rubato style long predating Chopin, whereby the right hand played *a piacere* above the left hand's *tempo giusto*.[2] The tuplet paradox is that pianists variously regularize tuplets, thereby cramping their "improvised" rhythmicity.[3] Regularization, moreover, effaces the metrical dissonance undergirding the tuplet *and* its "resolution."[4] We may wish to rephrase the paradox as a performance practice question, namely, "Should one execute Chopin's tupleted fioraturas with greater mathematical precision than his non-tupleted ones?"[5]

The conventional answer, of course, is that Chopin intended the notation of all his fioraturas and tuplets to be mathematically imprecise, so as to underscore their "improvisatory" quality. One can argue this answer pro or con, since the historical evidence is inconclusive either way. A "pro" argument might cite Jane Stirling's score of Chopin's Nocturne, op. 32, no. 1, which contains his prescribed execution of a 2-against-5, see Example 2.[6] We see that Chopin drew a diagonal line between the staves, breaking the quintuplet into 2 + 3. Did he fear that correct execution of the rhythm might have taxed Stirling's musicianship, or did he actually prefer to play it so himself? If the latter

---

[1]See Krebs's *Fantasy Pieces, Metrical Dissonance in the Music of Robert Schumann* (New York: Oxford University Press, 1999). The book's thesis is that Schumann's "paper" rhythms were meant to be executed metrically, i.e., as notated. Nonetheless Krebs posits that a few such rhythms, e.g., mm. 237-250 of the Toccata, op. 7, resist metrical execution. The present writer respectfully disagrees and will offer a solution to this and similar conundra in a book-in-progress on the psychoacoustics of music performance.

[2]Such rubato is aptly termed "contrametric" (versus agogic or tempo-flexible rubati) by Sandra P. Rosenblum in her *Performance Practices in Classic Piano Music* (Bloomington: Indiana University Press, 1988), p. 373. For a history of such rubato, see Richard Hudson's *Stolen Time, The History of Tempo Rubato* (Oxford, Clarendon Press, 1997). Chopin's student, Wilhelm von Lenz, recalled his teacher's description of rubato as follows: "The left hand is the Kapellmeister: it must not relent or bend. It's a clock. Do with the right hand what you want and can." Quoted in Jean-Jacques Eigeldinger's *Chopin: Pianist and Teacher as seen by his Pupils*, trans. Naomi Shohet with Krysia Osostowicz and Row Howat, ed. Roy Howat (Cambridge: Cambridge University Press, 1988), p. 50.

[3]To "regularize" here means to break up a quintuplet or larger grouping into subgroupings, often of twos and threes.

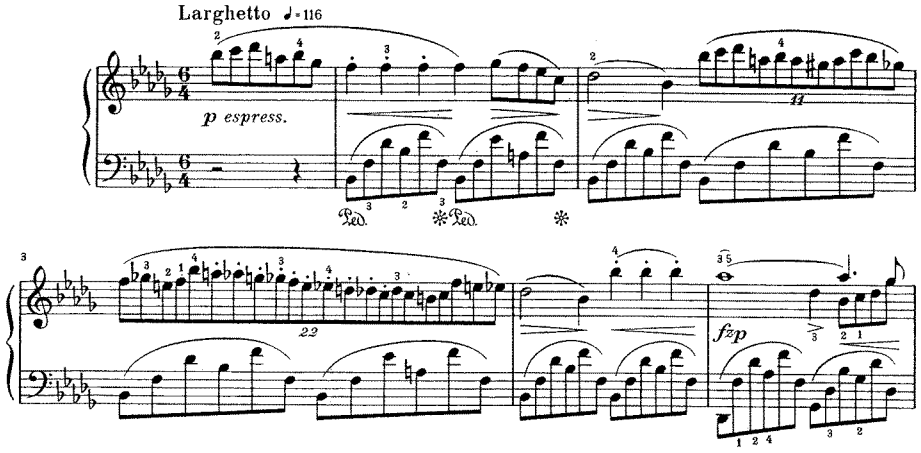
[4]Krebs, in *Fantasy Pieces*, postulates two classes of metrical complexity: grouping dissonances (see above) and displacement (syncopation) dissonances. These he contextualizes within a composition so as to analogize to the contrapuntal triad of preparation, dissonance, and resolution.

[5]Hudson, in *Stolen Time*, Ch. 7, discusses the execution of untupleted fioraturas, e.g., in the Nocturne, op.15, no. 2. I thank Hartt graduate student, Andrew King, for mentioning this distinction.

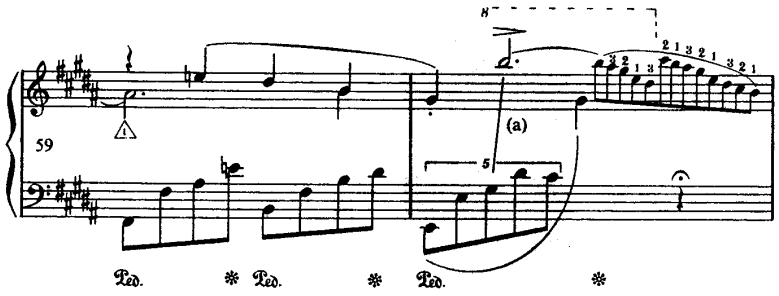
[6]Stirling was a pupil of Chopin, whose work with him is discussed in Eigeldinger, *Chopin*. The score page reproduced in Example 2 is found on p. 263.

proved to be true, we would infer that Chopin fostered "creative misreading" of his tuplets, a convention that persists even in the playing of savants as Maurizio Pollini, more of whom later.[7]

Example 1: Chopin, Nocturne, op. 9, no. 1



Example 2: Chopin's suggested execution of 5-against-2 in Jane Stirling's score of the Nocturne, op. 32, no. 1



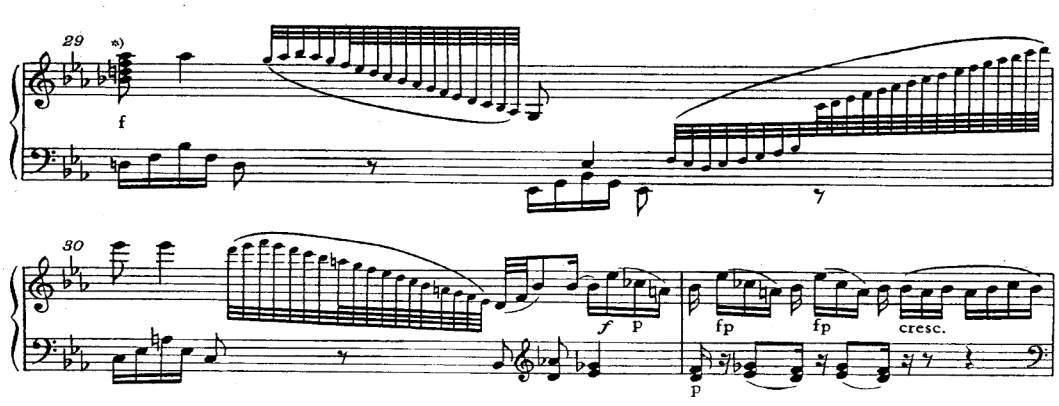
[7]Chopin's immediate predecessors, e.g. Hummel and Field, may have done similarly, since no one has proven otherwise to date. Interestingly, Hummel includes a substantial chapter on tuplets in his celebrated piano method, *Méthode Complète Thèorique et Pratique pour le Pianoforte* (1838) without discussing precise execution of same.

Another Chopin pupil, Pauline Viardot, recounts her teacher's rubato style in a way that suggests an alternative concept of tuplet playing. Camille Saint-Saëns recalls her views on rubato as follows:

> Through Mme Viardot [...] I learned the true secret of tempo rubato [...where] the accompaniment holds its rhythm undisturbed while the melody wavers capriciously, rushes or lingers, sooner or later to fall back upon its axis. This way of playing is very difficult since it requires complete independence of the two hands; and those lacking this give both themselves and others the illusion of it by playing the melody in time and dislocating the accompaniment so that it falls beside the beat; or else–worst of all–content themselves with simply playing one hand after the other. It would be a hundred times better just to play in time, with both hands together.[8]

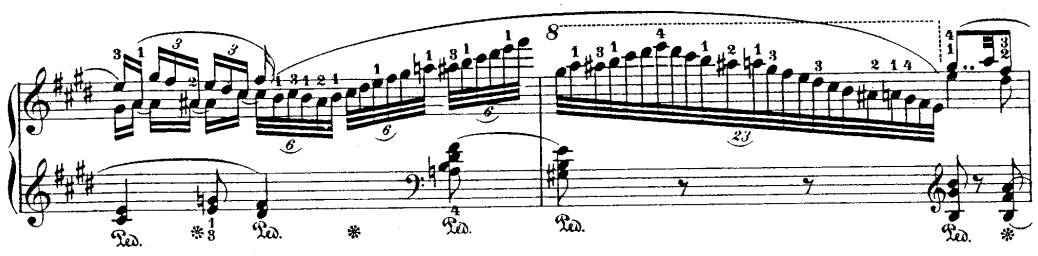
Viardot reports that her teacher prized complete independence of the hands, and more important, the idea that it was better to play strictly in time than with "false" rubato. So if tuplet fioraturas notate melodic *and* metrical caprice, it follows that the hands must be completely independent in calculated, as well as in uncalculated, rubato. A tuplet would then be executed either in a metrically indeterminate *or* a metrically determinate fashion against a *giusto* left hand. This opposition contrasts with the earlier stated observation that performers tend to regularize tupleted foraturas, therefore compromising between the two extremes. As will be argued, a trade-off of this sort is musically suspect, since fioraturas like those in Example 1 differ profoundly from the "portamento" and roulade-type ornaments peppering late Classic/early Romantic music, see Example 3. The ensuing remarks will defend the musical viability of performing tupleted fioraturas with mathematical precision, irrespective of historical precedent.

Example 3a: Mozart, Sonata in C minor, K. 457



[8]Quoted in Eigeldinger, *Chopin*, p. 49.

Example 3b: John Field, Nocturne No. 17



Let us establish, however, that the phrase "mathematically precise" implies not the bean-counting of tuplets but rather the thoughtful articulation of their composite rhythms (CRs) so as to mesh compositional detail and structure.[9] Pianist Gilbert Kalish maintains that there are two types of phrasing, the one that the audience hears, the other that only the performer hears.[10] As will become clear, mathematically precise tuplets become intelligible by way of the second type, enabling the performer to re-create passages, such as Example 1, more subtly than perhaps the composer may have imagined (intended?). In this connection, it is worth referencing Maestro Arthur Weisberg's thoughts on the "educated faking" of tuplets and on the problems linked with their notation. He writes of the first:

> Sometimes knowing where the notes fall is not enough to be able to play them.… Faking in this context applies only to rhythm; it is educated faking because the rhythm is completely understood intellectually, though the inner units are too fast to count. … We can take some comfort from recognizing that not only does the performer find the units too fast to count, but the listener and even the composer do too. This is not to condone inaccuracy, but one must realize that there are limits to human perception. … the more one tries to place them [the units] exactly, the less flowing they will be: instead performers should make an interpretive decision in response to their understanding of the composer's intent. Some composers want the rhythm to be exact, and others want more flow. A musician needs to know the various compositional styles to make an intelligent choice.[11]

Weisberg posits two ideas that bespeak his difficulty in uniting concept and performance of tuplet structures. First, he declares that the "inner units" (subdivisions of the CR) exceed the limit of human perception, so that performers are advised against playing mechanically accurate tuplets. He then counsels that the degree of performative accuracy be determined by one's knowledge of the composer's style or "intention." The

[9]The reference to bean-counting is intentional. In Ch. 2 of Krebs's *Fantasy Pieces* (see n.1), Florestan and Eusebius (the book's interlocutors) schematize metrical dissonances with coffee bean diagrams. For thoughts on the significance of coffee to German composers, see Ira Braus's *Classical Cooks, A Gastrohistory of Western Music* (Philadelphia: Xlibris, 2006).

[10]The second phasing subsumes the first. From a dialogue between Mr. Kalish and the writer during his piano study with the former at S.U.N.Y. Stony Brook, 1974-1976.

[11]Arthur Weisberg, *Performing Twentieth-Century Music, A Handbook for Conductors and Instrumentalists* (New Haven: Yale University Press, 1993), pp. 34-36.

first idea is problematic, since the limits of human perception are neither uniform nor fixed. And apart from the truism that many non-Western cultures base their musics on non-binary meters and/or "microrhythmic" units, Westerners have indeed learned to appropriate tuplet-based meters of exoteric musics.[12] It will be later argued, however, that one can enhance his/her "educated faking" of tuplet passage by employing melo-rhythmic analysis. Weisberg's second idea, that acquaintance with a composer's style informs the preferred degree of accuracy is also open to debate. Chopin, for example, sanctioned discrepant published versions of individual works and also custom-taught his pupils, precluding the very question of "the composer's intention" for this or that work.

Weisberg asserts correctly that the notation of tuplets creates problems for performers. Preliminary to his offering an algorithm for simplifying such notation, he observes:

> Musicians often wonder why composers do not avoid misunderstandings by providing all of the rewritten [i.e., simplified] rhythms, since many of these rhythms have little chance of being performed correctly in their original versions. Unfortunately, many composers do not know how to rewrite. But in other cases the choice of notational form is a matter of aesthetics and style. Composers who are more interested in rhythmic accuracy than in other musical parameters will favor rewritten rhythms. The aesthetic approach, by contrast, would favor...its original version, which has an elegant and flowing look to it. The problem is that many musicians will not know how to play it. … Enlightened composers may give both versions—first to show the style and the second (usually placed as a cue above the first) to show how to play the measure.[13]

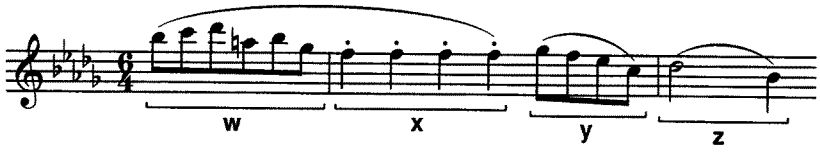
While he nicely summarizes the notation problem, he oversimplifies it by limiting the performer's choices to rhythmic accuracy or to the "aesthetic approach," with its "elegant and flowing" look. If one chooses to define elegance not typographically, but rather as the *audible* integration of detail and structure, most performers do not achieve such integration, surface elegance of their interpretations notwithstanding. Their fioraturas combine instead a mix of regularizations and "inspired guesswork," to borrow Lewis Lockwood's apt phrase. And while Weisberg's "aesthetic approach" jibes with much of Romantic music, his reifying that approach may obscure details that, well projected, would go considerably further than an "aesthetic approach" in conveying Chopin's idiom to an attentive listener. By way of concretizing these ideas, let us now analyze the theme and the opening fioratura of the Nocturne, op. 9, no. 1.

The theme comprises four cells, labeled *w*,*x*,*y*, and *z*, see Example 4. Cell *w* is a turning figure about the note Bb6; *x* is the fourfold repetition of F5; *y* is the tritone span from Gb5 to C4; and *z* is the falling third Db5-Bb4. Example 5 displays a five-level analysis of the theme, moving from "background" to "foreground."[14] Level A reduces the theme to a descending tonic arpeggio from Bb5 to Bb4, outlining an "obligatory register," whose scale degrees are numbered $\hat{8}$-$\hat{5}$-$\hat{3}$-$\hat{1}$ respectively. Level B reveals F5 to be the theme's melo-rhythmic focus, inflected by its upper neighbor (UN) Gb5. "Inflected"

[12]Western musicians have practiced and notated what we today call tupleted polyrhythms as early as the fourteenth century (*ars subtlior*). There is, of course, no evidence concerning their accuracy of execution.
[13]Weisberg, *Performing*, p. 36. Elliott Carter personifies such "enlightenment."
[14]No formal Schenkerian reading is offered here, merely a derivative notation used for melodic analysis.

better describes the behavior of Gb5 here than "decorated," since Gb works as an appoggiatura in the second fioratura (mm. 11-12) and in the final cadence of the piece.[15] Level C shows that the same Gb5 is foreshadowed at the end of cell *w*, here an anacrusic UN to the crusic F5 following. The dotted slur signifies that the two Gb5's neighboring the F5's counterpoint the cellular rhythms of the theme, an idea that flowers, literally, in the fioraturas. On Level D, we encounter the first of two decorations of Bb5, its lower neighbor (LN) and leading tone (LT) A natural as well as decorations of Db5 in cell *z* by its UN and LN, Eb5 and C4. Level E, finally, reports some significant foreground relations. First, Db6, floating above the obligatory register, resolves registrally and metrically to Db5, the first note of *z*. And C6, first heard as a passing note (PN) to Db6 is also resolved registrally, just prior to *z*. In sum, we find here a rich thematic Gestalt, whose entry on the metacrusis (beat 4) in concert with the above-named features, will create long-range tensions, both in the fioraturas and elsewhere throughout the piece.[16]

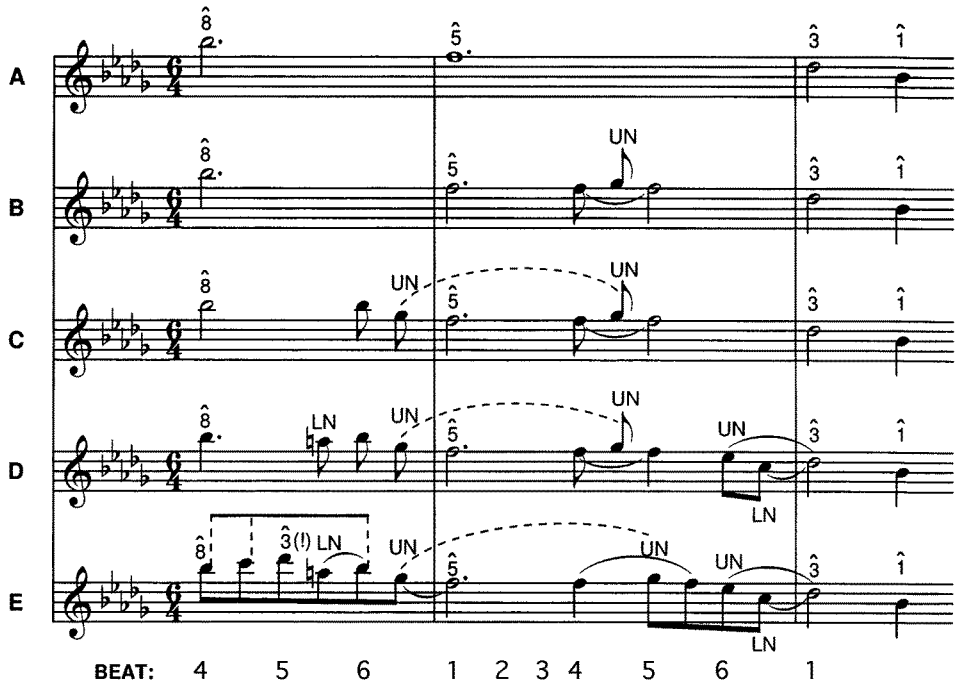
Example 4: Cellular analysis of theme from op. 9, no. 1



[15]Interestingly, Gb stands out in the final cadence as melodic note of the arpeggiated dominant-function diminished seventh chord.

[16]"Metacrusis" denotes a medially-placed metrical accent in a bar of four or more beats. The term derives from Dalcrozian eurhythmic theory and is used heuristically in Ira Braus's "Clouds of Fog? Demystifying Meter, Harmony, and Structure in Debussy's *Nuages*," *Journal of Musicological Research* 19 (2000), pp. 329-372.

Example 5: Five-level analysis of theme from op. 9, no. 1



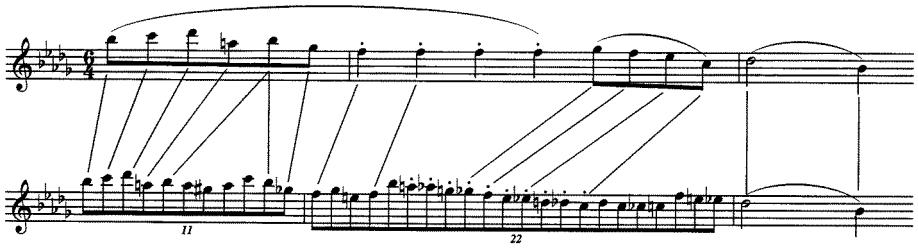
The first fioratura, mm. 2-3, may be characterized as, literally, a developing variation of the theme. The theme's *espressivo* quality is heightened in the fioratura by its *almost* halving the durations of the theme's eighth notes. Chopin fashions not a prim roulade in sixteenths, but rather an artfully meandering 11-tuplet, related to the duplet eighth note, 1.833:1. If executed as written, the fioratura would embody the independence of the hands depicted by Viardot, a "simultaneous" tempo modulation foretelling the polytemporal world of Elliott Carter. We must also link the theme's pitch content with that of the fioratura. A conventional pitch alignment graph is of course useful to this end, Example 6, but it reveals little about melo-rhythmic transformations occurring between the two versions. More useful in this regard are the CR grids and graphs to be presented in the examples below.

To ease reading CR diagrams, the author has created a shorthand, Braus Numbers (BNs), that specifies the position of any written tuplet note with reference to its "inner units" (see Weisberg, above). The 11-against-6 can be written with either 6 or 11 as the multiplier grouping for constructing the Least Common Denominator (LCD) grid.[17] The grid plots the convergence points between the two multiplied factors of the CR.[18] Turning to Example 7a and 7b, we see that 6 and 11 can be used as complementarily as multiplier and multiplicand groupings for the CR, whose convergence points are symbolized as BNs. The BNs are written as fraction-like symbols a/b, and will be transferred from the LCD grids to their corresponding pitches in op. 9, no. 1, in subsequent graphs. Each BN

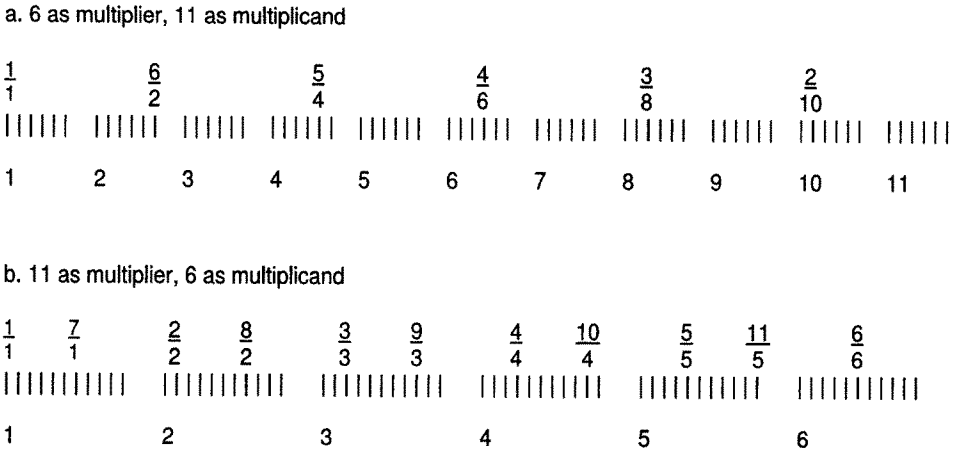
[17]To analyze the 22-tuplet (m. 3) as anything other than a double 11-tuplet in this context is incorrect.
[18]Weisberg discusses CR grids in *Performing*, pp. 19-20.

a/b indicates a note's coordinates in the CR, b symbolizing the ordinal number of the multiplier grouping, and a, the cardinal number of the "inner unit" within its respective multiplier grouping. So if we chose 11 as the multiplier, the symbol BN 10/4 placed above a note would read "BN 10 of 4," meaning that the note occupies position 10 of 11-tuplet number 4 of the six 11-tuplets comprising its LCD grid. Conversely, if 6 were the multiplier and 11 the multiplicand, the note coded by BN 3/8 would occupy position 3 in sextuplet number 8 of the eleven sextuplets in its grid. In Example 8, complementary versions of BNs are applied to the first 11-tuplet of op. 9, no. 1, the 6-multiplier version placed above that of the 11-multiplier.

Example 6: Alignment of pitches common to theme and first fioratura of op. 9, no. 1



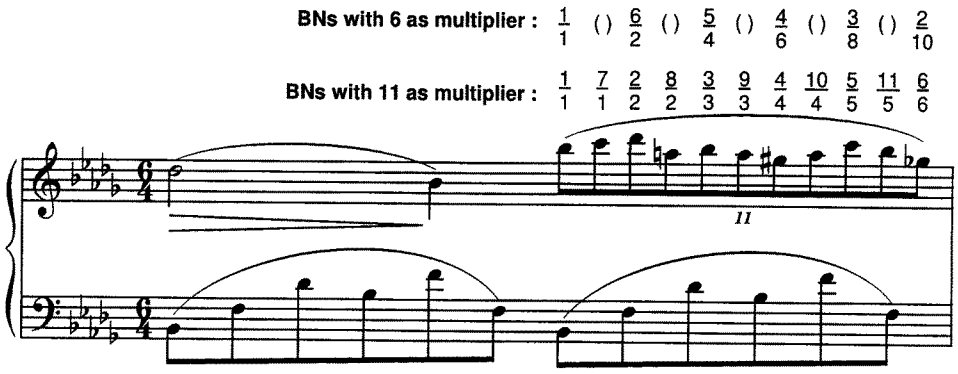
Example 7: Complementary CR grids for 11-against-6 with BNs



While the 6-multiplier may have greater intuitive charm for Western musicians, the 11-multiplier will inform the present CR analysis for two reasons.[19] First, the 11-multiplier tracks microrhythmic displacements of tuplet notes continuously against the duple eighth-note subdivisions of the 6/4 meter, see Example 8. Second, the 11-multiplier better contextualizes the *tempo* relation between the 11-tuplet and the eighth-note ostinato, reinforcing the above idea that this, or any such tuplet, is more a "simultaneous" tempo modulation, rather than a happenstance deformation of the written meter. That having been said, we must heed Weisberg's caveat that "the more one tries to place them [tuplet notes] exactly, the less flowing they should be." Mechanical implementation of the CR vouchsafes neither analytic nor interpretive artistry. Ideally, CR analysis informs these artistries by spotlighting how Chopin "improvises" upon his theme through microrhythmic recycling of its pitch components.[20] A performer's assimilation of the fioratura's CR, on the other hand, may prompt her/him to phrase in ways that better project its tensional relation to the theme. Such performance, realizing Kalish's tenet of double-edged phrasing, would affirm the idea that micromelody and microrhythm in fioraturas of this complexity are symbiotic rather than antagonistic in nature.

A detailed melodic analysis of the fioratura appears in Example 9. The top line of numerals, coded FN1-33, orders the thirty-three notes in the fioratura. Directly below are the corresponding BNs (11 as multiplier, 6 as multiplicand), and the numerals at the bottom of the graph track the quarter-note beats of the 6/4 meter. The staff notation is bracketed into three 11-tuplets, with dotted lines representing the bar lines in the score. Beams, slurs, and letter symbols register the analytical narrative.

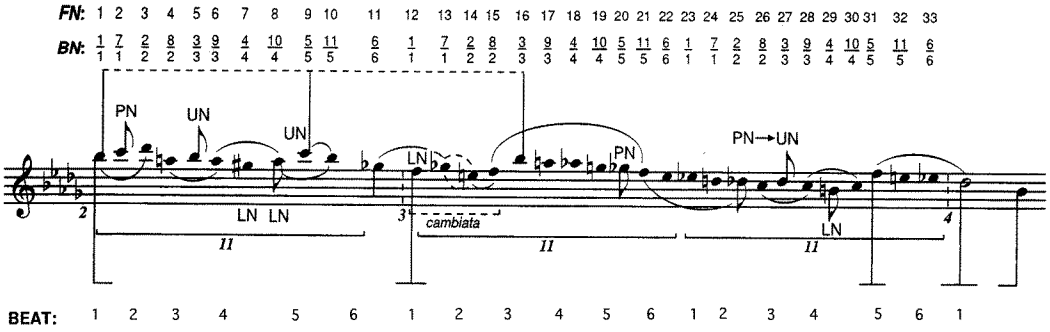
Example 8: Measure 2 of op. 9, no. 1 with both sets of the BNs from Example 7



[19]I thank Franklin Cox for pointing out the relative user-friendliness of the 6-multiplier in a private communication of January 28, 2008.

[20]An artistic implementation of the CR here would perforce interpolate nuances responding to pitch contour, keyboard geometry, and timbre. These will be discussed in the author's book-in-progress (see n. 1).

Example 9: Melodic analysis of mm. 2-4



Working from the larger to the smaller structure, the beamed Bb's, F's, Db's, and stemmed Gb's trace the "obligatory register" outlined in Example 5, the first parameter of the "developing variation." Performers' readings of the displaced Gb's, in particular, foreground the tuplet paradox here. Whereas Gb appears twice in the theme, it appears three times in the fioratura (FNs 11,13,20) and works here both as an UN (FN 11,13) and as a PN (FN 20). The paradox is heard in the tension involving the decoration of the note F5, FN 12, in FNs 11-15. Is FN 12 decorated by its surrounding Gb's, *or* by the *cambiata* F-Gb-E natural-F? To answer "both" is theoretically but not performatively correct. Kofi Agawu, writing on the projection of "ambiguous" situations as this, remarks:

> Performers are, of course, not unaware of ostensibly ambiguous situations. At the moment of execution, however, they must decide one way of another and convey their interpretation with conviction.[21]

To be sure, nearly all of the recorded performances sampled for this study regularized FNs 12-14 as an eighth-note triplet, which, compared to their slower (and correct) execution as 11-tuplet notes, project the Gb's more as UNs to F, rather than as

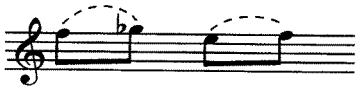
[21]Kofi Agawu, "Ambiguity in Tonal Music," in *Theory, Analysis, and Meaning in Music*, ed. Anthony Pople (Cambridge: Cambridge University Press, 1994), p. 98. He elucidates the above quote in a footnote: "I leave out the possibility that a performer, fully aware of an ambiguous musical situation, performs in a way to convey the ambiguity. I have my doubts as to whether this kind of 'neutral' playing is possible. Here, perhaps is one difference between a score and a performance, the idea that a score enshrines a multiplicity of potential interpretations while a given performance instantiates only one of those possibilities. It should be noted, however, that in so far as may reading of the score—including a silent one—is ontologically possible only as a remembered or imagined performance, the gap between score and performance may be ultimately untenable." These ideas are explored in Krebs's *Fantasy Pieces* and in my own book-in-progess (see fn.1). They also resonate with Paul Cezanne' s painting technique, as described by Jonah Lehrer in his *Proust was a Neuroscientist* (Boston: Houghton Mifflin, 2007). Writes Lehrer, p. 98, "The layers of brushstrokes, so precise in their ambiguity, became a bowl of peaches, or a granite mountain, or a self portrait."

notes articulating a *cambiata*, a nod to the repeated Fs of the theme (cell *x*), as well as a recursive variant of the incomplete neighbor formation spanning FNs 4-10.[22] To be sure, Chopin's diminutional art often flirts with self-similarity.[23] And it will be shown further that regularization of tuplets falsifies this and other structural details as well, since the FNs must retain their metrical identity vis-à-vis the duplet eighths in order to project the melodic subtleties contained therein.

Performing the above figure *audibly* as a cambiata hints at subliminal phrasing within the longer line, an instance of "performer's phrasing." As shown by the dotted slurs in Example 10, the "triplet-plus-one" group would be broken into two *almost* binary sub-articulations and separating it from the ensuing Bb. (Compare the gestural parallelism between FNs 15-16 and the truly ambiguous relation of F to Gb in cells *x* and *y* of the theme.) Such performance would elongate the tension from the first F to the second F, (FNs 12-15). Moreover, it would cause a prolongation of FN 15 to FN 21 by way of chromatic passing motion from the already prolonged Bb, itself embedding a "prolongation" of the earlier Gb's, to be discussed forthwith. Articulation of the preceding would crystallize as a rubato, not of inspired guesswork, but of syntax-based expression, an idea by no means unique to our time. Indeed, the early twentieth-century string pedagogue, Joseph Bloch, taught:

> The main point of phrasing is to make the work more understandable to the listeners. Phrasing results in the separation of individual parts, from which one can clearly recognize and distinguish the melodic members which have developed out of a preexistent motive from those that are totally new.[24]

Example 10: Subliminal phrasing of FNs 12-15, when executed as part of an 11-tuplet



Bloch's notion of audibly linking parts to wholes, old to new, engages other aspects of the tupleted fioratura and its performance practice. Taking a broader view of the passage in question, let us retrace the development of Gb5, specifically FN 20. In parsing the theme, we saw that its Gb's created, of themselves, a counterpoint to its cellular rhythm. In the fioratura, however, the termination of Gb at FN 20 (a PN),

---

[22]Recordings used for this study were by Vladimir Ashkenazy (London 452 579-2), Daniel Barenboim (DGG 437 464-2), Idil Biret (Naxos 8.5554531)), Michéle Boegner (Calliope 9281.2), William Kapell (IPAM Records 1101), Peter Katin (Olympia OCD 254A+B), Ivan Moravec (Elektra Nonesuch 9 79233-2), Artur Rubinstein (RCA Victor LSC 7050), Henryk Sztompa (Orpheus OR C-148/149), Alexis Weissenberg (EMI Studio CDM7 69642), and Earl Wild (Ivory Classics 64405).

[23]Chopin's student, Karol Mikuli, recollected that "Chopin took particular pleasure in playing … Field's Nocturnes, to which he would improvise the most beautiful fioraturas." See Eigeldinger, *Chopin*, p. 52.

[24]Taken from *Methodik des Violinspiels und Violinunterrichts* (Strassburg, 1903), quoted (and presumably translated) by Jon Finson in his "Performing Practice in the Late Nineteenth-Century, with Special Reference to the Music of Brahms," *Musical Quarterly* LXX/4 (1984): p. 473.

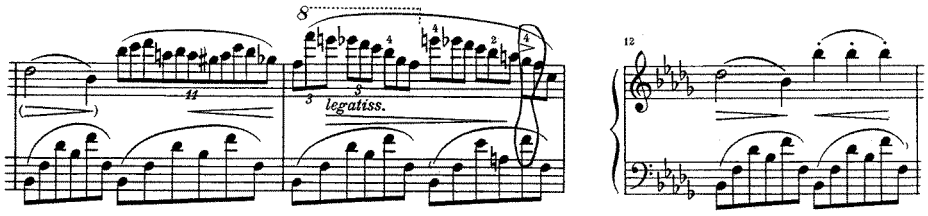
reinterprets its original UN role in cell *y*. Instead of reinserting the Gb before FN 31, FN 20 mediates a prolongation of FN 12 (F) that shifts the Gb *backwards* to a transformed cell *x*. We sense a stronger recursive relationship than the one noted above, involving cells x and y. Briefly, FNs 31-33 truncate FNs 20-23, the only difference being the presence of Gb in the latter group. Why is this significant performatively? Most recordings regularize the FNs 31-33 as a triplet, thereby creating an unhappy symmetry with FNs 12-14. Such performance falls short for three reasons. First, it imposes a metrical equivalence where there is none. Second, it articulates FN 31 as the "end" of the local prolongation rather than as the note that liquidates the first chromatic passing motion in the piece, FNs 20-23. And third, it short-circuits the metrical stability of the unchanging cell z returning in m. 4, the resolution of what Krebs defines as an "indirect" metrical dissonance, "the juxtaposition rather than superposition of layers of motion."[25] That is, the recurrence of cell *z* in m. 4 loses the repose that it would normally have brought, since the "distance" between metrical consonance and dissonance shortens when *z* and the duplet eighth notes underneath it are approached by triplet eighth notes, rather than by the terminal notes of an *integral* 11-tuplet. In sum, the listener would experience less closure during the consequent (mm. 3-4) than the antecedent (mm. 1-2) phrases in such performance.

A similar distortion characterizes many performances of the second fioratura as well (mm. 11-12), see Example 11. Ten of the recorded performances regularize the final three notes of the 11-tuplet, so that the continuation, written in eighth note triplets, loses its expansiveness; the triplets do not resolve the indirect metrical dissonance, allowing the energy of such resolution (combined with registral expansion) to drive the line forward. Interestingly, such expansiveness introduces the second transformation of the thematic Gb from PN to appoggiatura, which adds a new element of dissonance en route to the still unchanged cell *z* (m. 12).

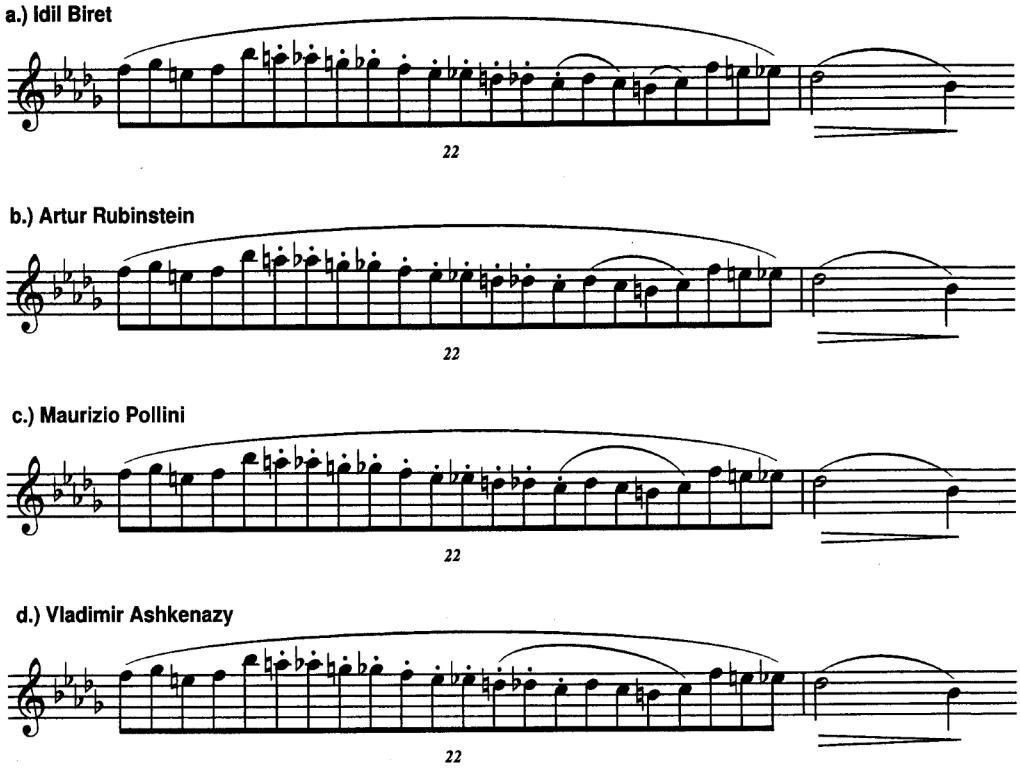
While it is not possible here to catalog all distortions caused by regularizing the 11-tuplets in op. 9, no. 1, mention should be made of one involving the downward octave transfer of C (cells *w* and *y*). In the theme the transfer is not particularly striking, for our attention is trained more on the iteration of F5 in cell *x*. In the first fioratura, m. 3, however, the pitch focus shifts to C4 for several reasons: the F is prolonged, rather than iterated; the C occupies the final third, rather than final twelfth of the measure; and the C is decorated by its UN and LN, causing a local prolongation of C that reinforces the V function starting on beat five of the measure. These reasons suggest that the highest point of tension in the fioratura is not determined by pitch height (e.g. FNs 3 or 16) but rather by the convergence of melodic, harmonic, and rhythmic tensions about the lower C. So the absence of a *diminuendo* here paralleling that found at the end of m. 1 seems more than chance. Most performers, however, *do* transfer the diminuendo to the end of m. 3, intentionally or not—this probably results from regularizing FNs 26-30. As graphed in Example 12. Idil Biret (typical of many performers) articulates a triplet followed by a duplet sixteenth group, Arthur Rubinstein a group of four 32nd notes, Maurizio Pollini a 32nd-note quintuplet, Vladimir Ashkenazy a 32nd-note septuplet spanning FNs 24-30, this smudging of an otherwise crystalline piano sound.

[25]Krebs, *Fantasy Pieces*, p. 254.

Example 11: Measures 10-12 of op. 9, no. 1, showing Gb as appoggiatura



Example 12: Differing regularizations of FNs 24-30 by a. Idil Biret, b. Artur Rubinstein, c. Maurizio Pollini, and d. Vladimir Ashkenazy



This dissection of theme and fioratura may seem redundant, since foreground pitch functions retain their analytic nomenclature, regardless of how one executes them. In theory, this holds true. But listeners, irrespective of sophistication, do attend to music "in tempo."[26] For instance, if a performer suddenly interpolates an agogic accent within a well-established tempo, the listener will either breathe or gasp, depending on how subtly

[26]See Mari Riess Jones's essay, "Attentional Rhythmicity in Human Perception," in *Rhythm in Psychological, Linguistic, and Musical Processes*, ed. James Evans and Manfred Clynes (Springfield, IL: Charles Thomas, 1986), p. 35.

the performer relates the accented note to its environs. By extension, listeners can attend more closely to tupleted fioraturas by apprehending their delicate balance of simplicity and complexity. One can expand Weisberg's "aesthetic approach" to include the possibility that a tupleted fioratura executed with precision highlights the difference between a flourish that Chopin might have heard extemporized by a diva of his time (likely not a composer!) and what he himself wrote when calmly recollecting her performance.[27]

Is there a solution to the tuplet paradox? Yes, two in fact. The first is that performers can train themselves to integrate tuplets within a metrical framework by means of eurhythmic exercises and/or slow-motion execution of CR rhythms. The latter can be gradually increased in tempo, so that the probability of imprecision in performance decreases inversely to that of inspired guesswork. Such practice, moreover, sensitizes the performer to analytical details like those explicated above. A second solution involves the psychoacoustics of timbre. Of the many recordings sampled for this study, only Michèle Boegner's played the 11-tuplet correctly—in m. 11—and nearly correctly in m. 2.[28] Interestingly, Boegner recorded op. 9, no. 1 on an 1836 Pleyel, a piano similar to Chopin's own. Unlike the pianos built after 1870, the earlier pianos generally produced stronger harmonic rather than inharmonic partials for its notes, owing to mechanical factors such as smaller, softer hammers and lighter string frames.[29] On a well-maintained instrument of this vintage, one hears less attack (transient) noise per note, which maximizes acoustic efficiency in tone production.[30] Such efficiency in turn lowers the formant frequencies of the notes, relative to those of a contemporary piano. Listening to Boegner play the 11-tuplets on the Pleyel, one imagines his hearing them with fundamental pitches so centered relative to those on modern pianos, that they might have been played an octave or two lower than written. In other words, the fioratura notes are enriched spectrally in a way that make them cohere "naturally" as a temporal Gestalt, impervious to the "distraction" of the accompaniment.[31]

Acoustical efficiency on earlier pianos broaches a final question. Would a conscientious pianist of the nineteenth-century have even problematized performance of tuplets, given that (s)he was probably taught to eschew playing with perfect synchrony?[32]

---

[27]For additional source material regarding the *bel canto* influence on Chopin, see Eigeldinger, *Chopin*, pp. 44-54.

[28]A complete discography of the recordings used appears in footnote 22.

[29]This information was obtained by study and performance during the 1990s on various instruments housed at the E. M. Frederick Collection of Historic Pianos, Ashburnham, Massachusetts.

[30]Finson, in "Performing Practice," p. 462, says that even a Steinway of 1892 seemed to him more "acoustically efficient" than a modern piano of the same make. The earlier piano emphasized "the fundamental tone of each note, with less pronounced overtones than a modern Steinway. As a result, the pianist was able to produce sound with a lighter touch, and the sound was not so massive as that of a modern instrument." It is the massiveness of sound, perhaps, that inhibits the pianist from playing the tuplet with spontaneous precision.

[31]This phenomenon invites further psychoacoustic investigation, For example, one might experiment as to whether the enhanced Gestalt perception of the tuplet is instantiated by a periodic "beating" of the tuplet notes against the arpeggiated accompaniment in its lower registration (or by periodic beating of a low formant-frequency piano)? If the result turns out to be positive, then the organological/registral variables discussed work to externalize the "inner units" of the CR discussed earlier.

[32]Paderewski's recordings of Chopin's Mazurkas epitomize this practice. More recently, Malcolm Bilson discusses and simulates this practice on his lecture recital, "Knowing the Score," DVD (Cornell University Educational Television Center, 2005).

If older pianists routinely dislocated their hands in performance, then the calculated dislocation of a tupleted polyrhythm would be already "primed" to execute it with a *spontaneous* precision.[33] Indeed, the "tuplet paradox" would perforce bite its own tail, since regularizing the tuplet in this situation would cramp not so much its calculated freedom but its uncalculated discipline.

Postscriptively, it is noteworthy that continuous dislocation of the hands solves metrical performance problems other than tuplet fioraturas, take Schumann's *Des Abends*, op. 12, no. 1, see Example 13. Bearing a title that puns interlingually on "nocturne" (Chopin's, above all), this enigmatic work is written in 2/8 meter but is invariably performed in some flavor of 3/8, save for the transitions (mm. 37-38 and 75-76), embarrassing intrusions of the written meter. The "metrical ambiguity" here causes even greater disorientation than do the fioraturas in Chopin's op. 9, no. 1. When played so that the two-against-three between (and within) the hands defaults to duple subdivisions of a pseudo triple or compound meter, the underlying metrical tension rapidly fades. Such tension would otherwise have projected the alternation of consonances and dissonances on the critical central melodic passing note of each measure. Schumann's *Sehr innig zu spielen* invariably degrades to a lugubrious waltz that defers periodically to a languid gigue.

The precise execution of tuplets in Chopin's music is more than a curiosity for scholars of performance practice and historical musicologists, for it invites metrical, structural, and timbral analysis. And given the burgeoning number of successful performers of Carter and Ferneyhough, it is high time that exponents of pre-twentieth century music reexamine what persist as unsolved, worse, unacknowledged, problems of metrical notation and performance.

[33]Peter Katin (see footnote 22) selectively dislocates written simultaneities in op. 9, no. 1, but too infrequently to prime accurate execution of the tuplet.

Example 13: Schumann's "Des Abends," op. 12, no. 1