Book Reviews

John Rink, ed. *The Practice of Performance: Studies in Musical Interpretation*. Cambridge: Cambridge University Press, 1995.

Reviewed by Robert S. Hatten

This superb collection of twelve essays highlights the emergence of a field of music theory broadly labeled as "performance studies" in England, although its widely divergent studies go far beyond what one might initially associate with performance from the perspective of the studio. Several new fields of music theory are represented in this rather diverse collection, and many of our leading theorists are gathered to help map the territory.

The last four essays are written by theorists who also excel as performers (Joel Lester, William Rothstein, Edward T. Cone, and John Rink), and not surprisingly, they address the *relationship between (critical) analysis and performance*. Lester underlines the contribution that performance can make to the analytical process, rather than assuming performance to be merely the beneficiary of prior analysis. Rothstein elucidates the art of projecting one's analytical insights without being pedantic or overly didactic about it, and he joins Lester in urging a synthesis of the insights to be gained from analysis and performance. Cone's essay focuses on the critical aspect of performers' choices, with attention to tempo decisions as they affect a performer's expressive and formal conceptions of the work. John Rink, the editor of these essays, takes a reverse perspective in the concluding study, pursuing a close analysis of the score *after* having performed Brahms's *Fantasien*, Op. 116, ostensibly in order to reconstruct and critique his intuitive analytical framework and choices.

The middle four essays, by Nicolas Cook, David Epstein, Janet Levy, and Ronald Woodley, are studies of the consequences for performance of particular kinds of *musical meaning*. Cook justifies Furtwängler's tempo fluctuations in his recordings of the first movement of Beethoven's Ninth Symphony in light of the conductor's

knowledge of Schenker's monograph on the symphony and his concept of structural spans. Epstein, Levy, and Woodley each focus on a single perspective on meaning, exploring its consequences for performance. Epstein treats affective meaning in the first movement of Schumann's Fourth Symphony; Levy, ambiguous openings and closings in works by Haydn, Mozart, and Beethoven; and Woodley, irony in Prokofiev's Violin Sonata in F minor, Op. 80.

The initial four essays are not as cohesive a section as those that follow, though they might loosely be construed as addressing "Fundamentals," the general heading bestowed by Rink. Roy Howat's eloquent introduction to the *problems of notation* and the theories by which we disambiguate it contains many specific solutions for interpretative problems and clarifies several cases of misleading editorial practices. Ralf Th. Krampe and K. Anders Ericsson round out the section with the kind of study familiar to American scholarship from the field of music education, treating the importance of "deliberate practice" to the gradual *acquisition of elite performing abilities*, with studies of young, middle-aged, and older performers.

It is the middle two essays of this section that offer perhaps the most significant new insights, addressing in turn two important and just-emerging fields of research: Eric Clarke essays a semiotic and cognitive study of *expression* in performance (the subtle variations in pacing and dynamics that have profound rhetorical effects and reflect higher-level analytical choices on the part of a performer); and Patrick Shove and Bruno H. Repp survey studies of *musical motion* conceived not (merely) as traditionally-analyzed directional or expectational forces generated by melodic and harmonic progression, but as "literal" expressive movement embodied in the musical *gesture*.

What is not represented in the collection is historical performance practice. Although several authors compare or critique recordings from earlier in this century, there is clearly an analytical bias to the collection (Are historical musicologists less reliable performers or merely too "specialized" in their approach? Are performers on authentic instruments less qualified to contribute analytically?). I would have enjoyed the inclusion of essays by Neal Zaslaw, to name just one musicologist who also conducts and teaches style to performers, and

Malcolm Bilson, to name just one performer who is deeply involved in historical and analytical issues in his teaching.[1] And it would have been interesting to have included an essay by Richard Taruskin, along the lines of his "Resisting the Ninth,"[2] to stir the pot a bit. As it is, none of the critical recommendations for performance says much that a theorist or performer would find controversial, and while the authors say it extraordinarily well (with solid historical credentials), I wished that more attention had been given to problematic issues in historical performance.

Another area that might have been represented is how one teaches performance. I do not mean pedagogy in the standard sense of learning the technique and repertoire of an instrument, but rather approaches such as that developed by Alexandra Pierce, which incorporates movement, character embodiment, and Schenkerian analysis in performance.[3] Pierce's most recent article features an exemplary description of methods that can work with college students who are physically disconnected from the act of performance, or who are unable to translate analytical insights into sufficiently natural shapings and shadings in their voice or instrument.

On the positive side, the essays dealing with aspects of musical meaning and their projection in performance are both timely and of considerable interest. My review concentrates more on speculations

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[1]For representative essays by Zaslaw and Bilson, see *Performance Practice: Music After 1600*, ed. Howard Mayer Brown and Stanley Sadie, *The Norton/Grove Handbooks in Music* (New York: W. W. Norton, 1989), 207-22 and 223-38, respectively.

[2]This and Taruskin's other essays on performance are collected in revised form in his *Text and Act: Essays on Music and Performance* (New York: Oxford University Press, 1995).

[3]For the most recent, comprehensive exposition of her approach, see Alexandra Pierce, "Developing Schenkerian Hearing and Performing," *Intégral* 8 (1994): 51-123. Pierce and I also gave a demonstration of several of her exercises designed to help a more advanced pianist not only project but actually discover an analytically and artistically effective interpretation (evening session on "Musical Microstructure in Expressive Performance," chaired by David Lidov, at the 1995 Society for Music Theory conference in New York).

raised by the chapters on ambiguity and irony than on a complete reconstruction of the authors' analyses; and throughout, my approach is generally geared toward extending discussion and promoting healthy debate about issues that these excellent essays have provoked in my own thinking. Since I will not offer a systematic or comprehensive accounting of every author's contribution, let me state that I recommend the entire book warmly, that the essays are of a uniformly high quality, and that each deserves the reader's careful attention.

"Beginning-Ending Ambiguity: Consequences of Performance Choices"

Janet Levy's essay on ambiguity echoes concerns throughout the book (Howat, Lester, Rothstein, and Rink[4]) for keeping viable a multitude of interpretive possibilities, rather than for resolving in favor of a single interpretation in performance. Levy is concerned with what one might call *functional ambiguities* (William Thomson's term[5]) that, according to Levy, are part of the "composer's plan" (154) and should be "enhanced" (157) in performance. Levy distinguishes ambiguity from vagueness and provides a temporal dimension in constructing her definition: "a musical situation is ambiguous if at the same time, or very close in time, it gives rise to two or more *specifiable* [italics mine] meanings" (152). Her examples include such famous cases as the trio from the minuet of Mozart's "Jupiter" symphony, which begins with a cadence that throws off the expected hypermetric grouping. The cadence figure must be heard to function both as the beginning of the trio and as an echo of the ending of the minuet. Thus, neither the

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[4]Another exponent of this position is Janet Schmalfeldt, whose excellent article, "On the Relation of Analysis to Performance: Beethoven's Bagatelles Op. 126, nos. 2 and 5," *Journal of Music Theory* 29, no. 1 (1985): 1-31, is one of the early studies most often cited by authors in this collection. Her exciting demonstration and performance of the two works at the 1984 Society for Music Theory conference in New Haven should also be mentioned.

[5]William Thomson, "Functional Ambiguity in Musical Structures," *Music Perception* 1, no. 1 (1983): 3-27.

beginning nor the end of the cadence figure can be marked by a ritardando or articulation, or the balance between the two interpretations would shift. The best interpretation, ironically, would seem to be the one that recognizes both functions by relinquishing any attempt to bring either one out. As Levy puts it, "the simplest of performance nuances has a higher-level consequence: it weakens the *double entendre* at a nodal moment—return—in Mozart's play" (160).

Rothstein (his essay is discussed below) similarly recommends keeping two different hypermetric options in a Chopin waltz in a state of suspension, to allow the listener "to entertain both possibilities" (236). His solution is not a neutral performance, however, but rather a calculated series of departures from the "main" hypermeter to its competing or "shadow" hypermeter,[6] such that the main hypermeter is never completely lost, but artfully ambiguated (Rink suggests much the same in his essay, 276).

For Levy and Rothstein, though, the issue lies in how best to convey an ambiguity in performance, not in whether or not such a situation is indeed ambiguous in the sense of undecidability or indeterminacy. Recently, Kofi Agawu has argued that ambiguity of the sort we associate with undecidability is problematic for tonal music: "I hope to [show], not that multiple meanings do not exist in tonal music (how could they not?) but that, once the enabling constructs of music theory are brought into play, equivocation disappears."[7] Although Levy cites Agawu only in passing as an example of "relatively recent attention to the subject of musical ambiguity treated more broadly [than metric/rhythmic ambiguity]" (151, note 5), her definition of musical ambiguity as two competing but "specifiable" meanings only partially evades Agawu's comprehensively and

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[6]Rothstein notes that the term "shadow meter" is a creation of Frank Samarotto's, stemming from a paper, "Strange Dimensions: Regularity and Irregularity in Deep Levels of Rhythmic Reduction," delivered to the Second International Schenker Symposium held in New York in 1992.

[7]Kofi Agawu, "Ambiguity in Tonal Music: A Preliminary Study," in *Theory, Analysis and Meaning in Music*, ed. Anthony Pople (Cambridge: Cambridge University Press, 1994), 88.

persuasively argued position, summarized in four propositions:

1 Theory-based analysis necessarily includes a mechanism for resolving ambiguities at all levels of structure;

2 An analysis that terminates in undecidability represents a conscious or subconscious retreat from theory;

3 While ambiguity may exist as an abstract phenomenon, it does not exist in concrete musical situations;

4 In situations of competing meanings, the alternatives are always formed hierarchically, making all such situations decidable without denying the existence of multiple meanings.[8]

Levy's ambiguity is not undecidable *in its components* for the theorist or performer "in the know," or for the style-competent listener who may quickly sort out the initial confusion into two or more strands of meaning. But for her, the competing meanings need not always be ranked (Agawu's fourth proposition) and thus tilted toward one solution, as in Rothstein's example of main and shadow hypermeters, where the main hypermeter, like a boxer, wins a close decision in its bout. Indeed, if ambiguity can serve as a compositional premise (and I agree with Levy and Rothstein that it can), then its components, while specifiable or decidable as to *function*, need not be ranked by hierarchy or be decidable as to *priority* in performance, in every case. As Levy proposes, in the case of simultaneous or overlapping yet distinguishable formal functions, "If a listener is to be enabled to experience the pleasurable functions of such ambiguities, the performer must convey both functions as fully as possible" (167).

But we are left to ponder when such cases of "parametric noncongruence" are sufficiently marked as to trigger Agawu's stronger type of ambiguity. Agawu argues that "parametrical noncongruence

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[8]Ibid., 107.

appears to be the inescapable condition of any expressive art,''[9] yet the layers are weighted such that we can decide on one as primary, and the performer must, in any case, choose one way and play it with conviction.[10] But the performer is not so handicapped as to have to choose between bringing out only one of two functions. Levy's discussion of two performances of the Mozart Symphony in G minor, no. 40, demonstrates a third possibility. The passage is the recapitulation of the first movement, with its extended motivic upbeat that throws the point of melodic return off one bar from the point of harmonic arrival. Reiner plays it straight; Szell marks the point of harmonic arrival with a ritard and articulative break just before it. Levy recommends Reiner's performance over Szell's because ''the listener is allowed the pleasure of experiencing the ambiguity as it unfolds, as well as the sense that he or she has discovered it'' (165). Unlike Agawu's recommendation, then, ''choosing not to choose'' (Reiner's approach) can be a valid option that actually preserves the experience of ambiguity unfolding in time. But, to return to Agawu's point, is this kind of parametric noncongruence really ambiguity (in his richer sense of the term, as derived from linguistic practice)? Might one hear the return as simply ''spread out'' over time, and experience simply a non-ambiguous sense of ''stretching''?

Furthermore, if ambiguity as premise depends on stylistic understanding, how does one convey ''good'' ambiguity as distinguished from ''bad'' undecidability or confusion, especially to a modern audience? We have probably all had the experience of hearing an unknown piece metrically wrong due to a cross-accentual pattern (especially when tuning into the middle of a work on the car radio!). That sense of unresolved ambiguity is usually uncomfortable, and only rarely might it be considered ''functional'' or compositionally induced.

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[9]Ibid., 100-101.

[10]Ibid., 98. Agawu also cites Bruce Campbell's review of Levy's book, *Beethoven's Compositional Choices: The Two Versions of Opus 18, No. 1, First Movement* (Philadelphia: University of Pennsylvania Press, 1982), appearing in *Journal of Music Theory* 29, no. 1 (1985), in which Campbell also baldly asserts that ''ambiguity in music does not really exist'' (193).

How, then, can ambiguity as a premise be aesthetically satisfying? What, in other words, are the (stylistic or perceptual) constraints on intentionally ambiguous formations in given styles?

"Strategies of Irony in Prokofiev's Violin Sonata in F minor, Op. 80"

If ambiguity in music appears troublesome, both to define and to convey in performance, consider the thorny problem of interpreting irony in music. Ronald Woodley's essay on Prokofiev is admirable in its scope, drawing on Schlegel's concept of Romantic irony and Bakhtin's notion of diologism in the novel ("a self-conscious game that dramatizes the gap between what is told and the telling of it"[11]). Prokofiev's Violin Sonata in F minor is presumably "about" a frustration of desire, produced by "blockage" that seeks release to a "pure, un[-]ironic state" (171). Also notable is the author's sensitive critique of five performances of the work with respect to gestural nuances, as these relate to the ironizing narrative that he suggests. Although the political context and personal reminiscences provide strong evidence for Prokofiev's ironic intentions, I find the ascription of irony to particular voice-leading and accentual details a sudden leap into less theoretically established territory.

The ironic depends, one would assume, on a particular intentionality being cued with respect to the musical material. One might define irony as a bracketing or framing of musical discourse, such that it receives a negation of sincerity, leading at times to a trope that might constitute a "perspective" or "worldview." In this sense, negation of *sincerity* need not translate into negativity in terms of *affect*—the results might range from the light-heartedly comic or playful to the bitter or sardonic. If music can in some way cue the bracketing, then the problem, it would seem, is to determine just how that bracketing should be construed—which is a matter of determining the intentional stance of, if not the composer, at least a higher-level persona whose power is

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[11]L. Bishop, *Romantic Irony in French Literature from Diderot to Beckett* (Nashville: Vanderbilt University Press, 1989), 205, as quoted by Woodley, 171.

revealed in the very act of "commenting upon" or creating a particular perspective in relation to the base-line discourse of a musical passage or work. The composer's intentions are, of course, the default position in ascribing ironic self-consciousness to a musical work, but more interesting are those cases where the composer can write into the work a duality of levels, whereby what happens to the prevailing discourse is charged with a sense of its contradiction with respect to meaning.

It may well be that certain terms of the discourse are "pre-set" in their ironic construal. For Prokofiev, Woodley maintains that the diatonic is in dialectical opposition to the chromatic, with the latter often providing the "defamiliarization" (the Russian Formalists' term for poetic markedness, appropriated by Woodley solely for the trope of irony), and the former offering "a metaphor for the unattainable sublime" (172-73).

But what are the governing constraints on ironic interpretation of the details? There are perhaps two issues here. First, against which norms do we measure "deformation," such that certain developmental techniques "count" as signalling the ironic? Second, according to which cultural competencies do we ascribe the appropriate genre (high comedy, low comedy, high tragedy, low tragedy or grotesque), the degree of personal involvement (gritty directness or cosmic aloofness), and the affectual character (light-heartedly playful, bitterly sardonic) of that ironically marked discourse? Are there ways to establish an appropriate dramatic or narrative framework for interpreting irony in this way, or is irony too slippery to be pinned down in a definitive interpretation? Might irony be a side product at times, rather than the central premise of a musical work, and if so, how might we know? Could irony be ambiguous in a functional way?[12]

In my book on musical meaning I noted the inherent insecurities of ironic interpretation and how listeners can easily fail to follow the

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[12]I should note at this point the dissertation-in-progress of a music semiotic colleague in Edinburgh, Scotland—Esti Sheinberg—who is attempting to provide, for Shostakovich's style, a theoretical framework for distinguishing the ironic modes of simple irony, parody, satire, and the grotesque, all of which she considers as embodiments of semantic ambiguity(!) (personal communication).

creative torsion of tropes in general.[13] I also proposed a thorough grounding of tropes in stylistic correlations (established music-structural or processual ''types''—as opposed to unique ''tokens''—that have established ''correlations'' with meaningful cultural units, or semantic ''types''). If we are theoretically more secure at the more ''literal'' levels of musical meaning, then we can venture more confidently into the more ''figurative'' or creative levels of musical meaning, where undoubtedly our greatest aesthetic interest lies. In turn, the performance decisions involved in projecting ambiguity would surely profit from an understanding of the tropological significance of any ambiguous passage, and irony is merely one of many possibilities.

Yet even if we can succeed in projecting ambiguity in performance, is there any guarantee that we can project an attendant irony when the listener is not predisposed to interpret the work in that way? For Prokofiev, the problem might not seem so acute, since the twentieth century is in some ways a more psychologically troubled extension of the age of irony, documented in its emergence by Friedrich Schlegel before the nineteenth century began (and Woodley is well aware of Schegel's contribution). Whereas musical discourse without specific ironic cueing might still be taken at face value (i.e., sincerely) in the nineteenth century, the fact of a work's being composed in the twentieth century is often enough to place an ironic marker on even the most straightforward of musical discourses. (After Eric Satie and Virgil Thomson, can a minimalist composition ever escape a certain tongue-in-cheek quality?) It is perhaps only the contextualizing sincerity of such spiritually committed composers as Arvo Pärt that may suspend the at-times cynical supposition of ironic frames by classical listeners attuned to the characteristic trope of the times.

Let us turn, then, to an apparently safer realm of interpretation, that which leads to temporal choices and modifications in performance. Several authors deal with tempo, rubato, and timing as fundamental choices by a performer attempting to enhance the expressive character

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[13]Robert S. Hatten, *Musical Meaning in Beethoven: Markedness, Correlation, and Interpretation* (Bloomington: Indiana University Press, 1994), 172-88.

of a work or to clarify its formal structure (or the former by means of the latter, since the expressive and the structural are inextricably intertwined).

"The Pianist as Critic"

Edward T. Cone demonstrates the importance of "absolute tempo" in examples ranging from the opening chorus of the *St. Matthew Passion* (where a too-slow tempo had in the past distorted the form of a chorale-fantasy), to the Chopin Impromptu, Op. 66 (where a too-fast tempo for the opening obscures its motivic relationship to the middle section) (246-47). An extended example details the importance of "relative tempo" for the song-form and trio sections of Schubert's Impromptu in A♭ major, Op. 142, no. 2. Although Schubert does not give a different tempo indication for the trio, nor does he provide an indication of ritard in the transition to the reprise, the four recorded performances surveyed by Cone each shift in tempo from around MM 100-108 to MM 132-144 (per quarter). This relationship of relative tempi obscures, for Cone, an important connection between the two sections: they each feature agogic accents on the second beat, a rhythmic dissonance that reaches a climax in the trio but is resolved in favor of the meter only by the song-form first section. Cone's solution is not to slow down the trio by much (MM 126 is his minimum) but rather to speed up the first section to match it, thereby achieving a truer Allegretto for the first section and bringing out the motivic connections between the two parts.

One can test his recommendation at the piano, or gauge for oneself whether or not the agogic connection is missed in recorded performances where the tempo shifts. At first I found the opening at Cone's proposed tempo a bit too rushed for its "character" (pastoral, with the doubled inner pedal; and requiring a slight bit of time to set off the agogic accent). And I continue to find the motivic connection between sections obvious enough not to require the same tempo as reinforcement. On the other hand, the absence of a notated tempo change by Schubert (who, as Cone points out, is careful to include them in other trios) is historical evidence more compelling to me than the analytical connections Cone adduces to clinch the case. My first

inclination, after experimenting at the piano, was to move the tempi closer together by slowing down the trio, rather than speeding up the first section, and not to insist on an exactness that would perhaps sound more dutiful than natural. But after experimenting some more, I found I could play the first section very close to MM 126 and still bring out its pastoral and agogic character, with the added benefit of a more characteristic dance-like flow. Thus, whereas I might not agree with all aspects of Cone's critical argument, it certainly served its purpose in leading me to reconsider my choice of tempo and to discover ways to make a less-familiar tempo work without sacrificing the values of a more accustomed one. Indeed, unless a performer can negotiate the gestural character of a section at a prescribed new tempo, it is unlikely that the new tempo will be an improvement, regardless of the relative temporal values it achieves.

"The Conductor and the Theorist: Furtwängler, Schenker, and the First Movement of Beethoven's Ninth Symphony"

A more controversial and much freer approach to tempo is found in the live recordings of the conductor Wilhelm Furtwängler. His performances of Beethoven's Ninth Symphony are, in Nicholas Cook's view, "no more . . . arbitrary and subjective than Schenker's theories of musical structure" (108). Cook's essay traces Furtwängler's study with Schenker, and his study of Schenker's monograph on the Ninth Symphony, as significant influences on the conductor's approach to tempo fluctuation in his 1951 and 1953 recordings of the Ninth. A basic principle underlying many conductors' approach is that the length of caesuras or the extent of rallentandos is directly proportional to the importance of the structural division they highlight (117). Whereas Cook notes that such practice was common between the wars, he demonstrates that Furtwängler's "tempo gradients," each of which functions as a "nuance expanded to the level of a complete thematic statement" (117), are distinctive to his style and play as important a role as fixed tempi. Furthermore, not only do sustained (extended) rallentandos occur, but sustained accelerandos do as well (118). Cook argues that the continuous flux of these tempo gradients can offer a new

level of structuring in performance:

> [Tempo gradients] embrace extended passages of music within a single span, and give rise to structural divisions when one arch succeeds another. And these structural properties function quite independently of local rallentandos or caesuras. (119)

Local rallentandos or caesuras in Furtwängler's performances function *rhetorically*, and despite their momentary deflection, they do not obscure the overall arch of a dynamically changing tempo, which continues to function *structurally*.

Because of this hierarchical distinction of rhetorical and structural tempo modifications, Furtwängler's extremes always appear to have a purpose, as opposed to the rubatos in Mengelberg's 1940 recording, in which different tempi are juxtaposed without transition, reducing the symphony to a series of episodes. Thus, while we might at first find Furtwängler's tempo fluctuations extreme, they are highly motivated structurally and are not subject to the criticism leveled against "rubato conductors" (120). Furthermore,

> Because they create the sense of a destination, because of their gestural coherence, Furtwängler's dynamic tempo profiles convey the same organisation of the music into large spans that Schenker strove to express in his analyses. (120)

The subsequent section of Cook's essay demonstrates how in one case Furtwängler's implied analysis may even have improved upon Schenker's monograph analysis. A concluding section reports the conductor's own insightful remarks about using variation in tempo to project "an experience of conception and growth, of a living organic process," and its inspiration in Wagner's approach to Beethoven.[14]

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[14]Wilhelm Furtwängler, "Beethoven for Today," in *Furtwängler on Music: Essays and Addresses*, ed. and trans. Ronald Taylor (Aldershot: Scolar Press, 1991), 36, cited by Cook, 122.

"Analysis and the Act of Performance"

The question one might still ask, after this masterful apologia for intelligently motivated tempo modification, is why taste might have changed—why we do not find Furtwängler's style of performance as convincing or attractive today. The answer may have something to do with William Rothstein's argument that an interpretation is not merely an analysis, with its inherent risks of pedantry or didacticism, but a synthesis of analytical truth and dramatic truth. Indeed, as Rothstein points out, Schenker substituted *Synthese* for *Analyse* (218), but in considering voice-leading structure as the ultimate synthesis, Schenker "is not an unerring guide to the performer" (219). In a series of stylistically sensitive examples from Bach, Beethoven, Chopin, and Brahms, Rothstein demonstrates how the performer must also be like a dramatic actor, in choosing just what to reveal and when. He concludes, "The performer's task is to provide the listener with a vivid experience of the work, not an analytical understanding of it," and "Analysis, transmuted by imagination and a certain amount of cunning, can help to inspire that magic without which even the greatest music cannot fully live" (238).

While I agree wholeheartedly with these ideals, the interesting issues arise from details of their application. For example, Rothstein considers three diatonic motifs as basic building blocks for Beethoven's Piano Sonata in A major, Op. 101 (shown in a series of examples on pp. 223-26). Motif 1 is a stepwise motion through a fourth. When "highlighted in a high register" (222; my characterization would be "strategically marked"), the motif may "be identified as representing the divine, or possibly human striving for the divine" (226). For this reason, not every instance of the motif should be "brought out" in performance, and one should "reveal its significance gradually" (227), as Beethoven does. Therefore, in playing the first measure of the work, it would be "the height of insensitivity" and would "spoil the effect of the opening altogether" to highlight the slightly chromatic descending stepwise fourth in the tenor voice (227). Given the motivic and dramatic argument Rothstein provides, such advice is clearly logical and expressively sound.

But what if one has an alternative conception of the thematic language of the movement and its expressive significance? In my interpretation of the first movement, I noted the importance of a marked chromatic reversal in the "second theme" (or the musical idea beginning in m. 16, which Rothstein considers a "cadential theme" [227, note 17]), and I explored its significance for the work.[15] Like Rothstein, I would consider the tenor voice in m. 1 to hint at my motif, and purely on that basis, I would not suggest its being "brought out." But in analyzing mm. 1-2 as a quintessential expression of the pastoral, I also noted the contribution of each voice to that "package," with the wedge between the soprano/alto and tenor suggesting a kind of Romantic "flowering," and the D♯ to D♮ in the tenor transforming the opening E major chord, potentially heard as tonic, into a V7/IV in a familiar "yielding" progression. The result is that A major, soon enough understood as the tonic, receives a subdominant "flavoring" quite suited to its pastoral character for the movement (one can compare the opening of the "Pastoral" Piano Sonata in D major, Op. 28, which features a less elliptical move in literally opening with I-V7/IV-IV6/4). Returning to Op. 101, if that tenor line has multiple roles—both immediately (as wedge to the soprano and alto, and as subdominant flavoring) as well as more distantly (hinting of resignation to come through chromatic reversal)—then I am less likely to disguise its appearance in performance. And in that sense, my performance would indeed reflect an analysis, a slightly different one from Rothstein's, and perhaps insensitive only to ears more convinced of his or still another's analysis.

The drama of motivic coherence based on diatonic pitch cells is simply less interesting to me than the drama of marked motives and other thematized aspects of musical structure that, to be sure, rely on an underlying coherent scheme, but are not strictly *about* that scheme. (Analogously, my interest in the Schubert Impromptu analyzed by Cone does not reside primarily in the treatment of the agogic accent that forms the basis of Cone's "story" for the work [250]). Although I would hope that my interpretation, if suitably performed, could have

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[15]Hatten, *Musical Meaning in Beethoven*, 91-104.

the "magic" Rothstein recommends, it would depend as much on the listener being convinced of that interpretation as on my actually achieving it in performance. In addition, my gradual unfolding of significance in a dramatically-conceived plot might well increase the distance between my portrayal of an analysis and the analysis itself. For these reasons, the theorist with a prior commitment to a particular analysis of a work is going to be the hardest critical ear to please.

"A Curious Moment in Schumann's Fourth Symphony: Structure as the Fusion of Affect and Intuition"

But the intuitions of the performer may well lead to analytical confirmation, as David Epstein painstakingly demonstrates. He begins by considering affects as structured phenomena, precisely delineated in art works, but problematic to describe in language:

> More important than describing affect is to seek the mechanisms by which it is structured. . . . [A]s we interpret structures, reveal them within the time processes by which music flows, we deal simultaneously with affect. As we shape structures, modulating the intensities that demarcate them, we likewise shape affect. (130)

His case study involves the recapitulation of the first movement of Schumann's Fourth Symphony (m. 297), which is definitive neither tonally nor thematically, but nevertheless counts as recapitulatory because of its thematic culmination of events in the development into a sixteen-bar periodic theme and its preliminary resolution of the dominant pedal. The problem is the *sfp* that one encounters in the 1851 version of the score. Most conductors ignore the implied subito piano in order to bring out the "ebullience" of the theme.

Epstein's detective work with the autograph reveals Schumann's intentions to be other than a subito piano here. To begin with, the lower strings are clearly marked *mf*, implying a greater dynamic value for the melodic line (the second violins play the theme in octaves, and what might have appeared to be a "dim" in the autograph is actually

a "divisi"). Then the notorious *sf[p]* that was placed under the violins and clarinets in the later version is only faintly visible, having been erased in the autograph of the first version. Interestingly, the *m* of the *mf* under the second violin theme is marked out with dark cross-hatching, revealing Schumann's intention that the theme be played forte. Like Cone, Epstein adduces analytical evidence to support his notational evidence. The sixteen-bar theme receives a *più f* at the halfway mark, and it is followed by a *ff* tutti peroration of the theme on a dominant pedal (in this case, what I would call an "arrival" or "elevation" pedal, functioning rhetorically, as I have described for Beethoven[16]). Thus, the "mounting sense of overall intensity" constitutes a *Steigerung*, and to begin the recapitulation forte, given its thinner orchestration, would still provide room for a progressive intensification while preserving the character of the culminating theme. The *sfp*, added later, could therefore be understood not as implying a subito piano, but rather as indicating an expressive accent to mark both the peak of the dominant preparation's crescendo and the elided "inception of the intense singing melody" launching the recapitulation.

Epstein claims that his analytical (and historical) investigation comes after the fact of a performance intuition, and that the latter is a response to the affective character of the music at that point—an "intuitive feeling of the music" that is at the same time "indissolubly tied to the formal embodiment of structural detail" (148). In this way, not only is affect viewed as internally structured and precise (the claim stemming from the scientific literature on brain laterality cited at the outset), but "the shaping of structure concurrently . . . shape[s] the affective sense of the music's flow" (148).

I would add only that occasionally the process of discovery goes in the other direction: we may find a notational indication that goes against the grain of our stylistic competency, and in the course of performing the passage according to its unusual or "marked" indications, we may come to realize a new and eminently valid affective meaning that goes beyond our otherwise "unmarked" (default) mode of performing it. The use of unexpected performance

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[16]Ibid., 15.

indications (for example, Beethoven's dislocating dynamic and accentual markings, which introduce a willful gestural component) may afford a new level of "structure" that savvy performer-composers can exploit to further expand or articulate the range of expressive meanings stemming from stylistic "syntax," either enhancing or contradicting the meanings typically interpretable from harmonic and formal structure. Cook's essay on Furtwängler may be seen from this perspective as demonstrating the opposite tack, in that the flux of tempi serves not so much to carve out a distinct level of expressive meaning (as, say, a choreography often serves as a counterpart to the rhythm and structure of the musical work appropriated for a ballet), but rather to underline the expressive significance of the formal structure itself. Clearly, the art of performance is susceptible to a variety of artistically fruitful approaches.

"Playing in Time: Rhythm, Metre, and Tempo in Brahms's Fantasien, *Op. 116*"

I turn now to John Rink's contribution, which is perhaps the most personal in this regard, centering on his own performance of Brahms's *Fantasien*, Op. 116. Although the sequence of events was (1) intuitive preparation for performance, culminating in a public recital, (2) subsequent detailed analysis, and (3) "reassessment of the performance in light of the analysis" (255), Rink's reconstruction slights the first and last stages in pursuing a rather focused analysis of rhythm, meter, and especially tempo. Drawing on Jonathan Dunsby's claim that Op. 116 is an integrated "multi-piece,"[17] Rink follows David Epstein and Allen Forte in pursuing proportional tempo relationships between the seven pieces and their contrasting sections.[18] Although disagreeing in

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[17]Jonathan Dunsby, "The Multi-Piece in Brahms: Fantasien Op. 116," in *Brahms: Biographical, Documentary and Analytical Studies*, ed. Robert Pascall (Cambridge: Cambridge University Press), 167-89.

[18]David Epstein, *Beyond Orpheus: Studies in Musical Structure* (Cambridge, MA: MIT Press, 1979), 75-95; idem, "Brahms and the Mechanisms of Motion: The Composition of Performance," in *Brahms Studies: Analytical and Historical*

certain points with Epstein, Rink finds support for Epstein's claim that tempo changes in Brahms are bound to the simple proportional relations of a *tactus.*[19] Fortunately, a proportion no more complex than 3:2, or 2:3, appears to suffice in those cases where motivic relationships (descending or ascending thirds, for example) would be heard as ideally "temporally aligned" with those tempo relationships. Various uses of hemiola support the 3:2 proportion, and indeed may have suggested it. Rink's averaging of sectional tempi in ten recordings of the work (with due "discounting [of] anomalies"!) tends to bear out his claim of the priority of whole-number ratios (3:2, 2:1, and 4:3).

I will attempt not to dispute Rink's researches but rather to question whether proportional tempo relationships are worth all the fuss. As a performer, I find that my tempo choices are not usually based on an attempt to relate motives by ensuring their absolute tempo equivalence in different sections or pieces. If a motivic connection is significant enough, its two forms need not be played in the same tempo in order for me to hear the relationship, and in fact, they might profit from having distinctive temporalities appropriate to their affective environment. Furthermore, I enjoy the "freshening" effect of non-proportionality if the new section or piece is to be heard as shifting affective ground. Most performers, as Rink's own evidence suggests, intuitively (but not exactly) gravitate to reasonable oppositional relationships between tempi for sections and pieces. Granted, hemiolas and other metric/rhythmic constructs may suggest a specific proportionality, but even here affectual considerations might cause a performer to "nuance" or "massage" the otherwise simple proportions of 2:1 or 3:2.

I recall hearing a performance of the Brahms *Requiem* in which I found nearly all the tempi to be wrong—not because I was calculating proportions, but because they seemed out of character with my

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Perspectives, ed. G. Bozarth (Oxford: Clarendon Press, 1990), 191-226; and Allen Forte, "The Structural Origin of Exact *Tempi* in the Brahms-Haydn Variations," *The Music Review* 18, no. 2 (1957): 138-49.

[19]Epstein, "Brahms and the Mechanisms of Motion," 204-5.

understanding of the pacing for particular kinds of thematic structures or topics, based on their gestural character. The possible danger of analytical studies such as Rink's is in their promotion of an orthodoxy of performance in which certain aspects of structure predominate, to the potential detriment of others. Bringing out motivic and rhythmic/metric structure is a worthy goal, but does it really require, if not exact tempi, exact proportionality of tempi? And even in cases where one might analytically agree with a proportional treatment, need the realization in performance be exact to be effective?

The latter part of Rink's essay moves to questions of local phrase and metric structure, with salutary recommendations for performance to achieve, for example, "a progression from latent through emergent to manifest states" (273) with respect to metric implications. When multiple or ambiguous accentuation is in evidence, as in the middle section of Op. 116, no. 2, "the performer is advised to refer simultaneously to as many different organisational schemes in operation at a given point as possible," with the resulting "twisting and turning" creating a "floating effect, a metrical void, a kaleidoscopic temporal 'neutrality' clearly intended by Brahms" (273).[20] But in general, Rink's suggestions echo Rothstein's in terms of not effacing the notated meter, even while maximizing the energy from the conflict with an alternative grouping (276-77).[21]

"Performance and Analysis: Interaction and Interpretation"

In his contribution, Joel Lester is a bit more flexible in distinguishing between analytical decisions that involve "indisputable aspects of structure" and those that are more interpretative:

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[20]Rink (277) also cites C. Cai's similar recommendation for performance in "Brahms' Short, Late Piano Pieces—Opus Numbers 116-119: A Source Study, an Analysis and Performance Practice" (Ph.D. diss., Boston University, 1986), 378.

[21]Rink's brief concluding section relates these suggestions to the tradition of the free fantasia, stemming from C. P. E. Bach, with regard to the performance of passages lacking barlines or specified meter. The analogy is loose, but perhaps relevant to those passages that appear metrically free in the Brahms.

> Interpretative analytical statements . . . do not describe universals. Rather, they concern a particular conceptual shaping of the piece realized in analysis and . . . possibly in performance as well. . . . [I]nterpretative decisions often reveal different strategies in realizing the piece. (212)

Although interpretative analytical statements may appear fuzzy, they have the "potential to refocus analytical activity" toward less considered structural aspects (213). In this way, performance can become, or at least contribute to, an analytical activity. And since many interpretations may satisfy the score and its "indisputable aspects," performers may share as equals with theorists in "defining multiple strategies for interpreting pieces" (214). Indeed, Lester begins his essay by noting the striking lack of references to actual performances in works purporting to address the relationship between analysis and performance,[22] and he concludes that the relationship between analysts and performers is much too one way, with theorists analyzing the score, not some rendition of it, and then prescribing an interpretation based on that analysis (197).

A striking example of the extent to which issues resolved in theory are often still open to varying interpretations in performance is the status of hypermeter in a prototypical example, the opening "Blue Danube" waltz. As Lester notes, this waltz appears as an unproblematic example of nested hypermeter in Rothstein's book on phrase rhythm.[23] Accordingly, the final cadence occurs on the "weaker" third beat (measure) of a four-bar hypermeasure. Whereas

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[22]Among the distinguished culprits are Donald Francis Tovey, *Companion to Beethoven's Pianoforte Sonatas* (London: Associated Board of the Royal Schools of Music, 1931); Heinrich Schenker, "Johann Sebastian Bach: Sechs Sonaten für Violine, Sonate III, Largo," *Das Meisterwerk in der Musik*, vol. 1 (München: Drei Masken Verlag, 1925), 63-73; Edward T. Cone, *Musical Form and Musical Performance* (New York: W. W. Norton, 1968); and Wallace Berry, *Musical Structure and Performance* (New Haven: Yale University Press, 1989).

[23]William Rothstein, *Phrase Rhythm in Tonal Music* (New York: Schirmer Books, 1989), 8.

Anton Paulik interprets it that way in a 1956 performance, Eugene Ormandy's 1966 recording places the strongest hypermetric accent on the cadence. Lester points out that the former promotes continuity with the following waltz (the energy of the cadence spills over into the next waltz), while the latter serves to separate the two waltzes (the second waltz "begins once again from a relatively low point of activity") (207).

Other examples point out alternatives by distinguished performers with respect to musical form and structure and to the relationship of voice leading to musical form. For Lester, the issues that these incompatible but musically motivated performances raise "have barely been broached, let alone resolved, in the sphere of performance" (207).

"Expression in Performance: Generativity, Perception, and Semiosis"

One scholar who has been exploring the issue of expression in experimental research of performance dynamics and timing is Eric Clarke. His examples are multiple performances, by two different pianists each time, of the Chopin Prelude in E minor, Op. 28, no. 4, and the Beethoven Bagatelle, WoO 60. The differences between performances by the same pianist, and the average differences between pianists, reflect often divergent analyses of form, as we have seen in Lester's example, but here the data on each performance is mapped with respect to precise details of dynamics and tempo (unlike the more informal surveys of performances by Cook and Rink).

My summary of the essay's theoretical claims will sacrifice detail in the interest of accessibility. The thrust of the article is that Peirce's semiotic theory (icon, index, symbol) can help ground an approach to expression in performance where generative approaches, integrated energy profiles, and narrative/dramatic analogies fail. Briefly, in Clarke's view, generative approaches assume that expression is detected as deviation from a norm, or more strongly, as deviation from the notated score; integrated energy profiles (associated with the work of

Neil Todd[24]), based on the hierarchical mapping (and synthesis) of changes in pitch, tempo, dynamics, articulation, timbre, and the like, yield energy frequencies that *directly* correspond to expression; and narrative and dramatic approaches emphasize differences of character, mood, and narrative—as opposed to structural implications—as primary bases for the expressive contrasts between performances. Each of these approaches is inadequate because it fails to address the "diversity and multiplicity of function" (26) of expressive nuances in performance. One way to address that diversity is to recognize that nuances can function iconically (as in the "direct relationship between the degree of slowing and the depth of hierarchical embedding" of segments), indexically (as in the "physical effort required to produce the music"), and more rarely for performance, symbolically (as in the characteristic features of an historical performance style) (27-28).

Clarke recognizes that even small nuances can have profound consequences for interpretation. Such nuances function not merely as directly energetic expressive events but as "clues" that enable us to reconstruct a performer's particular conception of the work's structure (whether or not the performer is able to explain that conception), as well as a range of characterizations, physical motions, narratives, and stylistic competencies (51). His experimental data of two pianists performing the Chopin lead him to the conclusion that

> an aggregation of local expressive details can have quite far-reaching effects in terms of the overall interpretation that is created. Each of these features has little or no impact in itself, but considered together, and in their specific contexts, they collectively point towards two distinct interpretations. This is something that none of the existing theories of expression can adequately handle: the small-scale changes have no systematic and pervasive relationship to the underlying structure, as a generative theory would predict, and they are too minimal in their energetic consequences to be able to change the global

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[24]Neil Todd, "The Auditory 'Primal Sketch': A Multiscale Model of Rhythmic Grouping," *Journal of New Music Research* 23, no. 1 (1994): 25-70.

energy distribution, as the energy flux approach would require. Rather, they constitute a relatively sparse collection of indicators which function as the clues for two different conceptions of the piece, not as their empirical determinants. (36)

While I applaud Clarke's reasons for grounding his expressive theory in semiotics, I find it odd that he downplays the role of the symbolic in performance nuance. The argument for nuances as clues for higher-level conceptions of the piece suggests that their function is more than is entailed by Clarke's conception of the iconic or indexical, as described earlier. Given their role in helping clarify for the listener a performer's conception of musical structure and form, they would qualify as conventional for the simple reason that they are mediating, and are mediated by, the processing and interpretation of stylistic conventions at a higher level. (I will claim below that gesture also has higher-level, symbolic consequences.)

The energetic flux approach is more purely indexical, in my view, and that is surely one of its limitations. I suspect Clarke would agree, since one of his criticisms of Todd's theory is that it "depend[s] on a directness between expressive sign and structural object which all but eliminates the fertile distance that semiotics celebrates" (51). The play of mediation between sign and object is a characteristic feature of the symbolic (and it also suggests Peirce's chain of interpretants that Clarke alludes to in his invocation of connotative meaning [28]). Indeed, that play is one reason why icons and indices are so rarely "pure."[25] Nevertheless, Clarke recognizes a "substrate" of directness between expressive sign and object that studies in performance, motion, and the involvement of the human body have recently been exploring. It is to a survey of these efforts that I now turn.

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[25]Umberto Eco, in fact, argues that iconic signs may rely on a (symbolic) convention of similarity, that iconism is not a single phenomenon, and that we would do better to avoid typologies of signs and instead consider modes of producing sign functions (*A Theory of Semiotics* [Bloomington: Indiana University Press, 1976], 191-217). I find it useful in this regard to speak of the iconic as one of several possible *motivations* for the creation or interpretation of a sign or signifying process.

"*Musical Motion and Performance: Theoretical and Empirical Perspectives*"

The pursuit of expressiveness in experiences of movement in music and performance motivates this essay by Patrick Shove and Bruno H. Repp. Their exhaustive survey of recent experimental and other literature on musical motion breaks down into four parts: "(1) the source of motion; (2) the organisation of motion; (3) the character, or quality, of motion; and (4) the listener's perception and response to motion" (55).

After considering proposals on how musical motion may be implied by rhythm or by pitch,[26] they conclude that not all changes in musical parameters constitute motion (*contra* Wallace Berry[27]). For example, a change in texture is not "ecologically" experienced as motion any more than is the change in texture on a car after a hailstorm (57-58).[28] The ecological perspective comes from the work of J. J. Gibson[29] and reflects a human constraint on our ability to perceive change at either end of the time scale as movement (we also cannot perceive the movement of molecules in stationary objects). The commitment to ecological motion leads the authors to the fundamental query "Why have so many theorists failed to acknowledge that musical movement

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[26]Notably Christopher Hasty's work on continuity and succession, "Rhythm in Post-Tonal Music: Preliminary Questions of Duration and Motion," *Journal of Music Theory* 25, no. 2 (1981): 183-216.

[27]Wallace Berry, *Structural Functions in Music* (Englewood Cliffs, NJ: Prentice-Hall, 1967), 8.

[28]Although one might argue that in certain styles (e.g., Stravinsky's) frequent changes of texture establish a rhythm that constitutes movement and that abrupt changes of texture may potentially be understood as implying the movement that would metaphorically underlie a shift of "scene."

[29]J. J. Gibson, *The Senses Considered as Perceptual Systems* (Boston: Houghton Mifflin, 1966), and *The Ecological Approach to Visual Perception* (Boston: Houghton Mifflin, 1979).

is, among other things, human movement?'' (58).[30] The consequences
of Gibson's theories of visual perception for movement research are
reviewed, with the pickup of relational invariants also being applicable
to hearing perception, as in the work of Runeson and Frykholm.[31] Their
principle, the Kinematic Specification of Dynamics, is that ''movements
specify their causes.''[32] As Shove and Repp clarify, ''the kinematic
properties of an ambient array . . . specify the dynamic factors of the
source that generated the movement pattern'' (63). They note that the
source need not be the performer, since the ambient information
transfers readily to an ''imagined musical object'' (63), and that ''forms
of music embody relational invariants specific to natural classes of
movement, including those symptomatic of human emotional states''
(64).

The authors turn next to the work of Eduard Sievers, Gustav
Becking, and Alexander Truslit,[33] three German pioneers in the
exploration of movement types, represented as curves, and applied to
composers or works (65-72). The curves are based, in Becking's case,
on approaches to gravity (''as something to be overcome, to adapt to,
or to be denied'' [69]) or, in Truslit's case, on musical dynamics and
timings found in the sound pattern itself (and represented by open,
closed, and winding curves that ''portray the melodic dynamics in
space, with the speed of movement and the consequent relative tension

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[30]The authors' footnote at this point is the only acknowledgement in the whole book
of Alexandra Pierce's work (see footnote 3), which I would agree is an exception to their
generalization.

[31]S. Runeson and G. Frykholm, ''Kinematic Specification of Gender and Gender
Expression,'' in *Event Cognition: An Ecological Perspective*, ed. V. McCabe and G. J.
Balzano (Hillsdale, NJ: Erlbaum), 259-73.

[32]Ibid., 262.

[33]Eduard Sievers, *Ziele und Wege der Schallanalyse* (Heidelberg: Carl Winters
Universitätsbuchhandlung, 1924); Gustav Becking, *Der musikalische Rhythmus als
Erkenntnisquelle* (Augsburg: Benno Filser, 1928); and Alexander Truslit, *Gestaltung und
Bewegung in der Musik* (Berlin-Lichterfelde: Chr. Friedrich Vieweg, 1938).

being governed mainly by the curvature of the motion path'' [71]).[34]

The classification of composers by Becking is reminiscent of more recent efforts by Manfred Clynes to specify composers' pulses as prototypical warpings of dynamics (amplitude) and timings for a typical measure. His recent study presents evidence that expert musicians (concert artists such as Ashkenazy and Badura-Skoda, as well as graduate students at Julliard and elsewhere) prefer the given composer's pulse over contrasting and ''inappropriate'' warps, when presented with computer-generated performances of the music of Haydn, Mozart, Beethoven, and Schubert.[35]

Clynes cites Becking as having first proposed the concept of the composer's pulse, and he faults Truslit for not appreciating Becking's work.[36] Shove and Repp note that Truslit's approach is closer to the ecological one they prefer and is a clear predecessor to the work of Neil Todd (mentioned in Clarke's article). They differ from Becking and Clynes in exploring not the microstructural level of approximately one-second pulses measured with finger motions but the several-second cycles of movements involving the whole body (75). In studying the ''expressive body sway'' of performers,[37] Todd notes, in the authors'

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[34]The process of deriving such curves from the sounding music is remarkably similar to Alexandra Pierce's exercise of ''contouring'' a melody; see ''Developing Schenkerian Hearing and Performance,'' 103-9.

[35]Manfred Clynes, ''Microstructural Musical Linguistics: Composers' Pulses Are Liked Most by the Best Musicians,'' *Cognition* 55 (1995): 269-310. Those who heard Clynes's demonstration of ''preferred'' computer-generated performances during the evening session, ''Musical Microstructure in Expressive Performance,'' at the 1995 Society for Music Theory conference in New York may recognize that there is an enormous difference between preferring one stereotyped warping over another and choosing to replicate that warping for every measure of a work!

[36]Ibid., 275.

[37]Neil Todd, ''Music and Motion: A Personal View,'' in *Proceedings of the Fourth Rhythm Workshop: Rhythm Perception and Production* (Bourges: Imprimerie Municipale, 1992), 123-28; and ''Vestibular Feedback in Musical Performance: Response to *Somatosensory Feedback in Musical Performance* (ed. Sundberg and Verrillo),'' *Music Perception* 10, no. 3 (1993): 379-82.

words, that "pianists' head movements are synchronised with expressive tempo fluctuations in the music, such that tempo minima coincide with turning points in the head movement" (76). It is tempting to speculate, along with Todd, Shove, and Repp, that expressive variations in timing and dynamics represent the performer's motion and that the listener may interpret that motion bodily (whether actually or in the imagination) (76-77).

Another experiment of Todd's might be seen to lend support to Furtwängler's tempo gradients (see discussion of Cook's essay, above).[38] Todd found that listeners prefer "alternating phases of constant acceleration and deceleration, one cycle typically corresponding to a musical group or gesture" (77). Since this constancy of either acceleration or deceleration is characteristic of other human forms of motion, the connection with the perception of motion is tempting to make (77).

One other field of research must be mentioned in this brief survey of a survey. The work of Paolo Viviani and his collaborators has demonstrated interesting constraints on human motion that may have applicability to musical motion.[39] Apparently, when drawing an ellipse in a single movement, the hand/arm moves faster over the flat parts and slower around the sharper curves, and the rate of change can be expressed as "a power function of trajectory curvature" (78)—in other words, there is a natural constraint that determines changes in speed. Furthermore, a point of light tracing an elliptical pattern is easier to track and is seen to be moving at a constant velocity only if the velocity is governed by that power function; ironically, tracing at a constant

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[38]Idem, "The Dynamics of Dynamics: A Model of Musical Expression," *Journal of the Acoustical Society of America* 91, no. 6 (1992): 3540-50; and "The Kinematics of Musical Expression," *Journal of the Acoustical Society of America* 97, no. 3 (1995): 1940-49.

[39]For overviews, see Paolo Viviani, "Common Factors in the Control of Free and Constrained Movements," in *Attention and Performance XII*, ed. M. Jeannerod (Hillsdale, NJ: Erlbaum, 1990), 345-73; and P. Viviani and G. Laissard, "Timing Control in Motor Sequences," in *The Development of Timing Control and Temporal Organization in Coordinated Action* (Amsterdam: Elsevier, 1991), 1-36.

velocity is perceived as changing in speed (78).[40] Thus, there are measurable biological constraints on human motion, which may help ensure the interpretation of motion by a similarly attuned perceptual system. As Shove and Repp point out, this scientific evidence may support Truslit's results:

> What Truslit evidently did was to convert the velocity information available in the temporal and dynamic microstructure of music into arm movements with a matching spatial trajectory whose direction also took the melodic pitch contour into account. (78)

What scientific evidence cannot do, however, is specify the artistic or stylistic constraints by which we modify performance beyond the biological level. Nevertheless, the movement studies cited by Shove and Repp are remarkable in their support of the authors' thesis: that we need to consider much more seriously the contributions of human movement to musical motion. If the human perceptual system is so highly attuned to the specifics of the human motion system, then that has obvious ramifications for performance, as well as for perception. We may come to realize the extent to which "embodiment" of musical meaning is not only a cognitive metaphor but a direct engagement of the body in the production and interpretation of a highly organized musical signal. We may also find ourselves examining the consequences of musical gesture as a richly-formed *Gestalt* that cannot be simply built up or unpacked according to our music-theoretical separations of its component parts (metric placement, rhythm, accent, articulation, dynamics, timing, voice-leading implications, topical character, etc.). What might be the consequences of such a radical reorientation for music theory and its analytical systems? And how might performances conceived from this direction negotiate traditional analytical values to achieve the synthesis and the magic that Rothstein champions?

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[40]P. Viviani and N. Stucchi, "Biological Movements Look Uniform: Evidence of Motor-Perceptual Interactions," *Journal of Experimental Psychology: Human Perception and Performance* 18, no. 3 (1992): 603-23.

Will we find new grounding for claims of musical affective meaning from the perspective of biological constraints and universals pertaining to movement and perception? I suspect so, and yet I would not like to see movement and gesture relegated to a "substrate" position based on their presumed "directness" of meaning. Eric Clarke's studies demonstrate the power of tiny nuances to reflect major structural organization, and as I argued above, the semiotic significance of movement is already quite symbolic to the extent that a rhetorical or structural function is involved.[41] This is a very different situation from the mindless reiteration of a composer's pulse, which at best conveys an attitude, or stance, and does not flex to provide for the subtle needs of expressive performance, at least in the sense Clarke is exploring. Likewise, opening or thematic gestures may contain whole worlds, with implications for the character of a whole work that are gradually explored, even independently of the typical pitch/rhythmic content analyzed by traditional motivic approaches.[42]

That our brains can cognitively represent and categorize movements means that we can thematize them and play with them in aesthetic contexts. The artistic "capturing" or "marking" of movement is part of what we mean by artistic gesture,[43] which may provide a different rationale for those performance movements considered by Lester as expressive nuances beyond the "indisputable" content of a work, or by Clarke as primarily clues to the performer's conception of the work's structure. Thus, one of the foundational tasks facing performance studies is the teasing out of the varieties of musical movement and the multiple functions attributable to each. This issue goes far beyond performance studies, however, as it exposes one of the lacunae in the discipline of music theory itself. What we deem to be analytically

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[41]That movements may become symbolic is a point David Lidov makes in his important article "Mind and Body in Music," *Semiotica* 66, no. 1 (1987): 69-97.

[42]I consider such an example in "Schubert the Progressive: The Role of Resonance and Gesture in the Piano Sonata in A, D. 959," *Intégral* 7 (1993): 38-81.

[43]As David Lidov points out in "The Discourse of Gesture," a paper delivered to the 1993 national meeting of the Semiotic Society of America in St. Louis.

relevant to a listener, even how we conceive of musical meaning, must take into account the contribution of musical gesture as marked movement. Human motion, then, may be seen as relevant not merely for performance but also for our affective and analytical representations of music itself.

Afterword

A few remarks about the organization of this book are in order before I close. Each essay has its own bibliography, which I find more helpful than an omnibus bibliography in the back, especially for the more scientific articles, since more numerous reference lists are not scattered among entries in a general bibliography. The author-date citation used is becoming standard practice, and it helps enormously by reducing the number of footnotes (which are conveniently provided at the bottom of the page). I would encourage more music journals and books to adopt this practice, and also to insist on a list of references at the end of each article so they need not be laboriously extracted from the notes. Although there is an index of names, an index of concepts is unfortunately not included. The authors occasionally cross-reference one another, and Rink's excellent preface features capsule summaries of each essay, with cross references for a few points made by more than one author, but the reader will have difficulty tracking down every discussion of a given issue or concept. This is a shame, considering the fruitful overlaps that do occur (only a few of which I've had opportunity to highlight in my review). In every other respect, the book is a handsome production.