

# Music Theory Society of New York State

## Annual Meeting

Eastman School of Music  
Rochester, NY

**3–4 April 2004**

### PROGRAM

#### Friday, 2 April

8:00 pm Eastman Opera Theatre presents Carlisle Floyd's *Susannah* (tickets \$15)

#### Saturday, 3 April

8:00–9:00 am Registration — Main Hall of the Eastman School of Music

9:00 am–12:00 pm [19th-Century Analysis](#)

9:00–11:15 am [20th-Century Theory and Analysis](#)

11:30am–12:30 pm [Poster Session](#)

12:00–1:30 pm Lunch

1:30–2:45 pm Keynote Address  
Harry Powers

2:45–5:00 pm [Schenker](#)

2:45–5:00 pm [Schoenberg](#)

5:00 pm Business Meeting

6:00 pm Reception and Banquet

8:00 pm Eastman Opera Theatre presents Carlisle Floyd's *Susannah* (tickets \$15)

#### Sunday, 4 April

8:00–9:00 am MTSNYS Board Meeting

8:30–9:00 am Registration

9:00–12:00 pm [Sonata and Concerto](#)

9:00–12:00 pm [History of Theory](#)

12:00–1:30 pm Lunch

1:30–3:00 pm [Popular Music](#)

1:30–3:00 pm [Theories of Music](#)

2:00 pm Eastman Opera Theatre presents Carlisle Floyd's *Susannah* (tickets \$15)

**Local Arrangements:** William Marvin

**Program Committee:** Eric McKee, chair (Penn State University), Mary I. Arlin (Ithaca College), David Cohen (Columbia University), Joel Galand (Eastman School of Music), Catherine Losada (CUNY Graduate Center), and William Rothstein (Queens College and Graduate Center, CUNY)

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## Nineteen-Century Analysis

Chair: Mary I. Arlin (Ithaca College)

- [An Improbable Intertwining: An Analysis of Schumann's \*Kreisleriana\* with Recommendations for Piano Practice](#)  
Norman Carey (Eastman School of Music)
- [The \*Grundgestalt\* Redefined: What a New Model of Structure Can and Cannot Tell Us About Brahms's Capriccio, op. 76, no. 5](#)  
Brent Auerbach (Eastman School of Music)
- [Of Skeins and Sketches: Tovey's "Nervous System" and Brahms's \*Haydn Variations\*, op. 56b](#)  
David Pacun (Ithaca College)
- [Metric Dissonance in the Second Movement of Brahms's Piano Trio, op. 101](#)  
Ryan McClelland (Indiana University)

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#### **“An Improbable Intertwining: An Analysis of Schumann's *Kreisleriana* with Recommendations for Piano Practice”** **Norman Carey (Eastman School of Music)**

Schumann's lyrically dissonant counterpoint is explored in the first two movements of *Kreisleriana*, Op. 16. Composed in 1838, the *Kreisleriana* is an exemplar of Schumann's empathy for and kinship with the foundations of German Romanticism. Schenkerian voice-leading graphs will reveal a use of chromaticism *in extremis*, as well as rhythmic disruptions of an extraordinary nature. The work poses unique problems for the musical analyst and to the pianist/interpreter. A close reading of the opening of the first movement reveals that the four melodic strands of the highly figured texture necessitate a highly individualized polyphonic piano technique. This opens a discussion into performance and analysis issues, particularly, the art of transforming analytical understanding into manual motion. Whereas Schumann's works are acknowledged as belonging to the virtuoso tradition of the nineteenth century, in many respects they are not "pianistic" in the usual sense. (Several editors, notably Harold Bauer, have injudiciously rewritten, or revoiced the music in an attempt to smooth it out somewhat.) Nevertheless, as I will show, a suitably graceful technique can be achieved with the help of a sufficiently informed analysis.

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#### **“The *Grundgestalt* Refined: What a New Model of the Structure Can and Cannot Tell Us about Brahms's Capriccio, op. 76, no. 5”** **Brent Auerbach (Eastman School of Music)**

In addition to his fame as a composer, Schoenberg is well-known for his method of analyzing music wherein one explains all developments in a piece as outgrowths of its opening material. Given this empirical, individualistic, and compositionally-inspired approach to analysis, it is perhaps fitting that Schoenberg placed few terminological constraints on the "Grundgestalt," the word he coined to

encapsulate that opening material. A fluid or vague definition of this word may have worked for Schoenberg, but it has caused problems for modern analysts. Those interested in exploring a work's linear organicism by means of the *Grundgestalt* have had to cobble together non-generalizable definitions of the term and to rely awkwardly on associative analysis (i.e., selective highlighting of pitches; loosely-aligned staves) for showing findings.

This paper will advance ideas concerning the proper form and use of a *Grundgestalt*. I begin with a discussion of a model proposed by Patricia Carpenter recognizing the *Grundgestalt* as a three-voice polyphonic complex. Using Brahms's op. 76, no. 5, I extend her model by increasing the duration of an acceptable *Grundgestalt* and by building in a means to capture a piece's rhythmic, harmonic, contrapuntal, and contour content. I will then show how an expanded *Grundgestalt* leads to a deeper understanding of some aspects of the Capriccio – notably its motivic and rhythmic/metric narratives – but at the same time leaves issues of form and harmonic structure unaccounted for in analysis.

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## **“Of Skeins and Sketches: Tovey’s ‘Nervous System’ and Brahms’s Haydn Variations, opus 56b”**

**David Pacun (Ithaca College)**

This paper explores how certain anomalies in Brahms's sketch material for the Haydn Variations may pertain to the work's complex network of motivic relationships, what Tovey once called “a nervous system of melodic connections.” Specifically, the sketches suggest that Brahms drafted variations 3 and 8 and iterations 1-9 in the passacaglia concurrently. The paper thus examines how common motives unite these, in the work's final form, disparate events and in turn how these relationships pertain to Brahms's decision to conclude the variations with a passacaglia that would ultimately cycle back to the theme. As befits the nature of the sketch material, the conclusions offered will be tentative. Yet it is hoped that the analytical results will prove substantive enough to stimulate further study and investigation.

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## **“Metric Dissonance in the Second Movement of Brahms’s Piano Trio, Op. 101”**

**Ryan McClelland (Indiana University)**

In *Brahms Studies* 3 (2001), Peter Smith explores motivic-metric process in the opening movements of the Horn Trio, Op. 40, and the Clarinet Trio, Op. 114, and discovers significant relationships among metric displacement, tonal organization, and formal design. In each of these movements, the concluding section provides substantial, if not complete, resolution of previous metric dissonances. Brahms's oeuvre contains many similar trajectories from motivic-metric instability to stability; probably the most celebrated one involves the opening neighbor-note motive from the first movement of the Second Symphony. The analytical literature on Brahms's instrumental music has comparatively little discussion of dissonances that do not resolve within a movement.

This paper will explore such metric dissonances in the second movement of the Piano Trio in C Minor, Op. 101. The paper will demonstrate that the second movement of Op. 101 sets metric periodicity in continual opposition against the metric placement of the movement's opening motive. This conflict results in either frequent reinterpretation of the motive's metric identity or in metric irregularities not only at the level of hypermeter but often at the level of the tactus. These conflicts create the possibility of radical discontinuities in the meter, and temporal disjunction becomes a defining feature of the movement. The metric conflicts remain unresolved at the end of the movement, and this supports the movement's role as a spectral interlude between the stormy first movement and folk-inspired slow movement of Op. 101.

## Twentieth-Century Theory and Analysis

**Chair: David Headlam (Eastman School of Music)**

- [Bruno Maderna's Serial Arrays](#)  
Christoph Niedhöfer (McGill University)
- [The Neighbor Space: A Model of Harmonic Embellishment in Twentieth-Century Neotonal Music](#)  
Peter Silberman (Eastman School of Music)
- [Stravinsky's Harmonic Practice and the Guidonian Space](#)  
José António Martins (University of Chicago)

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#### **“Bruno Maderna’s Serial Arrays” Christoph Neidhöfer (McGill University)**

Many of the compositional devices found in the music of Bruno Maderna (1920-1973) from the early 1950s are mechanistic in nature, yet his works project highly dynamic and lyrical textures. As the sketch materials for the works from the period document, Maderna’s compositional techniques incorporated multi-layered processes of serial construction and permutation. Whereas these were based on automatic procedures, it is the imagination and flexibility with which Maderna integrated them in his music that renders it so powerfully expressive. This paper presents an overview of Maderna’s serial arrays that lie at the core of his music written between 1950 and 1955, during which time his compositional technique first reached its maturity. The paper documents how Maderna generated his various tone rows (twelve-tone, eleven-tone, diatonic) and shows the ways in which the pitch classes of each series were subjected to a process of order permutations, represented graphically by matrices that tabulate order positions and pitch class space. The paper further documents how some of these matrices served as the source for Maderna’s rhythmic organization, usually in combination with additional transformational processes. The study concludes with a look at Maderna’s construction of form in the light of his serial procedures.

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#### **“The Neighbor Space: A Model of Harmonic Embellishment in Twentieth-Century Neotonal Music” Peter Silberman (Eastman School of Music)**

Twentieth-century neotonal music, for example many of the works of Bartók, Britten, Copland, Hindemith, Prokofiev, Stravinsky, and others, has been problematic for music analysts. In particular, it is difficult to represent accurately harmonic embellishment in this repertoire. In tonal music clear distinctions exist between embellished and embellishing sonorities. Embellished sonorities are always triads or seventh chords, while embellishing sonorities may not be. In instances in which consonant chords are embellished by other consonant chords, the embellishing chords have a lower status in the tonal hierarchy than the embellished chords. These distinctions do not always exist in neotonal works,

in which structural sonorities are not always made of stacked thirds, and the pitch hierarchy may not be the same as that in common practice tonality.

This paper will present a model for analyzing harmonic embellishment, the neighbor space, that is flexible enough to be used with a wide variety of verticalities and tonal hierarchies. A neighbor space is a set of characteristics describing how neighboring motion occurs during a given musical passage. The four characteristics of any neighbor space describe its space-type (pitch or pitch-class), scalar collection, distance between neighbor notes and notes they embellish, and the set-class of the embellished harmony. Distinctions between embellished and embellishing sonorities are made by the use of contextual stability, which is stability created by some salient surface feature of the music, such as duration, metric placement, dynamic accent, etc. This paper will show examples of neighbor spaces from the works of various composers, and will present analyses of complete works by Bartók and Tippett.

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## **“Stravinsky's Harmonic Practice and the Guidonian Space”**

### **José António Martins (University of Chicago)**

Recently, Dmitri Tymoczko has questioned the explanatory power of octatonicism to integrate Stravinsky's chromaticism within a prevalent diatonic-invoking surface. Tymoczko argues that passages can be related to the octatonic as easily as to other referential collections, and that larger pitch collections can sometimes best be heard as superimpositions of scale segments. Such contentions open up the possibility for other pitch relationships to emerge, especially where superimposed and juxtaposed diatonic segments equally resist octatonicism and tonal interpretations, as is the case of the outer movements of Stravinsky's *Serenade in A*. This paper advances the notion that scalar segments can be conceived without invoking the entire associated scales and their traditional labeling system; and that instead, segments become specified locations within the Guidonian space, a pc framework that integrates all diatonic phenomena. This framework is specially suited to model the harmonic practice prevalent in the "Hymne" of the *Serenade en La*: pitch configurations traditionally thought of as fusion of diatonic scales; common-tone relationships between collections, which are sharply contrasting, but not easily explainable through traditional notions of modulation; and large-scale syntactical motions which, while returning to a collection, lack a theoretical framework -whether tonal or set theoretical- to trace and measure that motion.

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## **Poster Session**

### **Schenker and the Metaphors of Analysis: New Modes of Presentation Damon Sink (University of Dayton)**

Rich media (that is, interactive multimedia) has a substantial power to put across theoretical concepts as well as innovative analyses. In the realm of Schenkerian analysis, it provides the theorist with a tool to present the parts “in between” specific stages or nodes of the traditional analytical result. The session will offer practical, even hands-on demonstrations of rich media techniques that address some of the problematics of analysis.

Synchronically we can employ multimedia to represent reductive stages with animated transparency. An analysis that presents reductive stages immediately posterior (on the third-dimensional z-axis) to higher levels and animates the transformation in that same representational space is a more compelling communication of Schenker’s thought than his own static, printed analyses could ever be. Diachronically, multimedia affords the analyst the to represent changes in perceived structure through an evolving experience of a piece in real time. Our “hearing” of a passage is often not satisfactorily represented by a static graph; that is, musical gestures heard one way, initially, may be found, in retrospect, to have a different perceived structure. An analytic treatment that unfolds in real time can show these kinds of structural shifts.

The session will also include some analytical scenes from a larger treatment of a Mozart string quintet. Some examples demonstrating the readiness of this methodology to support Schenker pedagogy may also be offered.

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# Schenker

**Chair: William Rothstein (Queens College and Graduate Center, CUNY)**

- [Schenker's 'Free Forms of Interruption.' and the Strict: Toward a General theory of interruption](#)  
Frank Samarotto (Indiana University)
- [Verborgene Wiederholungen? Schenker's \(Hidden?\) Influence in America before Hans Weisse and the Mannes Vanguard](#)  
David Carson Berry (University of Cincinnati, College-Conservatory of Music)
- [Adding a Schenkerian Understanding to the Role of Multiple New-Key Themes in Sonata Exposition](#)  
Jan Miyake (Oberlin College Conservatory)

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### **“Schenker’s ‘Free Forms of Interruption,’ and the Strict: Toward a General Theory of Interruption”**

**Frank Samarotto (Indiana University, Bloomington)**

Schenker’s concept of interruption (Unterbrechung) was one of the last to be added to the central body of theory as represented in *Der freie Satz* and it remains indispensable to understanding the relationship of voice-leading structure (by nature continuous) and formal design (often brought about by surface articulation and repetition). Nonetheless, interruption remains widely regarded as inherently problematic and even contradictory. Peter H. Smith has characterized the issue as a conflict between what he calls Type-1 and Type-2 derivations, which would seem to be inherently incompatible. To put the problem succinctly, which of the two 3<sup>^</sup>–2<sup>^</sup>s is the main one belonging to the deepest level? This paper will propose a perspective in which the apparent contradiction is made intelligible by being placed within a spectrum of freer interruption types, possibilities explicitly noted by Schenker but little recognized in current theory. It will demonstrate a possible origin for the concept of free interruption, and show how it is conceptually prior to the commonly recognized strict forms, suggesting that these freer forms of interruption may have served as the basis for the strict sense of interruption. Finally, a generalized concept of interruption will be shown to provide a wider variety of analytical tools for synthesizing voice leading and articulative design.

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### **“Verborgene Wiederholungen? Schenker's (Hidden?) Influence in America before Hans Weisse and the Mannes Vanguard”**

**David Carson Berry (University of Cincinnati, College-Conservatory of Music)**

It is widely held that Schenkerian ideas first began to spread in the U.S. in late 1931, when Schenker's student Hans Weisse arrived to teach at New York's Mannes Music School. However, unexplored testimonies suggest an earlier infusion. In a 1927 letter, Schenker himself affirmed that his ideas were circulating in New York. In an early 1932 article, Irving Kolodin declared that he learned of Schenker from George Wedge, whom he characterized as "a pioneer" in Schenker's work in America. These remarks indicate that a degree of Schenkerian activity existed earlier than and independent of Weisse's work. This is an important revelation, as it alters received notions of how Schenkerian ideas first began to take root here.

I explore these early activities through an examination of archive materials and obscure published essays. The roles of various Americans are investigated, with a principal focus on two: the aforementioned Wedge, and Carl Bricken, who had studied piano with Weisse in Vienna, in the 1920s. Their analytic approaches borrowed from Schenker's own; however, as Schenker was not named in their publications, his influence remained hidden to most. Nevertheless, they pushed beyond a more "verticalist" interpretation of music toward a more flowing, linear conception. Accordingly, they helped set the stage for the later, overt promotion of Schenker's ideas by Weisse and others.

In sum, this study cultivates an expanded awareness of the range of early influences Schenker's ideas may have had in the U.S.

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## **Adding a Schenkerian Understanding to the Role of Multiple New-Key Themes in Sonata Expositions**

**Jan Miyake (Oberlin College Conservatory)**

This paper adds a Schenkerian viewpoint to current scholarship on the role of multiple themes in the new-key area of sonata-form expositions. Recent theories of form view the distinction between subordinate themes and closing themes in fundamentally different ways. William Caplin does not separate closing themes and subordinate themes into different theme-types. In his view, a closing theme is either a second subordinate theme or is a part of a chain of codettas in the closing section. James Hepokoski and Warren Darcy, on the other hand, invoke the idea of the essential expositional close (EEC)—usually the first perfect authentic cadence in the new-key area—to separate subordinate and closing themes. New-key themes occurring before and after the EEC are subordinate and closing themes, respectively. Schenkerian analysis, a third perspective, can inform and find common ground between these two viewpoints. This paper explores possible reasons for multiple fifth-progressions in the new-key area and integrates these explanations with both Caplin's theory of formal functions and Hepokoski and Darcy's Sonata Theory. An examination of Classical-period, major-key symphonic expositions with multiple new-key themes reveals three rationales: (1) addressing a detour within the new-key area to the minor mode; (2) responding to a problematic cadence at the subordinate theme's conclusion; and (3) completing a linear descent in the register opened up by the medial caesura.

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## Schoenberg

**Chair: Severine Neff (University of North Carolina—Chapel Hill)**

- [A Binary-State GIS Models a Contour Motive That Helps Chords Talk Long-Distance in Schoenberg's op. 11, no. 2](#)  
Joshua Mailman (Eastman School of Music)
- [Transposition Schemes in Selected Works of Schoenberg](#)  
Mark Sallmen (University of Toronto)
- [Schoenberg's \*Gedanke\* Manuscripts: The Theoretical Explanation of His Twelve-Tone Method?](#)  
Charlotte Cross (New York)

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#### **“A Binary-State GIS Models a Contour Motive That Helps Chords Talk Long-Distance in Schoenberg's Op.11, no. 2”** **Joshua Mailman (Eastman School of Music)**

This paper explores the use of melodic contour analysis to relate non-adjacent chords in Schoenberg's Op.11, no. 2. Though this analytical model uses pcset theory to associate chords, it does not use pcset analysis as a primary criterion for segmentation. Furthermore, the model asserts a type of hierarchy that is unusual for pcset analysis—and does so without invoking notions of atonal prolongation. This approach to Op.11, no. 2 constitutes an example of a more general Representational Hierarchy Associational Model (RHAM), that is also proposed and defined.

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#### **“Schoenberg's *Gedanke* Manuscripts: The Theoretical Explanation of His Twelve-Tone Method?”** **Charlotte Cross (New York, New York)**

Schoenberg's theoretical project on the "musikalische Gedanke" is concerned primarily with tonal music. The connection of his twelve-tone method with his general theory is tentative. Patricia Carpenter and Severine Neff interpret Schoenberg's treatment of his twelve-tone method in his *Gedanke* manuscripts as aiding him in formulating his theory of the musical idea. I shall argue that, contrary to appearances, Schoenberg's 'Gedanke' manuscripts may actually represent his attempts to explain his twelve-tone method.

Comments Schoenberg made about his 'Gedanke' project and five unpublished 'Gedanke' manuscripts will be examined. Schoenberg's comments reveal that by 1934 he was working on a theory of his twelve-tone method and that the underpinnings of this theory were contained in "Der

musikalische Gedanke und seine Darstellung." Three 'Gedanke' manuscripts from 1925 will be shown to be the execution of the theoretical task Schoenberg had set in connection with twelve-tone music in 1923: "to find the form in which the laws of the earlier art can be applied to the new." Two other Gedanke manuscripts treat metaphysical aspects of the musical idea: how an immaterial idea pervades a musical structure, the problem of creation, and the idea's eternal nature. Schoenberg's incorporation of versions of these ideas into his 1941 essay "Composition with Twelve-Tones" supports my position that these manuscripts are part of Schoenberg's attempts to explain his twelve-tone method.

This re-interpretation of Schoenberg's Gedanke project calls for a re-assessment of its position in the history of theory.

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## **Transposition Schemes in Selected Works of Schoenberg**

### **Mark Sallmen (University of Toronto)**

The paper takes as a starting point David Lewin's story of the "falling ninth" motif in Schoenberg's Piano Piece, Op. 19, No. 6. The gist is that the network of intervals  $-5$  then  $-9$  (overall  $-14$ ) appears twice. It can be heard within the initial chord and then it governs the transposition of the falling ninth motif over much of the rest of the piece—and so with one penetrating insight the relationship of detail to large-scale structure becomes clear. This paper develops interpretations of other works by Schoenberg based on Lewin's analytic model, adapting it as needed to suit various contexts. For example, instead of directed pitch intervals such as "falling ninths" and a network of intervals ( $-5$  then  $-9$  overall  $-14$ ), the analysis of Op. 19, No. 2 studies interval classes represented as two-pc set-types [03] and [04] and the series of pitch-class transformations T4–T6–T11 in order to elucidate large-scale structure. Other kinds of adaptations include the consideration of sets larger than dyads (both ordered and unordered), more than two levels of structure, and passages shorter than an entire piece. In addition to Op. 19, No. 2, the paper deals with No. 4 from the same set of pieces, as well as excerpts from Op. 11, No. 1, and "O alter Duft" from *Pierrot Lunaire*.

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## Sonata and Concerto

### Chair: Joel Galand (Eastman School of Music)

- [New Twists for Old Endings: Cadenza and Apotheosis in the Romantic Piano Concerto](#)  
Robert Gauldin (Eastman School of Music)
- [Transitional Parallels in Uninterrupted Sonata Types: Schubert and Beyond](#)  
Boyd Pomeroy (Georgia State University)
- [Design or Structure: Thematic Hierarchy and Sonata Form Exposition](#)  
Reuven Naveh (Hebrew University of Jerusalem)
- [Key Structure in Schubert's Sonata Forms: An Evolution Toward Integration](#)  
Gordon Sly (Michigan State University)

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#### **“New Twists for Old Endings: Cadenza and Apotheosis in the Romantic Piano Concerto”**

##### **Robert Gauldin (Eastman School of Music)**

Despite the renewal of interest in nineteenth-century music, the Romantic concerto has remained a neglected topic. The is paper examines one particular aspect of this genre—the establishment of the stereotypical paradigms employed to *conclude* the first and last movements of the Classical piano concertos and the ways they underwent subsequent modification in Beethoven and later Romantic composers. While during the nineteenth century the final section of first movements concentrated on the evolving tonal role of the "cadenza as tonal interruption" within the last tonic tutti (or T4) and the nature of the *forte* coda immediately *following* the cadenza, the conclusions of their finales gave rise to a new procedure that I will entitle the *secondary-thematic apotheosis*. In addition to Beethoven's last three piano concertos, selected portions of five familiar Romantic pieces in the same medium will be examined: The Schumann A minor, the Grieg A minor, the Tchaikovsky B-flat minor, and the Rachmaninoff C minor and D minor. A chronological examination of these works reveals a continuous line of evolution and mutual influence, both as regards both the first movement cadenza and the last movement apotheosis.

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#### **“Transpositional Parallels in Uninterrupted Sonata Types: Schubert and Beyond”**

##### **Boyd Pomeroy (Georgia State University)**

This paper considers various aspects of the “parallel sonata form,” in which the exposition’s modulation is transpositionally replicated in the recapitulation—thus preserving, rather than resolving, the exposition’s essential tonal duality. Three angles are relevant here: First, from a Schenkerian perspective parallel sonatas do not fit the interruption paradigm (since the recapitulation will begin off-tonic), hence must be read as uninterrupted: whether a 3-, 5-, or 8-line will depend on the exposition’s

tonal type (P–S relation) together with the transpositional relationship between exposition and recapitulation. Second, such structures constitute “sonata deformations” in Hepokoski’s sense, as extreme departures from generic norms/defaults. Third, from a historical perspective certain parallel practices pioneered by Schubert can be viewed as prototypical, subject to creative extension and transformation by later composers.

While Schubert’s penchant for one particular parallel scheme, the subdominant recapitulation, has often been remarked on, his more adventurous alternatives—such as the dominant recapitulation—have been little analyzed. Schubert’s realization of the scheme’s varied potential hinged on his innovation of the “late-resolving” exposition or recapitulation, illustrated here by two symphonic movements. Later nineteenth-century options included (1) the compositional “problematization” of historically familiar parallel procedures (such as the subdominant recapitulation), as justification for their continued use; and (2) further extensions of Schubert’s innovative procedures—in chromatic scope, range of transpositional options, or (from the “late-resolving” recapitulation) deferral of tonal resolution outside of “sonata space” altogether. These possibilities are illustrated by concerto movements of Schumann and Rachmaninov.

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## **“Design or Structure: Thematic Hierarchy and Sonata Form Exposition”**

**Reuven Naveh (Hebrew University of Jerusalem)**

While hierarchic analysis has become a main tool in theories of tonal structure, rhythm and harmony, one field in which the hierarchic aspect of analysis seems to be absent is the thematic field. This paper presents X-bar theory, a syntactic theory from the field of generative grammar, and develops from it a hierarchic theory for thematic organization in music. The theory’s explanatory possibilities are used to investigate the structure of the classical sonata form exposition and the exposition’s inner sections, with examples drawn from Scarlatti, C. P. E. Bach, Mozart, Haydn, Beethoven, and Schubert. Several topics are discussed, such as the general structure of the exposition, the definition of functions such as first theme, second theme, and closing section, and the crucial role of transitive elements. Terms from the original X-bar theory, such as head, arguments, and adjuncts, are used to define parts of the musical exposition. In particular transitions and other passages within the exposition are viewed as heads of the larger sections, thus being treated as fundamental parts within those sections, and not merely as passing events between more important ones. The notion of three-key exposition is discussed in order to explore the various structural explanations of such an exposition. Therefore, it is not that the thematic level belongs to the “design,” but rather that both design and structure are already apparent at the thematic level.

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## **“Key and Structure in Schubert’s Sonata Forms: An Evolution Toward Integration”**

**Gordon Sly**

Salient among Schubert’s compositional attributes is an acute sensitivity to intervallic and modal relationships among key areas and the architectural balance of their deployment. It is widely considered that while this sensitivity enriches his Lieder and instrumental miniatures, it weakens his command of sonata form. His penchant for carrying the modulation scheme of the exposition into the recapitulation such that the tonic serves as goal, rather than source, of that section’s tonal motion, gives rise to the off-tonic recapitulation. This undermines the articulative strength of the return, and in turn compromises the divided structure and the dramatic power that attaches to it.

Schubert was very much aware of the weakening effect his tonal adventures were having on the formal stability of his sonatas, which may account for a six-year virtual hiatus from sonata-form composition. When he returned to the form in the last years of his life, though thematic returns continue to be carried by non-tonic degrees, basic changes in his tonal designs that allow the divided voice-leading structure to unfold became constant.

This paper considers the evolving coexistence of Schubert's conflicting impulses, one toward novel overarching key schemes, the other toward the tonic-dominant anchored contrapuntal-harmonic structure that defined the form he had inherited. The ongoing tension between the two seemingly incompatible recapitulation procedures that flows from these impulses progresses through a number of forms, from incongruity to concatenation and eventually to integration or synthesis.

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# History of Theory

## Chair: David Cohen (Columbia University)

- [John Hothby — Innovator: The Solmization System of \*La Calliopea legale\*](#)  
Sigrun B. Heinzelmann (University of Massachusetts–Amherst)
- [On the History of Musical Verticality](#)  
Arnie Cox (Oberlin College Conservatory)
- [Dynamics and Dissonance: The Implied Harmonic Theory of J. J. Quantz](#)  
Evan Jones (Florida State University)
- [The Functional Scale Degree: From Unwritten Concept to Its Realization as Important Factor for Determining Functional Harmonic Progressions](#)  
Thomas Cody (Penn State University)

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#### **“John Hothby—Innovator: The Solmization System of *La Calliopea legale*” Sigrun B. Heinzelmann (University of Massachusetts–Amherst)**

(John Hothby (ca. 1410–1487), often regarded as a conservative theorist because of his support for Pythagorean tuning and Guidonian solmization, can in fact be credited with important conceptual innovations that greatly expanded the medieval pitch system. These include (a) the first systematic 17-step gamut, (b) a system of 12 hexachords allowing for the solmization of all 17 pitches, and (c) the classification of B $\flat$  with other flats rather than as an essential note of the Guidonian *musica recta*.

In *La Calliopea legale*, Hothby presents the complete gamut of pitches that may be derived through chromatic extensions of the Guidonian hand without redundancy. Hothby's expansion of the gamut, hexachordal solmization and mutation offers a groundbreaking theoretical and pedagogical response to the increasingly chromatic music of the late 15th century. However, these innovations have largely been overlooked because Hothby's idiosyncratic pitch nomenclature is difficult to understand. Once the basis of his reasoning is understood, the system's inherent logic becomes clear.

Hothby's basic set of pitches consists of the seven notes of the Guidonian gamut, excluding B $\flat$ . He derives additional pitches (our modern “sharps” and “flats”) by dividing each diatonic whole-step into two pairs of unequal semitones, the Pythagorean *limma* and *apothome*.

Karol Berger explains Hothby's system as moving toward conceptualizing pitches in terms of the keyboard rather than of Guidonian solmization. In fact, Hothby's system is based on the Pythagorean monochord and Guidonian solmization. Its orientation is aural, not visual.

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#### **“On the History of Musical Verticality” Arnie Cox (Oberlin College Conservatory)**

It has been argued that the metaphoric concept of verticality in music (in the West) originated with the development of staff notation, but this paper presents evidence that tells a different story. Atkinson (1995) traces the development of staff notation back to the accent signs of Donatus, but a conceptualization of vocal sounds in terms of verticality, consistent with our modern conception, emerges prior to that in Ancient Greece: in the explicit reference to the “upper” (*ano*) and “lower” (*kato*) notes of the voice in the Aristotelian *Problemata*; in the conceptualization of poetic feet in terms of “raising” (*aeirein*) and “lowering” (*tithenai*); and by way of the conceptual metaphor GREATER IS HIGHER, where *hypate* meant not only literally “highest” but also metaphorically “most important.” Donatus adopted the prosodic concepts (as *arsis* and *thesis*) and thereby perpetuated the metaphoric verticality of vocal sounds, and this paper suggests that the design of his accent signs (*acutus*, *gravis*, and *circumflexus*) was motivated and constrained by a preexisting metaphoric concept; that vocal experience first motivated the metaphor, and that this metaphor in turn determined the verticality in the shape of the accent signs. The evidence presented thus invites us to reconsider both the history and the basis of one of our most fundamental musical concepts.

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## **“Dynamics and Dissonance: The Implied Harmonic Theory of J. J. Quantz” Evan Jones (Florida State University)**

Chapter 17, section 6, of Johann Joachim Quantz's *Versuch einer Anweisung die Flöte traversiere zu spielen* (1752) concerns the duties of the keyboardist in accompaniment, and includes a short original composition entitled “Affettuoso di molto.” This piece features an unprecedented variety of musical dynamics — alternating abruptly from loud to soft extremes and utilizing every intermediate gradation. The extreme density of dynamic surprises is remarkable: most comparable pieces from the period were published without any dynamic indications whatsoever, and no other eighteenth-century treatise spells out dynamic prescriptions as explicitly. Quantz's dynamics are seemingly intended to document an ideal concept of dynamic shaping, and may also be taken as an indication of contemporary performance practice. Most suggestively, Quantz's discussion of this example provides an analytic rationale for the various dynamic levels specified in the musical score: specific levels of relative amplitude are prescribed for particular classes of harmonic events, depending on their relative dissonance. Quantz defines his categories in the language of the thoroughbass theorists of the time, but his categorization of dissonant chords speaks to a harmonic understanding related to or derived from emerging Rameauvian ideas of chordal structure. Quantz's categories implicitly anticipate Kirnberger's distinction between essential and inessential dissonance; further, his judgments of chordal dissonance closely coincide with even later conceptions, as indicated by the various chords' spans on the Oettingen-Riemann *Tonnetz* and on David Temperley's “line of fifths.”

The paper will incorporate a live period performance of the piece in question.

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## **“The Functional Scale Degree: From Unwritten Concept to its Realization as an Important Factor for Determining Functional Harmonic Progressions” Thomas M. Cody (Penn State University)**

The French accompaniment treatises written between 1660 through the 1720s are filled with “unwritten” information about the evolution and eventual development of a harmonic theory. The aspects of a harmonic theory are “unwritten” because the treatise authors were not necessarily “theorists.” They were musicians trying to develop a practical method for teaching others how to improvise accompaniments from an unfigured bass. The authors were teaching accompanists chord

progressions without the benefit of having a harmonic theory to use as a teaching tool. They developed a system known as “Harmony by Interval.” This system provided the accompanist with a method for choosing chord structures based solely on the intervallic motion of the bass. By combining the prescribed intervals of thirds, fifths, sixths, and, sometimes, sevenths for a given bass motion, such as up a P4, up a m2, down a M2, etc., the accompanist would play chord structures suitable for that bass motion. The accompaniment treatise authors did not have the theoretical vocabulary—because a harmonic theory did not yet exist—to tell the accompanist to play a dominant seventh to a tonic triad or a leading tone triad in first inversion to a tonic triad. However, by examining their written rules and analyzing their musical examples, one can “read between the lines” and discover the “unwritten” aspects of a harmonic theory as it was—unknowingly—being fashioned. Their rules consistently assigned specific harmonic functions to certain scale degrees in certain situations. It is this consistency of rules and results that made it possible to eventually formulate a harmonic theory.

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## Popular Music

**Chair: Robert Wason (Eastman School of Music)**

- [Starting in the Middle: Auxiliary Cadences in the Beatles' Songs](#)  
Naphtali Wagner (The Hebrew University, Jerusalem)
- [Tonal Plateaus in Two Works of Wayne Shorter](#)  
Patricia Julien (University of Vermont)

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#### **“Starting in the Middle: Auxiliary Cadences in the Beatles’ Songs Naphtali Wagner (The Hebrew University, Jerusalem)**

Establishment of the opening tonic is one of the basic principles of tonal music, whether it is eighteenth- or nineteenth-century Western art music or twentieth-century popular music. This principle was almost always honored in the eighteenth century, but nineteenth-century composers sometimes deviated from it, as did the Beatles in many of their songs. The discussion of non-tonic beginnings will be based on the Schenkerian concept of the auxiliary cadence, adapted to the Beatles’ music. We will focus on such cadences that organize musical phrases located at the beginning of a song or at the beginning of one of its inner sections. We will look at the rhetorical meaning of the absence of the tonic at the start of the phrase and will explore how the phenomenon serves the text in each case. In the course of the analysis, we will distinguish between auxiliary progressions and regressions, between open and closed auxiliary units, and between short-range and long-range auxiliary progressions. Among the songs mentioned in the discussion are “She Loves You,” “All My Loving,” “If I Fell,” “No Reply,” “I’ll Follow the Sun,” “Help!” “Strawberry Fields,” “I Am the Walrus,” “Hello Goodbye,” and “Happiness Is a Warm Gun.”

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#### **“Tonal Plateaus in Two Works by Wayne Shorter” Patricia Julien (University of Vermont)**

This paper discusses two compositions by jazz saxophonist and composer Wayne Shorter. Both pieces include numerous segments of functional harmonic relations, generating well-established but briefly employed tonal regions that are referred to here as tonal plateaus. The works demonstrate Shorter's agility in employing such ideas in both a tonal composition ("Powder Keg") and a nontonal piece ("El Toro").

As one listens to "Powder Keg," consecutive tonal regions with roots a descending third apart are revealed. Until the final tonal region (E-flat minor) is heard and understood to be the tonic governing the entire composition, the tonal plateaus appear equally well-established and influential. Upon the arrival of the final chord of the head, the preceding tonal regions are recognized to be a series of

tonicizations of the chord members of this E<sup>-9</sup> sonority, effecting a linear presentation of the vertical tonic chord. Thus in successive hearings, the tonal regions organize themselves hierarchically according to their relation to the home key of the piece.

The structure of "El Toro" comprises an equality of four keys with no sonority or tonal region exhibiting fundamental influence over the composition as a whole. The tonal plateaus in "El Toro" do not reveal themselves to be part of a larger tonal scheme, but instead are self-sufficient and irreducible. Thus within the tonal plateaus are functional harmonic relations used to establish the various keys, while the nonfunctional relations between the plateaus result in a nontonal composition.

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# Theories of Music

## Chair: Betsy Marvin (Eastman School of Music)

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Zachary Cairns (Northwestern Lehigh School District)
- [Some Generalizations about Prolongation and Progression in Diatonic Sequences](#)  
Adam Ricci (University of North Carolina—Greensboro)

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#### **“The Relative Duration Vector”**

**Zachary A. Cairns (Northwestern Lehigh School District)**

The music-theoretic community has a wide variety of useful analytical tools with which to examine rhythmic structures in traditional, beat-oriented music. However, we are left with very few tools that are designed specifically to deal with the analysis of music that eschews traditional notions of beat and meter.

This paper focuses primarily on the introduction of a new tool to aid in the analysis of such non-beat-oriented music: the relative duration vector (RDVEC). The paper is in two parts. Part one defines and formalizes the RDVEC, and part two applies RDVEC to analysis of the first movement of Edgard Varèse's 1923 composition *Octandre*.

RDVEC analysis is a simple generalization of rhythmic contour theory. While traditional rhythmic contours represent relative durations of notes as they occur in temporal order, the RDVEC allows us to express the relative duration content of a motive in an unordered fashion.

In the analytical part of the paper, I apply the RDVEC to the first movement of *Octandre*. By comparing the RDVECs of successive statements of a repeated rhythmic motive, we will see certain patterns develop. An understanding of these patterns will lead us to a better understanding of the durational organization of this movement.

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#### **“Some Generalizations about Prolongation and Progression in Diatonic Sequences”**

**Adam Ricci (UNC—Greensboro)**

Ever since François-Joseph Fétis suggested that harmonic sequences—through the force of sheer repetition—“suspend” tonality, sequences have been viewed primarily as agents of transition. A natural consequence of this view was the development of a distinction between sequences that begin and end with the same harmony (prolongational) and those that begin and end with different harmonies (progressional). This paper generalizes this distinction by investigating the distance in number of patterns between the initial chord of a sequence and its first recurrence, and between an initial chord

and a chord that stands in a particular (i.e., non-unison) root relationship to it. Building upon John Clough's conception of sequences as interlaced interval cycles, I enumerate the possible two-chord diatonic sequences. I then propose two constructs to measure prolongational and progressional distance, respectively, and demonstrate how such constructs provide fresh insights into familiar sequences. Some rhythmic applications are also discussed.

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