

**Program**  
and  
**Abstracts of Papers Read**

at the

**Society for Music Theory**  
*Fortieth Annual Meeting*

**November 2-5, 2017**

**Renaissance Arlington Capital View  
Hotel  
Arlington, Virginia**

## SMT 2017 Annual Meeting

### Program Committee

Alan Gosman, *Chair*, Clifton Callender, Maureen Carr,  
Roman Ivanovitch, Panayotis Mavromatis, René Rusch,  
Benjamin Steege and Dora Hanninen, *ex officio*  
Program book abstracts edited by Alan Gosman

### Executive Board

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Steven Rings  
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Deborah Rifkin  
Yonatan Malin  
Maryam Moshaver

### Executive Director

Victoria L. Long

### Local Arrangements

Eugene Montague and Daniel Zimmerman

### 40<sup>th</sup> Anniversary Celebration Committee

Joseph Straus, *Chair*, Judy Lochhead and Mary Wennerstrom

### Upcoming Annual Meetings

2018: San Antonio, Texas, Grand Hyatt San Antonio Hotel,  
November 1–4

2019: Columbus, Ohio, Hyatt Regency Columbus, November 7–10

2020: Minneapolis, Minnesota, Hyatt Regency Minneapolis,  
November 5–8

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## ***SMT Arlington 2017 Program***

### ***40<sup>th</sup> Anniversary***

“The Society for Music Theory is thus underway...and its potential contributions unlimited...”

*Wallace Berry, reporting on the November 1977 vote to create  
SMT*

This year’s conference celebrates the 40<sup>th</sup> anniversary of SMT with an impressive collection of session presentations and workshops, many special events created for the occasion, a plenary session titled “Chase, Dance, Enchant: Music’s Partnerships,” and an invited special session titled “Models in Improvisation, Performance, and Composition.” The program offers an opportunity to reflect on the society’s past and its growth, be inspired by the tremendous range of perspectives and interests, and engage with exciting new ideas.

Forty years ago, the National Conference on Music Theory offered just seven music theory sessions. Of these, only two sessions were presented concurrently, forcing participants to make one choice—whether to spend Saturday morning listening to “Aspects of Atonal Theory” or “Biographical Material from the Estate of Heinrich Schenker.” This year’s meeting—with its 120 session presentations, special sessions, nearly 25 interest group meetings, 4 workshops, and a wide variety of other meetings and events—will take more planning to navigate, but we hope that you will find what you are looking for as well as enjoy exploring corners of the Society that are less familiar.

**Calendar of Special Events:**Thursday

- Morning Field Trip to the Library of Congress, Music Division  
Registration required and limited to 20 people. See conference website for information.
- 5:15–6:00 SMT 40<sup>th</sup> Anniversary Celebration (Salons 1 & 2)  
Remarks and Reminiscences
- 6:00–7:30 SMT 40<sup>th</sup> Anniversary Opening Reception - Cash Bar  
(Salon 4)

Friday

- 9:00–10:00 Interest Group Fair (Salons 5–7)  
Representatives of all 24 interest groups will be on hand to share information about their group and its activities.
- 12:15–1:45 Post-PhD: Career Opportunities Outside the Professorate  
(Salons 1 & 2)  
Refer to “Friday Lunchtime Sessions” in the program for information about the speakers who represent arts management, library science, music publishing, software design, broadcasting, academic administration, and nonprofit organizations.
- 2:00–5:00 Special Invited Session of European Scholars: Models in Improvisation, Performance, and Composition (Salons 1 & 2)  
Philippe Canguilhem, “The Teaching and Practice of Improvised Counterpoint in the Renaissance”  
Giorgio Sanguinetti, “Who Invented Partimento? Newly Discovered Evidences of Partimento Practices in Rome and Naples”  
Elaine Chew, “Notating the Performed and (usually) Unseen”

Saturday

- 2:00–3:45 Business Meeting and Awards Presentation
- 4:00–5:30 Plenary Session - Chase, Dance, Enchant: Music’s Partnerships  
Michael Tenzer, “Chasing the Phantom: Features of a Supracultural New Music”  
Gretchen Horlacher, “Stepping Out: Hearing Balanchine”  
Steven Rings, “Music’s Stubborn Enchantments (and Music Theory’s)”

# ***SMT Arlington 2017 Program***

Sessions and meetings are open to all attendees, except where noted.

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## **WEDNESDAY, 1 NOVEMBER**

2:00–6:00	Executive Board Meeting (Studio C) ‡
6:00–7:30	Dinner for Executive Board, Publications Committee, Awards Committee, and Networking Committee (Studio F) ‡
7:30–11:00	Networking Committee Meeting (Studio D) ‡
7:30–11:00	Publication Awards Committee Meeting (Studio A) ‡
7:30–11:00	Publications Committee Meeting (Studio B) ‡

‡ denotes closed meeting

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## **THURSDAY, 2 NOVEMBER**

8:00–12:00	Executive Board Meeting (Studio C) ‡
9:00–12:00	Peer Learning Program Workshop I: <b>Music Analysis: what can it do?</b> Judy Lochhead (Stony Brook University), leader (Studio F) ‡
9:00–12:00	Peer Learning Program Workshop II: <b>Pitch Structure in Indian Classical Music</b> Robert Morris (Eastman School of Music), leader (Studio A) ‡
9:00–6:00	Registration (2 <sup>nd</sup> Floor Registration Area)
1:00–5:30	Exhibits (Salons 5–7)

‡ denotes closed meeting

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## **THURSDAY AFTERNOON SESSIONS**

**2:00–5:00**

**NOTATION AND PERFORMANCE: INFLUENCE, INTERSECTION, AND INTERPRETATION (STUDIO D)**

Karen Cook (University of Hartford), Chair

Solomon Guhl-Miller (Temple University)

**The Early History of Modal Rhythm: What Theory Tells us about Practice**

Heather J. Holmquest (Buena Vista University)

**Choosing *Musica Ficta*: The Modern Tradition of Historically Informed Performance Practice**

Carolann Buff (Indiana University)

**In Search of the *Ars Magis Subtiliter***

Adam Knight Gilbert (University of Southern California)

***Juxta artem conficiendi*: Notating and Performing Polyphony in Solmization**

Megan Kaes Long (Oberlin College Conservatory)

**The Mensural Ambivalence of Repeat Signs**

Karen Cook (University of Hartford), Loren Ludwig (Independent Scholar), Valerie Horst (Independent Scholar) **Respondent Panel**

**RUSSIAN MUSIC (STUDIO E)**

Inessa Bazayev (Louisiana State University), Chair

Kirill Zikanov (Yale University)

**Glinka's Three Models of Instrumental Music**

Matthew Bell (University of Missouri, Kansas City)

***Danses Fantastiques*: Metrical Dissonance in the Ballet Music of Pyotr Ilyich Tchaikovsky**

Joel Mott (University of Texas at Austin)

**Linearity and Compensatory Coherence in Prokofiev's War Symphonies**

Scott C. Schumann (Central Michigan University)

**Tropological Interactions and Expressive Interpretation in Stravinsky's Neoclassical Works**

**THURSDAY AFTERNOON SHORT SESSIONS**

**2:00–3:30**

**REVISITING PROLONGATION AND DISSONANCE IN JAZZ (SALONS 1 & 2)**

Keith Salley (Shenandoah Conservatory), Chair



Henry Martin (Rutgers University-Newark) and Keith Waters  
(University of Colorado-Boulder)

**Hierarchy vs. Heterarchy in Two Compositions by Wayne  
Shorter**

Joon Park (University of Arkansas)

**Theorizing Outside Playing in the Improvised Jazz Solo**

**TRANSFORMATIONS (STUDIO B)**

Ed Gollin (Williams College), Chair

Robert Wells (University of Mary Washington)

**David Lewin and the “GIS that Wasn’t”: Interactions Between  
Musical and Mathematical Thought in GMIT**

Nathan Lam (Indiana University)

**Modal Spelled Pitch Classes**

**3:30–5:00**

**INSTRUMENTS AND TRANSFORMATIONS (SALONS 1 &  
2)**

Mark Janello (Peabody Conservatory), chair

Jonathan De Souza (University of Western Ontario)

**Instrumental Transformations in Heinrich Biber’s Mystery  
Sonatas**

Toru Momii (Columbia University)

**Sounds of the Cosmos: A Transformational Approach to  
Gesture in Shō Performance**

**RECONSIDERING GENRE (STUDIO B)**

Eric Drott (University of Texas at Austin), Chair

Thomas Johnson (The Graduate Center, CUNY)

**#genre**

James Donaldson (McGill University)

**‘...and a melodic re-invention’: Lyricism as Structure in “Post-  
Spectral” Music**

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**THURSDAY EVENING MEETINGS AND EVENTS**

5:00–5:30 Conference Guides Meetup (Studio F) ‡

5:15–6:00 **SMT 40<sup>th</sup> Anniversary Celebration** (Salons 1 & 2)

5:15–7:15 SMT Dance and Movement Interest Group  
(Studio D)  
6:00–7:30 **SMT 40<sup>th</sup> Anniversary Opening Reception** - Cash  
Bar (Salon 4)

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## THURSDAY EVENING SESSIONS

**7:30–10:30**

### **MUSICAL TOPICS IN OPERA AND BALLET (SALONS 1 & 2)**

Yayoi Uno Everett (University of Illinois at Chicago), Chair

Gregory J. Decker (Bowling Green State University)

#### **Secondary Topical Strategies in Handel's Opera Seria**

Clive McClelland (University of Leeds)

#### ***Tempesta* and the Myth of *Sturm und Drang***

Olga Sánchez-Kisielewska (University of Chicago)

#### **Spiritual Implications of the Sacred Hymn Topic and the Romanesca Schema in Beethoven's *Fidelio***

Johanna Frymoyer (Indiana University)

#### **Metrical Phase Shift and Dance Topics in Stravinsky's Ballets**

Yayoi Uno Everett (University of Illinois at Chicago)

#### **The *Pianto* as a Topical Signifier in Contemporary Operas by John Adams, Thomas Adès, and Kaija Saariaho**

Robert Hatten (University of Texas at Austin)

#### **Respondent**

### **HISTORY OF THEORY (STUDIO B)**

Thomas Christensen (University of Chicago), chair

Caleb Mutch (Indiana University)

#### **The Triad in Dispute: Genre and Audience in the Writings of Johannes Lippius**

André Redwood (University of Massachusetts Amherst)

#### **Combinatorics, Composition, *Copia*: Mersenne's Mathematics and the Erasmian Impulse**

Derek Remeš (Eastman School of Music)

#### **J. S. Bach's Chorales: Reconstructing Eighteenth-Century German Figured-Bass Pedagogy in Light of a New Source**

Deborah Burton (Boston University)

#### **From Rameau to Riemann: Antoniotto's *L'arte armonica* as a Missing Link from Fundamental Bass to the *Tonnetz***

## PREPARING ARTICLES FOR PUBLICATION (STUDIO D)

Sponsored by the Professional Development Committee  
Roger Graybill (New England Conservatory), Moderator

Nicole Biamonte (McGill University), Richard Cohn (Yale University),  
Seth Monahan (Eastman School of Music, University of Rochester),  
Daphne Tan (University of Toronto)

**7:30–9:00**

## CONVERTING A DISSERTATION INTO ARTICLES

**9:00–10:30**

## PREPARING MUSICAL EXAMPLES, GRAPHIC, AND AUDIO/VISUAL MATERIALS FOR PUBLICATION

## RHYTHM AND METER IN POPULAR GENRES (STUDIO E)

Kyle Adams (Indiana University), chair

Ben Duinker (McGill University)

### **The Emancipation of Metric Displacement Dissonance in Hip-Hop Music**

Mitchell Ohriner (University of Denver)

### **(Why) Does Talib Kweli Rhyme Off-Beat?**

Robert Komaniecki (Indiana University)

### **Analyzing Collaborative Flow in Rap Music**

Stephen Hudson (Northwestern University)

### **Meter Without a Fixed Cycle: Headbanging 3+3+2 as a Metering Construction**

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## FRIDAY, 3 NOVEMBER

7:30–9:00	Breakfast Reception for all Students hosted by the Professional Development Committee (Salon 4)
7:00–9:00	Committee on the Status of Women Breakfast Meeting (Studio C) ‡
7:00–9:00	<i>Music Theory Spectrum</i> Editorial Board Meeting (Salon 3) ‡
7:00–8:45	SMT Scholars for Social Responsibility Interest Group (Studio D)
8:00–9:00	Committee on Workshops Meeting (Suite) ‡

8:30–5:00	Registration (2 <sup>nd</sup> Floor Registration Area)
8:30–6:00	Exhibits (Salons 5–7)
9:00–10:00	<b>Interest Group Fair</b> (Salons 5–7)
9:00–12:00	Graduate Student Workshop I: <b>Music-Listener Intersubjectivity</b> Marion Guck (University of Michigan), Instructor (Studio F) ‡
9:00–12:00	Graduate Student Workshop II: <b>The Craft of Musical Analysis</b> Frank Samarotto (Indiana University), Instructor (Studio A) ‡

‡ denotes closed meeting

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## FRIDAY MORNING SESSIONS

**9:00–12:00**

### TONALITY IN ROCK (SALONS 1 & 2)

Nicole Biamonte (McGill University), Chair

Matthew E. Ferrandino (University of Kansas)

#### **Multi-Centric Complexes in Rock**

Drew Nobile (University of Oregon)

#### **Double-Tonic Complexes in Rock Music**

Mark Richards (Florida State University)

#### **Multimodality and Tonal Ambiguity in Rock's Aeolian Progression**

Brian D. Hoffman (Cincinnati, OH)

#### **Mapping the Modulation Zone: A Formal and Stylistic Study of Stepwise Modulation in Pop-Rock**

### GENESIS, TRANSFORMATIONS, AND MUTATIONS (STUDIO B)

C. Catherine Losada (College-Conservatory of Music, University of Cincinnati), chair

Barry Wiener (New York, NY)

#### **Ursula Mamlok's Path to Serialism**

Ciro G. Scotto (Ohio University)

#### **TC-Generated Pcset Chains and their Transformational Network in *sur incises* by Pierre Boulez**

Antares Boyle (University of British Columbia)

**Object/Process: Functions of Repetition in Birtwistle's Recent Music**

Christoph Neidhöfer (McGill University)

**Serialism as Existentialist Metaphor in the Music of Camillo Togni (1922–1993)**

**MENTORSHIP AND DIVERSITY (STUDIO D)**

Sponsored by the Committee on Diversity

Chair: J. Daniel Jenkins (University of South Carolina), chair

**Part I: Roundtable Discussion**

Daphne Tan (University of Toronto), moderator

Christopher Endrinal (Florida Gulf Coast University)

Sumanth Gopinath (University of Minnesota–Twin Cities)

Nancy Rao (Rutgers University)

Harvey Stokes (Hampton University)

**Part II: The Pipeline**

Jan Miyake (Oberlin Conservatory)

Evan Jones (Florida State University)

Lissa Reed (Eastman School of Music)

Maureen Carr (The Pennsylvania State University)

Anthony W. Randolph (Howard University)

Richard Desinord (Eastman School of Music)

Joseph N. Straus (City University of New York)

Ellie Hisama (Columbia University)

Yayoi Uno Everett (University of Illinois-Chicago)

Juan Chattah (University of Miami)

**FRIDAY MORNING SHORT SESSIONS**

**9:00–10:30**

**MUSIC AND BODY (Studio E)**

Marianne Kielian-Gilbert (Indiana University), chair

Vivian Luong (University of Michigan)

**Philosophies of the Body in *Feminine Endings*: Historicizing Music Theory's Embodied Turn**

Chris Stover (Arizona State University)  
**Analyzing Improvised Music-Dance Interactions**

**10:30–12:00**

**EMPIRICAL APPROACHES TO EIGHTEENTH-CENTURY MUSIC (Studio E)**

Nathan Martin (University of Michigan), chair

David Jayasuriya (University of Southampton)

**Developing an Analytical Framework for Fonte and Monte,  
 and its Application to an Empirical Study of Haydn's  
 Symphonies**

David R. W. Sears (Johannes Kepler University Linz)

**Similarity, Prototypicality, and the Classical Cadence  
 Typology: Classification based on *Family Resemblance***

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**FRIDAY NOONTIME MEETINGS AND LUNCHEON**

12:00–2:00      Committee on Diversity Travel Grant Recipients  
 Lunch

12:15–1:45      **Post-PhD: Career Opportunities Outside the  
 Professorate** (Salons 1&2)  
 Elizabeth West Marvin (Eastman School of Music),  
 Organizer and Chair  
 Rita Shapiro – arts management (former Executive  
 Director, National Symphony Orchestra)  
 David Plylar – concert production/library science  
 (Library of Congress)  
 Justin Hoffman – music publishing (W. W. Norton &  
 Co.)  
 Wendy Hsu – cultural researcher and strategist  
 (Cultural Affairs, City of Los Angeles; former ACLS  
 Public Fellow)  
 Adam Waller – software design (Apple Computer  
 Headquarters)  
 Mary Jo Heath – broadcasting (The Metropolitan  
 Opera)  
 Matthew Shaftel – academic administration (Dean,  
 College of Fine Arts, Ohio University)

12:15–1:45	SMT Jazz Theory and Analysis Interest Group (Studio D)
12:15–1:45	SMT Music and Disability Interest Group (Studio E)
12:15–1:45	SMT Pedagogy Interest Group (Studio B)
12:15–1:45	SMT Performance and Analysis Interest Group (Studio A)
12:15–1:45	SMT Post-1945 Music Analysis Interest Group (Studio F)
12:15–1:45	Queer Resource Interest Group Meeting (Studio C)
1:00–3:00	CV Review Session (coordinated by the Professional Development Committee) (Salon 4)

## FRIDAY AFTERNOON SESSIONS

**2:00–5:00**

### **SPECIAL INVITED SESSION: MODELS IN IMPROVISATION, PERFORMANCE, AND COMPOSITION (Salons 1 & 2)**

Daphne Leong (University of Colorado-Boulder), chair

Philippe Canguilhem (Université de Toulouse)

#### **The Teaching and Practice of Improvised Counterpoint in the Renaissance**

Giorgio Sanguinetti (University of Rome–Tor Vergata)

#### **Who Invented Partimenti? Newly Discovered Evidences of Partimento Practices in Rome and Naples**

Elaine Chew (Queen Mary University of London)

#### **Notating the Performed and (usually) Unseen**

### **WHAT DOES MUSIC THEORY WANT? THE ETHICS OF MUSICAL HERMENEUTICS (Studio D)**

Naomi Waltham-Smith (University of Pennsylvania), chair

Joanna Demers (University of Southern California)

#### **Music and Disavowal**

Dylan Principi (Princeton University)

#### **A Hermeneutics of Recovery: Recovering Hermeneutics**

David Bard-Schwarz (University of North Texas)

**The Real Thing: New Music, Psychoanalysis, and Beat Furrer's "Voicelessness: The Snow has no Voice (1986)"**

Clara Latham (Massachusetts Institute of Technology)

**Rethinking the 'Phonographic Unconscious': Sonic Materiality and Psychoanalytic Technique**

James R. Currie (State University of New York at Buffalo)

**From Adaptation to Analysis: Music Theory, Psychoanalysis, and the Neo-Liberal Academy**

Daniel Villegas Vélez (Bogotá, Colombia)

**Don't Cage the Gift-Giver: Freedom, Subjectivity, and the Mastery Drive in Psychoanalysis and Musical Hermeneutics**

Seth Brodsky (University of Chicago), **Respondent**

## **TOPICS IN GEOMETRICAL MUSIC THEORY (Studio E)**

Rachel Hall (Saint Joseph's University), chair

Inés Thiebaut (University of Utah) and Nicholas Nelson (Stony Brook University)

**Near-Symmetry: A Theory of Chord Quality with Implications for Voice Leading**

Leah Frederick (Indiana University)

**Generic (Mod-7) Voice-Leading Spaces**

Jason Yust (Boston University)

**Generalized Trichordal and Tetrachordal *Tonnetze*: Geometry and Analytical Applications**

Julian Hook (Indiana University)

**Generalized Normal Forms**

## **FRIDAY AFTERNOON SHORT SESSIONS**

**2:00–3:30**

### **HARMONY AND VOICE LEADING IN POPULAR MUSIC (Studio B)**

Daniel Harrison (Yale University), chair

Stefanie Acevedo (Yale University)

**A Functional Analysis of Chord Progressions in Popular Music**

David Forrest (Texas Tech University)

**PL Voice Leading and the Uncanny in Pop Music**



**3:30–5:00**

**INTERPRETING METAL MUSIC (Studio B)**

Brad Osborn (University of Kansas), chair

Eric Smialek (McGill University)

**Becoming the Beast: Musical Expression in the Extreme Metal Voice**

Olivia Lucas (Victoria University of Wellington)

**“So Complete in Beautiful Deformity”: Unexpected Beginnings and Rotated Riffs in the Music of Meshuggah**

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**FRIDAY EVENING MEETINGS AND EVENTS**

5:15–7:15	Autographs and Archival Documents Interest Group (Studio B)
5:15–7:15	Film and Multimedia Interest Group (Salons 1&2)
5:15–7:15	History of Theory Interest Group Meeting (Studio E)
5:15–7:15	Work and Family Interest Group Meeting (Studio D)
5:00–7:00	Louisiana State University Reception (Studio A)
5:00–7:00	University of Oregon Reception (Salon 3)
5:30–6:30	Accessibility Committee Meeting (Suite) ‡
6:00–8:00	University of Michigan Reception (Studio C)
6:00–8:00	CUNY Reception (Studio F)
6:30–8:00	Oxford University Press Reception (Salon 4)
8:00–10:00	University of Cincinnati, College-Conservatory of Music Reception (Studio A)
9:00–11:00	University of Chicago Reception (Salon 3)
9:00–11:00	Florida State University Reception (Studio F)

‡ denotes closed meeting

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**FRIDAY EVENING SESSIONS**

**7:30–10:30**

**THE MUSIC OF CHEN YI (Salons 1 & 2)**

**Sponsored by the Committee on the Status of Women**

Jennifer Bain (Dalhousie University), chair

Chen Yi (University of Missouri-Kansas City)

John Roeder (University of British Columbia)

**Interactions of Folk Melody and Transformational  
(Dis)continuities in Chen Yi's *Ba Ban***

Marianne Kielian-Gilbert (Indiana University)

**Experiencing Chen Yi's Music // Alternate Lines of  
Connection, Aesthetic Practice, and Sexual Difference**

Nancy Rao (Rutgers University)

**"Shi" and Temporality: A Reading of Gestures in *Happy Rain  
on A Spring Night***

## **TOPIC AND SCHEMA IN THE LONG EIGHTEENTH CENTURY (Studio D)**

Gilad Rabinovitch (Georgia State University), chair

Vasili Byros (Northwestern University)

**Of "Elegant Tones" and "Fantastical Progressions": A  
Historical, Schema-Based, and Comprovisational Perspective  
on Diminished Seventh-Chord Modulation, c. 1720–1830**

Paul Sherrill (The College of Wooster)

**On the Form Functionality of Recitative Intrusions in *Le  
nozze di Figaro***

Andrew Malilay White (University of Chicago)

**The Yodeling Style and Early Nineteenth-Century  
Cosmopolitanism: How Topics Are Assembled**

Nathaniel Mitchell (Princeton University)

**The Volta: A Galant Gesture of Culmination**

## **CONSIDERING COLTRANE: ANALYTICAL PERSPECTIVES AFTER FIFTY YEARS (Studio E)**

Rich Pellegrin (University of Florida), chair

Rich Pellegrin (University of Florida)

**Chromatic-Third Relationships and Coltrane's Path to "Free"  
Jazz**

Barry Long (Bucknell University)

**"The Black Blower of the Now": Coltrane, King, and Crossing  
Rhetorical Borders**

Brian Levy (New England Conservatory of Music)

**“Pursuance” and “Miles’ Mode”: Untangling the Complex Harmonic and Rhythmic Interactions of John Coltrane’s Classic Quartet**

John O’Gallagher (Birmingham Conservatoire, UK)

**Set-Class Usage and Development in Late-Period Improvisations of John Coltrane**

Klaus Frieler (Hochschule für Musik, Franz Liszt Weimar)

**Miles vs. Trane: Computational and Statistical Comparison of the Improvisatory Styles of Miles Davis and John Coltrane**

Milton Mermikides (University of Surrey)

**Changes over Time: The Analysis, Modeling, and Development of Micro-Rhythmic Expression through Digital Technology**

## FRIDAY EVENING SHORT SESSIONS

**7:30–9:00**

### IRONY AND TOPICS (Studio B)

Byron Almén (University of Texas at Austin), chair

Timothy Koozin (University of Houston)

**Musical Topic and Ironic Gesture in the Songs of Steely Dan**

Cara Stroud (Michigan State University)

**Insidious Irony in the “Tarantella” from John Corigliano’s Symphony No. 1**

**9:00–10:30**

### MUSIC ANALYSIS IN COMPARATIVE PERSPECTIVE (Studio B)

Justin London (Carleton College), chair

Aaron Carter-Ényì (Morehouse College) and David Àinà (Lagos State University)

**A Corpus Study of Pitch Polarity in Praise-Singing and Hip-Hop**

Somangshu Mukherji (University of Michigan)

**Logical Form, Musical Internalism, and Form-Functional Theory**

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## SATURDAY, 4 NOVEMBER

7:00–9:00	Professional Development Committee Breakfast Meeting (Studio C) ‡
7:00–9:00	Committee on Diversity Breakfast Meeting (Suite) ‡
7:00–9:00	<i>MTO</i> Editorial Board Meeting (Salon 3) ‡
7:00–9:00	SMT-V Editorial Board Meeting (Studio A) ‡
7:30–9:00	Regional Societies Breakfast Meeting (Studio F) ‡
8:00–9:00	Interest Group on Improvisation Meeting (Salons 1&2)
8:30–2:00	Registration (2 <sup>nd</sup> Floor Registration Area)
8:30–6:00	Exhibits (Salons 5–7)

‡ denotes closed meeting

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## SATURDAY MORNING SESSIONS

**9:00–12:00**

### **HARMONY AND VOICE LEADING IN NINETEENTH CENTURY MUSIC (Studio B)**

Frank Samarotto (Indiana University), chair

Loretta Terrigno (The Julliard School)

**Emergent Modality: Minor-to-Major Progressions as “Tragic-to-Transcendent” Narratives in Brahms’s Lieder**

Ellen Bakulina (University of North Texas)

**Linear-Analytical Elements in Leo Mazel’s Work: Revisiting Chopin’s Fantasy, op. 49**

Justin Lavacek and Timothy Jackson (University of North Texas)

**bIV in Theory and Chopin**

Alexander Martin (The Graduate Center, CUNY)

**Sunken IIs and Inwardness: Correspondences Between Voice-Leading and Moments of Introspection in Three Pieces by Robert Schumann**

**POSTER SESSION (Salons 5–7)**

Philip Duker (University of Delaware), chair

Alexander Amato (Stephen F. Austin State University)

**Hindemith's Harmonic Fluctuation and Obscured  
Tonality in Satie's *Nocturnes***

André Brégégère (Queensborough Community College, CUNY)

**Some Thoughts on Maximally-Smooth Voice Leading  
Among Pcsets and Set Classes**

Niels Chr. Hansen (The Ohio State University)

**Twirling Triplets: What Makes Music Spin?**

David Kant and Larry Polansky (University of California Santa Cruz)

**The Shape and Structure of Musical Contour Space**

Jeremy M. Robins (Florida State University)

**Defining Phrases in Popular Music**

Nicholas J. Shea (The Ohio State University)

**Meter in French and Italian Opera, 1809-1859**

**SATURDAY MORNING SHORT SESSIONS**

**9:00–10:30**

**FORM AND SOUND QUALITY (Salons 1 & 2)**

Seth Monahan (Eastman School of Music), chair

Frank Lehman (Tufts University)

**Form and Ignorability in Ambient Music**

Blair Johnston (Indiana University)

**Sound-Quality Modulation in Sibelius's Orchestral Works**

**METRICAL TEMPLATES AND DISRUPTIONS (Studio D)**

Joti Rockwell (Pomona College), chair

Daniel Goldberg (University of Connecticut)

**Meter as Template: Metric Allusion in Music by Thomas Adès**

James Palmer (University of British Columbia)

**Who's Feeling Crooked Now? "Progressive Bluegrass" in the  
Metric Disruptions of Punch Brothers**

**TIME, FORM, AND AFFECT (Studio E)**

Judy Lochhead (Stony Brook University), chair

Robert Baker (The Catholic University of America)

**Pitch, Form, and Time in Two Works by Henri Dutilleux**

Mariusz Kozak (Columbia University)

**Affect as Form: The Joy of Time in Toshio Hosokawa's  
*Vertical Time Study I***

**10:30–12:00**

**THEORIZING MUSICALITY (Salons 1 & 2)**

Leigh VanHandel (Michigan State University), chair

Elizabeth Hellmuth Margulis (University of Arkansas)

**Theory, Analysis, and Characterizations of the Musical**

Nancy Rogers, Jane Piper Clendinning, Sara Hart and Colleen Ganley  
(Florida State University)

**Specific Correlations Between Abilities in Mathematics and  
Music Theory**

**WORDS AND MUSIC (Studio D)**

Jocelyn Neal (University of North Carolina Chapel Hill), chair

John Y. Lawrence (University of Chicago)

**Lyricist as Analyst: Rhyme Scheme as “Music-Setting” in the  
Great American Songbook**

David Heetderks (Oberlin College Conservatory) and Aleksander  
Ferlazzo (Rutgers University)

**Textual Norms and Deformations in Beatles’ Bridge Sections  
1963–67**

**THE MUSIC OF GEORG FRIEDRICH HAAS (Studio E)**

Aleksandra Vojcic (University of Michigan), chair

Landon Morrison (McGill University/ Centre for Interdisciplinary  
Research in Music Media and Technologies)

**Playing with Shadows: The Reinjection Loop in Georg  
Friedrich Haas’s *Live-Elektronische Musik***

William Mason (Oberlin Conservatory)

**Liminal Spaces in Georg Friedrich Haas’s *limited  
approximations***

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**SATURDAY NOONTIME MEETINGS**

12:15–2:00	Committee on the Status of Women Brown Bag Open Lunch (Studio C)
12:15–1:45	Adjunct Faculty Interest Group Meeting (Studio F)
12:15–1:45	Early Music Analysis Interest Group Meeting (Studio A)
12:15–1:45	Music Cognition Interest Group Meeting (Studio D)
12:15–1:45	Music and Philosophy Interest Group Meeting (Studio E)
12:15–1:45	Russian Music Interest Group Meeting (Salons 1&2)
12:15–1:45	World Music Analysis Interest Group Meeting (Studio B)

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**SATURDAY AFTERNOON SESSION**

<b>2:00–3:30</b>	<b>SMT BUSINESS MEETING (Salon 4)</b>
<b>3:30–3:45</b>	<b>SMT AWARDS PRESENTATION (Salon 4)</b>
<b>3:45–4:00</b>	<b>Break</b>
<b>4:00–5:30</b>	<b>PLENARY SESSION (Salon 4)</b>

**CHASE, DANCE, ENCHANT: MUSIC'S PARTNERSHIPS**

Michael Tenzer (University of British Columbia)

**Chasing the Phantom: Features of a Supracultural New Music**

Gretchen Horlacher (Indiana University)

**Stepping Out: Hearing Balanchine**

Steven Rings (University of Chicago)

**Music's Stubborn Enchantments (and Music Theory's)**

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**SATURDAY EVENING MEETINGS**

5:30–7:30	Global New Music Interest Group (Studio B)
5:30–7:30	Mathematics of Music Analysis Interest Group (Studio E)

5:30–7:30	Music Informatics Interest Group (Studio F)
5:30–7:30	Music and Psychoanalysis Interest Group (Studio D)
5:30–7:30	Popular Music Interest Group (Salons 1&2)
6:00–8:00	Eastman School of Music Reception (Salon 3)
6:00–8:00	Northwestern University Reception (Studio A)
9:00–11:00	McGill University Reception (Studio A)
9:00–11:00	University of Texas Reception (Studio C)
9:00–11:00	Indiana University Jacobs School of Music Reception (Studio F)
10:00–11:00	Yale University Alumni Reception (Salon 3)
11:00–12:00	Yale University Reception (Salon 3)

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## SUNDAY, 5 NOVEMBER

7:00–9:00	2017/2018 Program Committees Breakfast Meeting (Studio A) ‡
7:30–9:00	Interest Groups Breakfast Meeting (Salon 3) ‡
8:30–12:00	Exhibits (Salons 5–7)

‡ denotes closed meeting

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## SUNDAY MORNING SESSIONS

**9:00–12:00**

### **DIALOGIC FORM (Studio D)**

Steven Vande Moortele (University of Toronto), chair

Jonathan Guez (The College of Wooster)

#### **A Contribution to the Theory of Tonal Alterations in Sonata Recapitulations**

Jon-Tomas Godin (Brandon University)

#### **Schumann's Early Experiments in Sonata Form**

Eric Hogrefe (University of Louisville)

#### **Dialogic Form in the First Movement of Mahler's Tenth Symphony**

Gabriel Venegas (Universidad de Costa Rica, San José)

#### **Anton Bruckner's Slow Movements: Dialogic Perspectives**



**COMPUTATIONAL AND CORPUS-BASED APPROACHES  
TO MUSIC (Studio E)**

Johanna Devaney (The Ohio State University), chair

Daniel C. Tompkins (Microsoft)

**A Machine Learning Approach to Modality and Tonality in  
Early Music**

Alexander Morgan (L'université libre de Bruxelles)

**Automated Contrapuntal-Rhythm Detection and Reduction  
for Renaissance Music**

Malcolm Sailor and Andie Sigler (McGill University)

**Renaissance “Dissonance Fingerprints”: A Corpus Study of  
Dissonance Treatment from Dufay to Victoria**

Robert T. Kelley (Lander University)

**A Corpus-Based Model of Voice Leading in Tonal Music**

**SUNDAY MORNING SHORT SESSIONS**

**9:00–10:30**

**TWENTIETH-CENTURY ANALYTICAL METHODS  
(Salons 1 & 2)**

Severine Neff (University of North Carolina Chapel Hill), chair

Áine Heneghan (University of Michigan)

**Liquidation and Its Origins**

William O'Hara (Gettysburg College)

**Music Theory on the Radio: Excavating Hans Keller's  
Functional Analyses**

**SCREENING THE SOUNDS OF COPLAND (Studio B)**

Matthew McDonald (Northeastern University), chair

Stanley V. Kleppinger (University of Nebraska, Lincoln)

**“The Copland Sound” as Object of Appropriation**

Scott Murphy (University of Kansas)

**James Horner, Aaron Copland, and Three Fields of Inquiry**

**10:30–12:00**

**FOUNDATIONAL CONCEPTS IN THE NINETEENTH CENTURY (Salons 1 & 2)**

Brian Hyer (University of Wisconsin - Madison), chair

Matthew Boyle (Indiana University)

**Harmonic Materialities: Syntactic and Statistical**

Miriam Piilonen (Northwestern University)

**Charles Darwin vs. Herbert Spencer: Reinterpreting a Historic Debate About the Evolutionary Origins of Music**

**COPLAND AND BERNSTEIN (Studio B)**

Michael Buchler (Florida State University), chair

Anthony Bushard (University of Nebraska, Lincoln)

**“What the Image Allows”: Thomas Newman, Aaron Copland, and a Question of Triads**

Thomas Posen (McGill University)

**Playing it “Cool”: Serialism and Fugue on Broadway**

## *Thursday afternoon, 2 November*

### **Special Session: Notation and Performance: Influence, Intersection, and Interpretation**

Karen Cook (University of Hartford), Chair

As the primary physical evidence for pre-tonal musical sound, notation has been an essential element in the study and performance of early music. But how fixed is the information we receive from notation? The last several decades have increasingly explored notation not as one single teleologically determined phenomenon but as fluid sets of conventionalized symbols, dependent on such contexts as time, place, genre, composer or scribe, and performative purpose for meaning. Pre-1600 conventions regarding parameters of pitch, rhythm, time, and space therefore vary dramatically, in stark contrast to the “lingua franca” achieved by later notational practices. What is notated, how it is notated, and what is left un-notated all have important implications for how early music was conceived and performed. And as “historically informed” performers increasingly consult music theory in order to make modern performative decisions, hermeneutic debates on notational meaning have a stronger impact on our understanding of both historical and modern performance.

In this regard, this panel, which spans well over three hundred years of notational and theoretical materials, offers several new insights into the intersections of notation, theory, and performance. Seeking not necessarily, or not only, to add to the body of prescriptive knowledge about “historically informed performance,” these five papers instead take a more postmodern approach to early notation. Plumbing the depths of extant theoretical material, each presenter locates clues that such sources leave us with regard to the relationships between notation and performance and questions received wisdom about the development of early notation itself.

### **The Early History of Modal Rhythm: What Theory Tells Us About Practice**

Solomon Guhl-Miller (Temple University)

One of the first questions a student of Ars Antiqua polyphony asks upon attempting to decipher the notation of a piece of music is “What mode is this in?” It is a tricky question with layers of assumptions behind it. Yet as anyone who transcribes this material, particularly that

written down before about 1280, can attest, there are frequently multiple modes that a given piece can be “in” as well as multiple rhythmic interpretations of ligatures within a given single mode. Rather than assuming that when there are multiple possibilities it is because of a weakness in the notation, this study assumes that the notation offers these possibilities because it is not meant to present a single interpretation, but several possible interpretations, one of which may be selected at a given moment by the mutual will of the performers. Drawing on theoretical traditions from Boethius to Anonymous of St. Emmeram, this paper will argue that the theorists expected the musicians to use their instincts when applying meter to song; making choices together as a group through the act of performance rather than relying solely on their reason and the notation. The study will conclude with a proposal for a new electronic edition of Ars Antiqua polyphony which would include numerous measured interpretations of a given work and give performers the chance to choose the one(s) they preferred to perform, along with a practical demonstration of what this would entail through a live performance of multiple interpretations of a motet.

### **Choosing *Musica Ficta*: The Modern Tradition of Historically Informed Performance Practice**

Heather J. Holmquest (Buena Vista University)

A performer of medieval music makes performance choices based on existing notation and many extra-notational factors. When performers investigate a manuscript page to ascertain correct pitches, rhythms, and *musica ficta* practices, they are trying to recreate a historical soundscape. For this presentation, I will focus on the choices of *musica ficta* as they alter a “historical soundscape.” I focus on fourteenth-century Italian monophonic songs because the considerations for *musica ficta* are purely melodic unless a performer chooses to add a contrapuntal line. Sources of Italian monophony also include ample *ficta* signs that are ambiguous in their application and duration. Using contrasting recordings of these songs, I will discuss the impact of *musica ficta* choices on the resulting sound world created by interpreting the work. In certain recordings, added contrapuntal voices complicate and inform *musica ficta* choices (and vice-versa). I will select songs from the Rossi Codex and Squarcialupi Codex, including “Lucente Stella” from the Rossi Codex, “De’ poni amor” by Gherardello da Firenze, and “Sento d’amor la fiamma” by Lorenzo da Firenze. I will provide theoretical substantiation for the inclusion of unwritten *ficta* by engaging with Marchetto da

Padova's treatise, *Lucidarium in arte musice plane*. Ultimately, I will consider the impact of recording technology as a form of "early music notation." The idea of choosing *ficta* to perform or not perform is a product of modern recording technology that may lead modern performers and listeners to a more rigid understanding of *ficta* than was historically required.

### **In Search of the *Ars Magis Subtiliter***

Carolann Buff (Indiana University)

Ursula Günther originally invented the neologism *ars subtilior* in order to identify a style of highly mannered music from the late 14th century, but more recently it has become a wholesale description for all music of the era, ignoring geography, notation, genre, or style. By reexamining the origin of the phrase—not Günther's *ars subtilior*, but instead the *ars magis subtiliter*—in the prologue to the treatise *Tractatus figurarum*, one can see that a key feature of the style is the use of a variety of rhythmic elements that override the reigning tempus of the motet. It is also notable that the lower voices are rhythmically active and the harmonic rhythm moves significantly faster than earlier motets. The notation of these works is not overtly complex, leaving subtle shifts of mensuration and meter in the hands of the performers, who in turn weave their texts and rhythms betwixt and between each other.

In this paper, I revisit the concept of the *ars magis subtiliter* by considering this style within the context of the works that the *Tractatus* uses as musical examples—the anonymous motet *Apta caro – Flos virginum*, and two motets that are described in the treatise as the "grosso modo," Vitry's *Quoniam – Tribum que* and *Rex Karole – Leticie pacis*. Through careful analysis of both the notation and aural landscape of these works, I conclude that this style is not only created through musical notation and mensural complexity, but is also something that, as the theorist describes it, is subtler.

### ***Juxta artem conficiendi*: Notating and Performing Polyphony in Solmization**

Adam Knight Gilbert (University of Southern California)

Sometime in the first two decades of the 16<sup>th</sup> century, an anonymous German musician copied a little counterpoint treatise onto paper. *Juxta artem conficiendi* stands out for four examples of three-voice counterpoint preserved not on staff lines, but notated entirely in *solmization* syllables. These passages reveal the extent to which a

teacher and student could communicate and preserve entire polyphonic constructs in terms of solmization, and they provide valuable information beyond the pitches of the voices. They reveal the musical tone of each passage, give a detailed account of the possible musical range for each example within the musical hand. In one example, all three voices outline the three proprieties (soft, medium, and hard), reflecting contemporary notation in two or three different key signatures.

These examples provide insight into the performance of contemporary works, including Ockeghem's *Missa Quinti toni*, whose head motifs would be sung with identical solmization to the most extensive example in *Juxta artem conficiendi*. Applying this type of solmization to *Missa Quinti toni* further reveals hidden passages of imitation and palindromic play. Applying the same principles in performance of dance music ca. 1500 offers a richer understanding on the development, performance, and perception of the early *passamezzo* dance patterns. Using solmization to understand the melodic vocabulary of polyphonic music offers more nuanced and precise methods for communicating melodic patterns. The implications for the modern performance of composed and improvised polyphony are profound.

### **The Mensural Ambivalence of Repeat Signs**

Megan Kaes Long (Oberlin College Conservatory)

Repetition is both a formal parameter and an aspect of performance practice. Sixteenth-century notation provides an incomplete picture of how formal repetition was understood in practice. Often, when repeat signs are taken literally they displace the repeated section by a minim relative to the semibreve *tactus* (yielding a two-beat displacement dissonance relative to the four-beat grouping). Such displacement suggests that either regularity on the semibreve level was not important to composers, or singers were expected to correct the irregularity in performance.

Ruth DeFord identifies what I have called the *minim-displacement phenomenon* in the mid-sixteenth century *villanella* and argues that offset indicates that the minim is the most important governing mensural level in light songs (rather than larger levels typical of more serious styles). Indeed, DeFord treats the limited mensural hierarchy as a defining aspect of these light genres. By contrast, *balletti* and *canzonette* (ca. 1585–1610)—direct descendants of the *villanella*—demonstrate a greater concern for regularity on the semibreve level. The rarity of minim offset

in written-out repeats suggests that offset is a deliberate intervention against mensural norms. Thomas Morley indicates that performers could extend the final note before a repeat to maintain mensural alignment; the repertoire of *balletti* and *canzonette* bears out this assertion.

The different evidence for minim displacement in the midcentury *villanella* and the late sixteenth-century *balletto* and *canzonetta* reflects changing mensural priorities. Repeat signs suggest that composers and performers increasingly prioritized a larger mensural grid, a practice that we associate with later metrical styles.

### Respondents

Karen Cook (University of Hartford)

Loren Ludwig (Independent Scholar)

Valerie Horst (Independent Scholar)

The session will conclude with a small panel of performers and educators active in both the academic and professional worlds. They will first respond to the five papers given in the session. They will then initiate a dialogue with the attendees, panelists, and each other about their individual and collective experiences with engaging early music theory and notation in their work as performers, and will also speak to their personal work in teaching musical notation to amateur and pre-professional performers.

### Russian Music

Inessa Bazayev (Louisiana State University), Chair

#### Glinka's Three Models of Instrumental Music

Kirill Zikanov (Yale University)

Glinka's significance as a composer of instrumental music is typically ascribed to the ostinato-variation technique that he employed in *Kamarinskaia* (1848), where a short melody is repeated while the texture around it is varied. This technique was subsequently taken up by multiple generations of Russian composers, and has commonly been viewed as the antithesis to Germanic ideals of motivic development. Yet *Kamarinskaia* is not the only instrumental composition in which Glinka employed this technique; rather it also appears in his two Spanish fantasias, *Jota Aragonesa* (1845) and *Souvenir d'une nuit d'été à Madrid* (1851).

Indeed, it was the Spanish fantasias that most strongly captured the attention of Russian composers and critics in the late nineteenth century. Not only did many Russian musicians privilege the Spanish fantasias over *Kamarinskaia*, but they also went to great lengths to interpret all three compositions as paragons of musical organicism, relying on decidedly Germanic conceptualizations of what such organicism entails.

In my talk, I investigate the organicist discourse surrounding Glinka's three fantasias in the 1850s, focusing on the writings of Alexander Serov, Vladimir Stasov and Felix Draeseke. In particular, I demonstrate that these critics interpreted the fantasias through Adolf Bernhard Marx's conception of musical organicism, which emphasizes an epigenetic relationship between the motivic material and its temporal development. Moreover, they noted that notwithstanding the three fantasias' shared variational tendencies, each composition represents a distinct approach to musical form. These observations in turn serve as a foundation for my own analytical exploration of Glinka's formal techniques.

### ***Danses Fantastiques: Metrical Dissonance in the Ballet Music of Pyotr Ilyich Tchaikovsky***

Matthew Bell (University of Missouri, Kansas City)

Tchaikovsky's virtuosic play with what Harald Krebs (1999) calls *metrical dissonance* is especially pronounced in his music for *Sleeping Beauty* op. 66 and *Nutcracker* op. 71, both billed as *ballets-féeries*. Following the metaphorical language employed by Frank Samarotto (2000), Robert Hatten (2002), and Steve Larson (2012) in their responses to Krebs's work, this paper uses the choreo-musical analysis of Tchaikovsky's music and Marius Petipa's late-nineteenth-century dances to explore how our experience of metrical dissonance meaningfully interacts with our perception of physical movement. This perspective brings to the fore an aspect of rhythm that is often implicit in analyses of metrical dissonance but rarely explicitly addressed: the *orientation* of interpretive layers (what Larson 2012 calls "*flon*").

I demonstrate that Tchaikovsky's manipulation of metrical dissonance serves to 1) develop the "characteristic" rhythmic gestures and *latent* dissonances (Mirka 2009) of established dance types, 2) designate the stylistic registers of theatrical dancing (*serieux*, *demi-caractère*, and *comique*), and 3) connect individual dances together in overarching metrical processes (intensification, diminution/augmentation, tightening/loosening, and submerging/surfacing). Excerpts to be examined include pantomimed *scènes* from both works, *Nutcracker's* Act I



*valse des flocons de neige* and Act II *pas de deux* (solo variations), and *Sleeping Beauty*'s six fairy variations (from the Prologue *pas de six*). In each case, our perception of rhythmic *orientation* in relation to metrical dissonance helps us to more vividly account for the structural, expressive, and embodied ramifications of this musical phenomenon.

### **Linearity and Compensatory Coherence in Prokofiev's War Symphonies**

Joel Mott (University of Texas at Austin)

One exciting aspect of Prokofiev's music is its ability to quickly navigate through various places along a broad harmonic spectrum between common-practice tonal norms and atonality, often within the same piece. Deborah Rifkin's work on Prokofiev's motivic parallelisms can already account for various degrees of tonal harmonic function. I build on Rifkin's ideas by examining the role of audible, stepwise melodic lines in Prokofiev's Fifth and Sixth Symphonies and proposing five categories of such lines based on their harmonic contexts.

My work with linearity borrows from Daniel Harrison's "Hindemith-lines" (or H-lines), which are surface-level phenomena. H-lines may begin and end on the same triad or they may move between keys. They may allow for some embellishment between members, but they must ultimately move in only one direction.

I propose five categories of H-lines based on the relative harmonic stability of their beginning and endpoints. Two categories involve lines with an accompanying harmonic syntax that closely resembles the common-practice era, one shows little tonal coherence at all, and the remaining two transition between areas of tonal stability and instability.

I provide five examples that show how all H-lines provide a melodic coherence whose significance varies based on their overall stability as quasi-tonal phenomena. In moving from the most to least stable line-types, I also identify emerging patterns that point to Prokofiev's lines becoming more obvious as audible, salient phenomena. These tendencies suggest that H-lines may function as a compensatory device for coherence as the role of tonality wanes.

## **Tropological Interactions and Expressive Interpretation in Stravinsky's Neoclassical Works**

Scott C. Schumann (Central Michigan University)

Igor Stravinsky's neoclassical works have frequently been discussed for their relation to earlier musical styles, though few scholars have used topic theory to explore the composer's link with music of the past. While topic theory is most commonly used as an analytical approach for music of the eighteenth and nineteenth centuries, scholars like Kofi Agawu (2009) have begun to turn their attention to topics in twentieth-century music. One of the more striking ways in which Stravinsky uses topics throughout his neoclassical works is in combination with other topics. Robert S. Hatten (2014) has defined this process as "troping," which involves four axes or "dimensions along which an imported topic and its potential tropological interaction may be marked with respect to its new environment," defined as degrees of *compatibility*, *dominance*, *creativity*, and *productivity*."

In this paper, I expand upon these four axes to examine some of the ways in which they interact on both local and global levels. I then build on these discussions through analyses and expressive interpretations of Stravinsky's *Sérénade en la*, Mvt. I (1925) and *Apollon musagète* (1928). In both of these works, one topic is used most prominently throughout (hymn and French overture, respectively), while additional topics are troped with that characteristic figure in order to create a variety of expressive combinations. I will thus demonstrate how combining analytical insights from each axis and adapting them for a twentieth-century musical context can lead to more nuanced expressive interpretations in Stravinsky's neoclassical works.

## **Revisiting Prolongation and Dissonance in Jazz**

Keith Salley (Shenandoah Conservatory), Chair

### **Hierarchy vs. Heterarchy in Two Compositions by Wayne Shorter**

Henry Martin (Rutgers University-Newark) and Keith Waters  
(University of Colorado-Boulder)

Are there conditions for or limitations to prolongation in tonally ambiguous music? Are hierarchical models sufficiently robust, or are other analytical methods required? Such questions have intrigued music theorists of nineteenth-century music from Proctor to Cohn, and have

animated the field of transformational theory. And such questions are also significant for jazz theorists, particularly those addressing tonally ambiguous music of the 1960s. In this presentation, two coauthors address such questions by examining two compositions by composer/saxophonist Wayne Shorter, “El Toro” and “Pinocchio.” Building on the theoretical work of Patricia Julien and Steven Strunk, we present distinctly differing points of view on the compositions, providing a forum to frame issues of hierarchy vs. heterarchy. For each piece, the first presenter argues that a hierarchical interpretation (implying monotonicity) helps clarify the ambiguity of the internal progressions while the second presenter shows that heterarchical considerations (interactions of locally tonal events with transpositional cycles) overshadow considerations of monotonicity.

After discussing each work, the presenters conclude with thoughts on the evolution of jazz harmony through the 1960s. The second presenter offers a view of ic4 schemata, occurring first in earlier—and evidently monotonic—pieces, then worked into deeper levels of structure in ways that challenge hierarchical interpretations. Afterward, the first presenter provides a metric that rates various parameters of the compositions, providing an overall method of viewing jazz compositions on a scale of “clearly tonal” to “non-tonal.”

### **Theorizing Outside Playing in the Improvised Jazz Solo**

Joon Park (University of Arkansas)

In jazz improvisation, “outside playing” is a particularly challenging technique that demands a deep understanding of a theme’s underlying chord progression as well as the coherent departure from and realignment with the progression. How do the notes involved in outside playing differ from the conventional notion of non-chord tones? This talk re-examines the concept of dissonance in a “straight-ahead” jazz style by analyzing a common improvisational technique called outside playing. I will introduce three ways that an improviser can invoke the “outside-ness” of an improvised melody: pattern-based divergence, successive anti-chord tones, and chord-scale misalignment. The effect of outside playing resembles the tension and resolution commonly associated with that of a non-chord tone in the conventional music theory. However, I will show that the conventional containment structure of chord tone/non-chord tone to determine a note’s stability (e.g., a note inside a chord being considered as consonant) no longer applies in the case of outside playing. As a result, there are cases where an unstable note from outside playing can be falsely recognized as a

stable note in the conventional context. Adopting ideas from recent articles by Stefan Caris Love (2016; 2017) and Chris Stover (2017), I suggest that the stability of a note is determined by two different epistemological grounds in an analysis of jazz improvisation: one based on the conventional work based notion and the other based on the treatment of improvisation as an act.

## Transformations

Ed Gollin (Williams College), Chair

### David Lewin and the “GIS that Wasn’t”: Interactions Between Musical and Mathematical Thought in *GMIT*

Robert Wells (University of Mary Washington)

David Lewin’s generalized interval system (GIS) and transformational theories have profoundly impacted the music-theoretic discipline since the publication of *Generalized Musical Intervals and Transformations* (1987), inspiring wide-ranging analytical and theoretical studies. While the mathematical underpinnings of Lewin’s theories are well known, Hook (2007b) and Hall (2009) have noted Lewin’s frequent departures in *GMIT* from standard mathematical writing, often blurring the boundaries between music and mathematics. Tymoczko (2009), too, observes how Lewin’s musical assumptions often color his mathematics, while the mathematics sometimes limits musical applications.

To more precisely characterize Lewin’s approach to mathematical music-theoretic writing, the current paper will consider how Lewin’s framing of the GIS construct early in *GMIT* demonstrates an idiosyncratic bridging of musical and mathematical realms. Specifically, the first part of this paper will consider how Lewin’s *int* functions define diverse mappings between musical spaces (involving pitch, rhythmic, and harmonic objects) and mathematical ones (generally numerical spaces or mathematical groups). The second part of this paper will then consider, using Lewin’s “failed” duration GIS as a case study, how Lewin’s implicit restrictions on these spaces and their interrelations can be unnecessarily limiting. A temporal analysis of a Bach crab canon will exemplify how less restrictive boundaries on musical and mathematical domains can motivate new avenues of transformational research.

## Modal Spelled Pitch Classes

Nathan Lam (Indiana University)

This paper proposes *modal spelled pitch class* (mspc) as an extension upon Julian Hook's spelled heptachords (2011). Mspcs formally specify the tonic for the analysis of diatonic, centric music. The theory's utility is similar to that of Steven Rings's Tonal GIS (2011); however, while Rings's theory is based on mod-12 pitch classes, Hook's system is situated on the line of fifths, and it represents diatonic objects more efficiently and elegantly.

Mspcs take the form of an ordered triple that includes the key signature, the generic pitch class (gpc, letter name without accidentals) of the note in question, and the tonic's gpc. The structure of the group is  $\mathbb{Z} \times \mathbb{Z}_7 \times \mathbb{Z}_7$ , and the group forms an interval space (Lewinian GIS). Although the three components could be transposed independently, I will focus on the *coordinated transpositions* of these components. Coordinated transpositions correspond to familiar compositional devices such as diatonic transposition, parallel inflection, scale-degree reinterpretation, chromatic modulation, etc., which are all abstract transpositions within my framework.

I will demonstrate analytical usage that intersects with the triadic-transformational analyses of nineteenth-century chromatic mediants, and burgeoning research in diatonic modality. The paper concludes with a few notable mspc T-nets, including Schubert's Piano Sonata in B-flat major and Holst's First Suite for Military Band.

## Instruments and Transformations

Mark Janello (Peabody Conservatory), chair

### Instrumental Transformations in Heinrich Biber's Mystery Sonatas

Jonathan De Souza (University of Western Ontario)

"Suppose you want to retune your violin," writes David Lewin, "so that all its open strings sound notes of the F major harmony." As Lewin demonstrates, the most efficient solutions involve a total shift of 5 semitones. But when Heinrich Biber retunes his violin to an F major harmony, the violinist-composer chooses a relatively inefficient solution. In his seventh Mystery Sonata, Biber raises the G string a perfect fourth and the D string a minor third, while lowering the E string a major

third—a total shift of 12 semitones. Biber’s hand-grip notation, indicating finger positions rather than sounding results, can also unsettle the player. The Mystery Sonatas thus prompt two related questions, which connect transformational voice leading to the phenomenology of performance: How do alternate tunings relate to standard tuning? And how might they affect players?

Analyzing Biber’s alternate tunings according to two metrics of transformational voice leading—consistency and displacement—reveals overlapping categories. “Quintal scordatura,” which preserve adjacent-string fifths, tend to be more uniform, and they include zones where notated and sounding intervals match. “Chordal scordatura,” in which the open strings realize a single harmony, generally involve more displacement. Yet psychological research on altered pitch feedback suggests that a mix of consistency and displacement is most unsettling for players. It implies that scordatura are disruptive when they preserve aspects of standard tuning, creating both expected and surprising notes. Analyzing scordatura, then, ultimately shows how instruments function as tonal spaces and spaces for musical action.

### **Sounds of the Cosmos: A Transformational Approach to Gesture in Shō Performance**

Toru Momii (Columbia University)

This paper incorporates the physical gestures of performing the *shō*—a free-reed mouth organ—into an analysis of its *aitakē*—five- to six-note pitch clusters played by the *shō*—to explore the relationship between performance practice and modal theory in *gagaku*. I demonstrate that the idiosyncratic arrangement of the pipes on the *shō* is closely related to the pitch structure and tonal function of the *aitakē*.

My analysis synthesizes two approaches. First, I adopt David Lewin’s transformational attitude (1987) to focus on the processes of motion enacted by the *tē-utsuri*—standardized finger movements for shifting between two *aitakē*—rather than conceptualize the *aitakē* as static harmonic entities. Second, I treat the *aitakē* as sonic byproducts of a performer’s instrumental gestures to examine how each of the *aitakē* are related to one another kinesthetically, and whether these relationships correlate with the pitch structures of the *aitakē*.

Relatedness between *aitakē* is determined by the parsimony of the *tē-utsuri*. I demonstrate that the most parsimonious movements can be enacted between four *aitakē*: *bō*, *kotsu*, *ichi* and *otsu*. These *aitakē* are identical to the clusters that accompany the fundamental tones of five of the six modes: *Ichikotsu-chō*, *Hyojō*, *Taishiki-chō*, *Ōshiki-chō* and *Banshiki-chō*.

These findings demonstrate that the pipes of the *shō*, while seemingly arranged in no discernable order, prioritize parsimonious *tē-utsuri* between each of the *aitakē* accompanying the fundamental modal degrees. An analysis of the pitch structure of *aitakē* through *tē-utsuri* reveals a striking correlation between gestural parsimony and tonal function.

## Reconsidering Genre

Eric Drott (University of Texas at Austin), Chair

### #genre

Thomas Johnson (The Graduate Center, CUNY)

“Genre is dead!” The sentiment resounds throughout current popular-music critic-fan and artist discourses, as developments like predictive algorithms, professional playlist curators, and ubiquitous access all throw wrenches into traditional machines of musical categorization. Recent sociological work on the increasing eclecticism of musical tastes appears to support this perspective, flattening conventional boundaries between kinds of music and classes of people.

But in this talk, I argue that such omnivorousness of musical proclivities doesn’t obviate popular music genres; instead, it hints at a deeper shift in genre ordering. To address this change, I explicitly theorize the work genre does in the smooth and striated spaces of popular music with a new concept I call “#genre.” Essentially, #genre captures the adjectival quality and in-between-ness of the seemingly-flattened stylistic world of popular music categories by exploring clusters of related artists, genre tags, and playlist constituency.

My methodology approaches this topological change by excavating the kinds of linear genre-fabric that Spotify weaves through its platform, investigating relational algorithms and proprietary metadata. To do so, I use original Python scripts to access and parse Spotify’s metadata, quantitatively assessing the various *kinds* of connections that the streaming service generates. I compare these results to demographic biases to problematize notions of a “post-genre” musical landscape, nudging genre discourses away from conventional phylogenetic cartographies or nested hierarchies and towards lateral and multiple models. My methodology and conception of #genre show how classification continues to guide all parts of the 21<sup>st</sup>-century popular music machine, demanding a renewed investigation.

**‘...and a melodic re-invention’: Lyricism as Structure in “Post-Spectral” Music**

James Donaldson (McGill University)

In 1998, Gérard Grisey contemplated a shift away from the sound-based construction of Spectral Music and towards the ‘establishing [of] new scales and—over time—a *melodic re-invention*’. This statement appears counter to the original manifesto of *l’Itinéraire*, that ‘we are musicians and our model is sound not literature, sound not mathematics, sound not theatre, visual arts, quantum physics, geology, astrology, or acupuncture’ (Grisey, 1982). Yet melody is an increasingly common occurrence in Spectrally-influenced works, provoking wide-ranging implications, necessitating organization in a starkly contrasting manner to the now canonic works from the 1970s. As a result, the sound-as-foundation polemics of *l’Itinéraire*’s manifestos are increasingly secondary.

This paper focuses on Vivier’s *Zipangu* (1981), Saariaho’s *Sept Papillons* (2000), and Haas’s *de terrae fine* (2001). Each adopts melody in a complementary manner whilst rooted in Spectralist aesthetics. Developing Pousset’s (2000) ‘Post-Spectral’ postulation, I show how melody can act (1) rhetorically, engaging with the historical baggage of melody, (2) narratively, that the implications of a lyrical line within a vertically-conceived form can elicit agential readings, and (3) structurally, that shifting away from harmony and timbre can fundamentally revise the large- and small-scale formal devices common to earlier frequency-based works. In each instance, these works demonstrate a reaction to the early Spectralists’ “predictable” methods of composing in a scientific manner, and increase the level of the composers’ expressive input—indeed, their *own* agencies as producers—into the creation of their work.

***Thursday evening, 2 November***

**Special Session: Musical Topics in Opera and Ballet**

Yayoi Uno Everett (University of Illinois at Chicago), Chair  
Robert Hatten (University of Texas at Austin), respondent

Topic theory has been richly augmented by scholarly contributions to the OUP’s Handbook of Topic Theory (Mirka 2014) and other recent publications. Moving beyond Leonard Ratner’s description of topics as “a thesaurus of characteristic figures” in Classic music, scholars have



stipulated more rigorous criteria for identifying topics and their expressive and formal functions in socio-historical contexts. However, aside from Wye Jamison Allanbrook's writing on Mozartean operas (1983; 2014) and Clive McClelland's work on *ombra* and supernatural elements in opera (2012; 2014), analytical application of post-Ratnerian topic theory has focused primarily on the importation of styles and genres in instrumental genres and secondarily on dramatic works.

This special session aims to expand the scope of current studies on musical topics through their application to operas and ballets from the late Baroque to the present. How do musical topics reinforce, expand, or alter their existing meanings and functions as agents of dramatic expression? What formal strategies have composers developed in foregrounding new or existing topics to this end? How can we enhance topic-based analysis through its intersection with theories of meter, harmonic schemata, literary aesthetics, and narrative? In shedding light on these questions, this panel presents five papers that examine the formal, expressive, and symbolic functions of musical topics in a range of dramatic works.

### **Secondary Topical Strategies in Handel's Opera Seria**

Gregory J. Decker (Bowling Green State University)

The semantic importance of musical styles and genres in the early eighteenth century is often viewed within the framework of the Classical style: topics from the late Baroque are valued as gateways to the interpretation of later music, but their hermeneutic usefulness is not often explored in earlier contexts. This is likely because immediate musical oppositions common in the Classical style are not generally present in the late Baroque. I argue, however, that topics are a principal component of the semiotics of Baroque *opera seria*, specifically in works by G. F. Handel. Handel's primary topical strategy was to employ one topic in each solo aria such that the interaction of topics, lyric, and drama lead to an interpretation of the featured character. However, there are other, less pervasive strategies for topical signification present in Handel's operas.

Perhaps the most common secondary strategy involves what I have termed *topical reversal*, in which a topic is used in a manner that is antithetical to its typical appearance or dramatic associations. Another secondary strategy sometimes found in Handel's operas is the use of a *topical region* or *theme*, in which one particular topic is used for several successive (or nearly successive) arias or is foregrounded across the work, suggesting comparison of its different iterations. Finally, although

only one topic is expected per aria or movement in Baroque music, I posit that Handel sometimes used *two topics simultaneously*. I will provide examples of these three secondary topical strategies, speculate on their frequency, and offer interpretations.

### ***Tempesta and the Myth of Sturm und Drang***

Clive McClelland (University of Leeds)

*Tempesta* is a term recently coined to apply to music that exhibits agitated or violent characteristics in order to evoke terror and chaos. Features of the style include fast tempo, rapid scale passages, driving rhythmic figurations, strong accents, full textures, and robust instrumentation including prominent brass and timpani. Music of this type was used for storm scenes, which in operas of the seventeenth and eighteenth centuries are almost invariably of supernatural origin, and other frightening experiences such as pursuit (especially by demons or furies), madness, and rage.

This kind of “stormy” music has acquired the label *Sturm und Drang*, implying a relationship to German literature which is erroneous. Haydn’s so-called *Sturm und Drang* symphonies exhibit characteristics that are no different stylistically to the depictions of storms in other genres. There is no evidence of Haydn suffering from some kind of personal crisis in his middle years. Moreover, there are many topical references to *tempesta* in his subsequent symphonic output, not to mention the instrumental works of many of his contemporaries.

*Sturm und Drang* is therefore a term that was never really fit for purpose. A more appropriate aesthetic context is the emergence of Gothic literature and art, and of ideas about the “sublime of terror,” which began emerging earlier in the century. “Stormy” music was capable of producing an emotional response of some magnitude, and was therefore a powerful tool in the composer’s expressive armory. As the fast counterpart to *ombra*, the term *tempesta* must be seen as more appropriate.

### **Spiritual Implications of the Sacred Hymn Topic and the Romanesca Schema in Beethoven’s *Fidelio***

Olga Sánchez-Kisielewska (University of Chicago)

The “sacred hymn topic” (McKee 2007)—used for priests’ scenes in eighteenth-century opera—includes among its attributes chorale texture, slow tempo, major mode, and a prominent I-V-vi opening shared with

the Romanesca schema (Gjerdingen 2007). No priests appear in Beethoven's *Fidelio*, yet he deployed this musical sign in two significant moments of his opera. This paper provides empirical evidence of the religious connotations of the Romanesca and examines the interactions between topic, schema, and tonal structure to expose some previously overlooked spiritual elements of *Fidelio*.

In the recitative "Abscheulicher!", Leonore's tormented spirits find a safe C major haven suffused with pastoral signifiers. This apparently stable tonal space eventually dissolves into a modulation—metaphorically upwards—to E major, a key historically associated with heavens. The following aria, "Komm Hoffnung," is a prayer to Hope that begins as a sacred hymn topic. This juxtaposition of topics and keys resembles the opposition between the mundane and the divine, depicting Leonore as a spiritual figure rising above ordinary experience. In the Trio "Euch werde Lohn," she gives his husband a piece of bread singing another sacred hymn after a modulation—metaphorically downwards—from A major into C major. Drawing on the historical association between the Romanesca and the Benedictus of the Mass, I interpret the tonal descent as another musical analogy, which turns the lovers' reencounter into a moment of Holy Communion. My analyses suggest that Beethoven's music characterizes Leonore, an emblem of marital fidelity, as a priestess rather than a loving wife.

### **Metrical Phase Shift and Dance Topics in Stravinsky's Ballets**

Johanna Frymoyer (Indiana University)

For the dances and marches of the eighteenth-century topical lexicon, meter is a defining characteristic (Ratner 1980; Allanbrook 1983). Although many of these topics are observed in works of the early twentieth century, the metrical irregularity of this repertory raises challenging epistemological and interpretive questions about how this music can sustain such tokens. This study uses the concept of metrical phase shift to articulate "normative" or unmarked (Hatten 1994) behavior for dance topics in Stravinsky's ballets. Woodruff (2006) uses metrical phase shift to show how surface irregularity in Stravinsky can be understood as movement between evenly staggered phases of a single prevailing meter. By privileging a single metric identity, this framework helps to identify and refine the interpretation of metrically-defined topics in modernist repertory. Caution must be exercised when interpreting topics in Stravinsky's music, because metrical phase shift occurs frequently in Stravinsky's music, potentially rendering it an unmarked characteristic. This point is illustrated through a

reconsideration of irony in the “Royal March” from *L’histoire du Soldat*. In exploring topics through this approach, one also gains greater clarity into the phenomenon of metrical phase shift itself. Whereas Woodruff identifies work-specific motives as instrumental to the perception of phase shift, closer examination of passages from *The Rite of Spring* and *L’histoire* reveals that such metrically-constrained motives often belong to broader topical identities. It is through the topics’ *figurae* (Rumph 2011, 2014), such as stock accompaniment patterns and characteristic rhythmic motives, that the metrical identity is projected.

### **The *Pianto* as a Topical Signifier in Contemporary Operas by John Adams, Thomas Adès, and Kaija Saariaho**

Yayoi Uno Everett (University of Illinois at Chicago)

Raymond Monelle traces the earliest example of the *pianto* motif as a signifier of suffering and sorrow to Giaches de Wert’s “Crudele acerba inesorabil morte.” Purcell’s *Dido and Aeneas* cements its dramatic and expressive function within the lament genre. However, Danuta Mirka argues for the *pianto*’s provisional topical status in the eighteenth-century musical discourse by showing how it is subsumed within the *Empfindsamkeit* topic. In nineteenth-century instrumental music, the motif becomes further unmoored from its earlier dramatic contexts as it turns into a ubiquitous expressive agent of Romantic yearning. Drawing on Hatten’s criteria for analyzing topics (2014), one may say that the motif loses its markedness within a topical field saturated by chromaticism.

This paper analyzes the *pianto*’s role in contemporary operas and explores its intertextual scope and markedness as a topical signifier in reviving dramatic and expressive connotations of past operatic conventions. Drawing from a corpus study of dramatic and instrumental works composed between 1972-2005, I identify two types of *pianto* as topical signifier: a descending figure accompanied by a lament bass (Type A) and alternating upward and downward figures (*appoggiaturas*) over a static or walking bass (Type B). The formal and expressive functions of these types will be illustrated through an analysis of excerpts from Thomas Adès’s *The Tempest* (2002), John Adams’s *The Death of Klinghoffer* (1991) and *Doctor Atomic* (2005), and Kaija Saariaho’s *Adriana Mater* (2005). The *pianto*’s iconic reference to “weeping” is replaced by its broader symbolic function in shaping the narrative trajectory of each opera.

## History of Theory

Thomas Christensen (University of Chicago), chair

### The Triad in Dispute: Genre and Audience in the Writings of Johannes Lippius

Caleb Mutch (Indiana University)

Johannes Lippius is best known for his path-breaking articulation of the concept of the triad. The reception of this innovation chiefly relies upon his treatise *Synopsis novae musicae*, despite the fact that Lippius had already published many of this book's notable points in earlier texts, which he called "disputations on music." Yet the genre-specific peculiarities of the *disputatio*, which was a university-based event featuring a lecturer and a respondent who attempted to rebut the lecturer's ideas, have been overlooked in previous studies of Lippius's music-theoretical content. By situating his writings within the university system of the day and the formalized genres in which he wrote, this paper reveals an important instance of how music theory has been shaped by the demands of audience and genre.

Through comparison of how Lippius presented material first in the form of disputations and then reworked it for publication in his treatise, this paper reveals finds that some textual features are clearly attributable to generic demands, such as the disputations' frequent appeals to authorities and the treatise's adoption of an organizational framework which was heavily indebted to the pedagogical theories of Johann Sturm. It also casts light on unexpected aspects of those genres, like Lippius's expectation that readers of his introductory musical treatise could comprehend both Latin and Greek. Further discrepancies between the texts offer tantalizing glimpses of how the oral disputation may have encouraged Lippius to clarify his ideas, particularly in his recasting of the analogy between the triad and the trinity.

### Combinatorics, Composition, *Copia*: Mersenne's Mathematics and the Erasmian Impulse

André Redwood (University of Massachusetts Amherst)

Marin Mersenne, author of the *Harmonie universelle* (1636-37), has long been recognized for his obsession with mathematical permutation, combination, and calculation. His passion for combinatorics seems to account for one of his most infamous passages, in which he systematically writes out all 720 permutations of the Guidonian

hexachord—twice. Historians of mathematics and science, and more recently of music theory, have tended to situate these exercises within narratives about the early history of combinatorics and explorations of its applications, to which Mersenne was an important contributor. Yet his decision, on certain occasions, exhaustively to notate each permutation leaves unanswered the question of why he chose to do so when simple arithmetic calculation might have sufficed.

This paper argues that Mersenne's hexachord permutations, and other exercises like it, are part of a deliberate rhetorical strategy of abundant display—a strategy that draws on the rhetorical principle of *copia*, most famously theorized by Erasmus in his popular *De Copia* (1512). Although *copia* has received thoughtful attention in musicological studies centering on variation in seventeenth- and eighteenth-century composition, its role as an animating principle of musico-rhetorical theorization remains unexplored. In Mersenne's case, the display of hexachord permutation invites comparison to, and is clarified by, analogous 'accumulative' tactics found in his other writings. Furthermore, *copia* may have broader historiographical relevance, for it offers a means by which rhetoric can be understood to have a meaningful 'life' long after its supposed music-theoretical 'death' at the turn of the nineteenth century.

### **J. S. Bach's Chorales: Reconstructing Eighteenth-Century German Figured-Bass Pedagogy in Light of a New Source**

Derek Remeš (Eastman School of Music)

According to Emanuel Bach, his father used figured-bass chorales to teach harmony: first, students added alto and tenor voices to a given outer-voice framework; next, students composed their own basslines. Robin Leaver recently identified a new source which likely originates from J. S. Bach's students in Dresden, c. 1740. The anonymous manuscript, dubbed the *Sibley Choralbuch*, contains 236 chorales with outer voices and figures. Therefore, this source likely documents the first stage of Bach's teaching method. I will use a variety of eighteenth-century German sources to reconstruct Bach's pedagogy in detail.

We might think to use Bach's published four-voice chorales as models, but these are vocal, not keyboard works—Emanuel Bach reduced them from four to two staves for ease of reading at the keyboard. This format has led to confusion between Bach's vocal and keyboard styles of harmonization. The *Sibley Choralbuch* implies that there was a simpler, keyboard-based Bach chorale tradition, which formed the starting point in Bach's pedagogy. I argue that the goal of

Bach's method was to bridge from the simpler, keyboard style to the more complex, vocal style. As evidence, I cite among other things the multiple-bass chorale tradition of Bach's students, Kittel and Kirnberger, where each bassline becomes increasingly ornate.

After chorales, Bach introduced fugue. This ordering suggests he believed contrapuntal thinking depends on a foundation of figured-bass harmony. This harmony-centered perspective informs our understanding of Bach's music and encourages us to reconsider our own teaching methods.

**From Rameau to Riemann: Antoniotto's *L'arte armonica* as a  
Missing Link from Fundamental Bass to the *Tonnetz***

Deborah Burton (Boston University)

Giorgio Antoniotto's 1760 treatise *L'arte armonica*, with subscribers including Burney, Arne, Hawkins and Dr. Johnson, is presented here as a link between Rameau and Riemann. Using Rameau's fundamental bass, Antoniotto generates scales from sequential perfect fifths. He posits two systems: Natural (diatonic) and General (chromatic). In the latter, he explores the complete chromatic, whole-tone scales, and major- and minor-third cycles. His grid of the General moves by perfect fifths horizontally and vertically, with one diagonal a whole-tone scale, and the other unisons. Another example shows whole-tone lines in the soprano, tenor and bass parts, with a chromatic line in the alto. He demonstrates a major-third cycle (C-E-G#-C) in yet another example, and in a fourth, a minor-third cycle passes through the major keys of C, A, F# and Eb, before returning to C major. Euler's 1739 "genus diatonicum chromaticum" and 1774 "Speculum Musicum" are considered forerunners of the Neo-Riemannian *Tonnetz*, and Antoniotto has no grid precisely equivalent to Euler's discoveries. However, he does create one in which the horizontal and vertical axes consist of Natural (diatonic) thirds, with one diagonal perfect fifths, and the other unisons. In addition to exploring Antoniotto's concepts, I place them in the context of contemporary geometric representations of musical structures, by Euler, Hartung (1749), Mace (1676), Butler (1636) and Smith (1759).

## **Preparing Articles for Publication**

*Sponsored by the Professional Development Committee*

Roger Graybill (New England Conservatory), Moderator

Nicole Biamonte (McGill University)

Richard Cohn (Yale University)

Seth Monahan (Eastman School of Music, University of Rochester)

Daphne Tan (University of Toronto)

### **Converting a Dissertation into Articles**

This short session explores the challenges of converting a dissertation into an article (or several articles), and proposes ways of effectively meeting those challenges. The four-member panel includes authors who have successfully done so, as well as editors who have shepherded that process. Anticipated topics include:

- What are useful strategies for adapting the content of a dissertation within an article or collection of articles?
- What are some pitfalls to be avoided?
- To what extent should the author target the article for a particular journal?
- How might one structure a dissertation in order to facilitate its eventual conversion into articles?

### **Preparing Musical Examples, Graphics, and Audio/Visual Materials for Publication**

The impact of an article is greatly influenced by the supplemental materials accompanying it: notated musical examples, graphics, tables and charts, and (in online journals) audio and video files. But creating effective materials can be a challenge, and journal guidelines tend to provide little guidance for how to do so. This session discusses (1) ways of maximizing the effectiveness of such materials, and (2) the “nuts-and-bolts” of generating them.



## **Rhythm and Meter in Popular Genres**

Kyle Adams (Indiana University), chair

### **The Emancipation of Metric Displacement Dissonance in Hip-Hop Music**

Ben Duinker (McGill University)

This paper investigates metric displacement dissonance (Harald Krebs, 2009) between hip-hop music's main textural layers: flow (the rapped vocals) and beat (the instrumental track). In hip-hop music, such dissonance occurs when syntactic units of the flow and metric units of the beat exhibit groupings that are out of phase with each other. The analyses put forward in this paper suggest that the perception of displacement dissonance in hip-hop music can involve two features. First, while the dissonance is often easy to identify by ear, it is not always clear which textural layer is referential and which is dissonant. Second, because of musical attributes common to hip-hop such as looped harmonic and metric units, displacement dissonances might remain unresolved or behave inconsistently in their resolutions.

I model hypothetical hearings of displacement dissonance for songs by A Tribe Called Quest, Nas, and Kool Keith. These models demonstrate that multiple hearings of meter are possible when the dissonance remains in flux and/or does not resolve. In the context of electronic dance music, Mark Butler (2006) describes the possibility of multiple hearings and non-resolution of dissonance respectively as interpretive multiplicity and the emancipation of metric dissonance. By showing how displacement dissonance between hip-hop music's textural layers engages with these concepts, this paper demonstrates the value of studying musical meter by situating the listening experience as the object of analysis.

### **(Why) Does Talib Kweli Rhyme Off-Beat?**

Mitchell Ohriner (University of Denver)

Phonology and music theory address rhythm in starkly different terms. While both accounts treat rhythm hierarchically, authors generally agree that music's durations are periodic and speech's durations are not. Because they address distinct domains, these accounts can remain both incompatible and useful within their scope. Yet this separation is untenable for the rapping voice, which must be comprehensible as speech and musically compelling. A rapper whose durations stray too far

from periodic organization hazards accusations of rapping “off-beat.” The emcee Talib Kweli’s work has long attracted such accusations; this presentation contextualizes those critiques by examining his rhythm with greater precision, documenting specific practices (e.g., phase shift and swing) emblematic of musical rhythm and the exploring the limits of those practices in his output.

Addressing the title’s question, I compute the non-alignment between a phrase of rapping and its metric structure. Further, I characterize the extent to which Afro-diasporic practices of phase shifting and swing explain that non-alignment. I then define “off-beat” rapping as delivery with non-alignment not attributable to these practices. Documenting both on- and off-beat rapping in Kweli, I propose that he rhymes off-beat to diversify the rhythmic surface and affiliate with hip-hop’s aesthetic priority of rupture. Beyond rap delivery, these syllabic displacements—erased in conventional music notation—pervade sung performances in other genres as well. Therefore, gradating “off-beat” and “on-beat” delivery could enhance analyses of rhythm in other spoken or sung musical performances, for speech and song are not so easily distinguished rhythmically.

### **Analyzing Collaborative Flow in Rap Music**

Robert Komaniecki (Indiana University)

The “guest artist” is a ubiquitous feature of contemporary rap music. In fact, each of the top ten best-selling rap albums of 2015 featured multiple appearances from guest rappers, despite each being released under the name of a solo artist. In recent years, rap music has been subjected to a steadily-increasing number of analytical inquiries, spearheaded by scholars such as Krims, Adams, Williams, and Ohrtner. In this presentation, I expand upon Adams’s “metrical techniques of flow” (essentially, all aspects of a rapper’s delivery that can be readily notated or measured) in order to demonstrate the quantifiable impact that a lead rapper can have on his or her guest artists.

Transcriptions and analyses of rap tracks featuring guest artists elucidate the ways in which a lead rapper’s delivery shapes that of their guest. Various aspects of flow—such as rhythmic cells, rhyme scheme, and end-rhyme technique—are imposed upon guest rappers. In rare cases, a guest artist will not only appropriate aspects of the lead rapper’s flow, but contribute their own developments as well.

In this presentation, I demonstrate ways in which the influence of a track’s main rapper can be heard on his or her featured artists—including intra-track cohesion between rhyme schemes, rhythmic cells,

and use of multi-syllabic rhymes. Through this analysis, we can not only uncover quantifiable aspects of individual rappers' characteristic styles, but also develop a deeper understanding of musical depictions of collaboration and identity in rap music.

### **Meter Without a Fixed Cycle: Headbanging 3+3+2 as a Metering Construction**

Stephen Hudson (Northwestern University)

Meter is traditionally described as a cyclical system of isochronous pulse layers, but I advocate for also theorizing meter as a patchwork of recognized rhythms. This recognition can come from having heard a passage before, or from a familiar “metering construction,” a generalized pattern of rhythmic motion that can be recognized in unfamiliar music. This paper demonstrates this perspective by analyzing headbanging as an embodied practice of metrical interpretations, and describing a construction of phrase-ending 332-family rhythms in metal music.

Headbanging is active metering (Butler 2006), a process of creating beats rather than a sympathetic response to beats that are “already there.” Feeling rhythm as a headbanger involves identifying a way of nodding the head that is a workable interpretation of heard sounds. 332 rhythms are traditionally described (and notated) as syncopations against 4/4. One particular drumkit setting of phrase-ending 332 rhythms is associated with headbanging to the 332 instead of a regular quarter- or half-note pulse. I argue that this metering construction briefly suspends or replaces 4/4 time, offering another familiar way of interpreting rhythm to headbangers. Unlike some other uses of 332 rhythms in metal music, the association between this drumkit setting and this way of moving is stable enough that if used “out of phase” it can displace or reset a 4/4 “background” meter. The 332 construction is not a rhythmic dissonance, but a border in a patchwork of recognized rhythms, a moment of transition between two metering constructions.

## *Friday morning, 3 November*

### **Tonality in Rock**

Nicole Biamonte (McGill University), Chair

#### **Multi-Centric Complexes in Rock**

Matthew E. Ferrandino (University of Kansas)

Recent research in the analysis of rock music has focused on reconciling harmonic idioms unique to popular music with traditional functional models. Whether through theories of modal tonalities, weak or absent tonics, or through syntactical definitions of function, such analyses achieve varying degrees of success because they are interpreted through a single overarching tonic. I instead propose to explore concurrent pitch centers that occur in rock music by modifying Guy Capuzzo's (2009) sectional centrality, a theory that accounts for multiple non-hierarchical pitch centers within a song. While Capuzzo's method accounts for multiple pitch centers between sections, I instead look at pieces where multiple pitch centers are suggested simultaneously within a section. Such examples I refer to as multi-centric complexes, adapted from Robert Bailey's (1985) double-tonic complex.

Pitch centers can be determined by three dimensions of music: melody, harmony, and bass, and although bass and harmony work in tandem in most cases, each may independently suggest a different pitch center—what I call *bass-harmonic split*. The most common types of multi-centric complexes are contrapuntal examples where the melody and bass suggest a different pitch center with minimal functional harmony, what I call *melodic-bass split*. Cases where melody and functional harmony suggest different pitch center, I call a *harmonic-melodic split*. I explore three different examples of multi-centric complexes from a diverse body of rock music from the past half-century. These examples highlight the complexity of rock music, which when considered under the lens of multi-centric complex reveals a rich, nuanced, harmonic structure.

#### **Double-Tonic Complexes in Rock Music**

Drew Nobile (University of Oregon)

Many rock songs have a puzzling feature: despite ostensibly simple harmonic structures, it is not entirely clear what key they are in. The standard analytical response to these situations is to claim *ambiguity* or *competition* among the possible key centers and frame a narrative

interpretation around this ambiguity. However, the assumption of monotonicity in the rock repertoire bears examination, especially the notion that the absence of a single pitch center implies conflict. Might rock tonality allow for multiple tonal centers to exist not in conflict but as equal members of a governing tonal structure?

In this paper, I propose that some seemingly ambiguous rock songs exhibit the theoretical structure known as the “double-tonic complex.” Not just “tonal pairing”—the alternation of two equally weighted keys—but a true Robert Bailey-style double tonic: a four-note sonority built from the union of two third-related triads acting as prolonged tonic. Though the double-tonic complex has proven controversial in 19<sup>th</sup>-century scholarship, rock music’s particularities provide a ripe environment for double-tonic structures, with its common use of seventh chords as stable harmonies and Aeolian modality. I investigate three double-tonic situations: 1) a surface intertwining of two relative keys such that both tonics act *simultaneously* as gravitational centers; 2) multi-section works in which each of the two keys is central for portions but neither emerges as the global tonic; and 3) songs with looped chord progressions that do not settle on a particular tonic.

### **Multimodality and Tonal Ambiguity in Rock’s Aeolian Progression**

Mark Richards (Florida State University)

While rock’s Aeolian progression has been described by Biamonte (2010), Everett (2009), and Moore (1992), among others, as residing in the Aeolian mode as  $\flat VI-\flat VII-i$ , its conflation with a major-mode interpretation of  $IV-V-vi$  and the tonal ambiguity that results have not been discussed in any great detail. Because rock generally lacks raised leading tones and regularly draws on several different modes, a single diatonic collection can be the source of multiple tonalities. Tonal ambiguity in the Aeolian progression particularly can arise in two ways: 1) when the progression or the phrase in which it occurs lacks an initial tonic harmony of either the major or Aeolian mode, and 2) when the surrounding passages waver between different tonal centers, usually major and Aeolian. When the progression entails such multimodal possibilities, the tonality is generally clarified through the melodic structure of the progression. More specifically, a particular mode is favored when notes of its tonic triad are emphasized by any of several means. In such situations, the progression encompasses aspects of more than one mode even when a single mode is heard to dominate. Thus,

rather than view these ambiguous progressions entirely in one mode or another, such an approach aims to characterize their tonal fluidity in a way not easily captured by Roman numerals.

This paper attempts to demonstrate that, while rock's harmonies themselves are often mere triads that are strung together into simple repeated loops, hearing tonality in the progressions they form can be an engaging, complicated, and fascinating affair.

### **Mapping the Modulation Zone: A Formal and Stylistic Study of Stepwise Modulation in Pop-Rock**

Brian D. Hoffman (Cincinnati, OH)

Modulations by tone or semitone are widely recognized as a common stylistic element of pop-rock songs but many scholars have casually described them with mechanical terms such as “truck-driver modulation” or “pump-up modulation.” In place of this view, I frame modulation as an element of pop-rock music that is compositionally constructed through texture, harmony, and rhythmic energy gain. These modulations occur as part of a formal zone that overlaps with other, more traditional, formal sections (the *modulation zone*).

To begin, I outline historical trends in stepwise modulation based on my study of nearly 400 modulating *Billboard* Top 100 songs spanning 1950–2010. I then define the modulation zone and its constituent parts based on the seam between one key and the next. Dai Griffiths and Adam Ricci have recently published scholarship detailing this seam. Following these preliminaries, I outline four specific modulation zone based on compositional strategy and demonstrate the utility of these strategies beyond mere labelling. By rethinking how pop-rock songs enact their modulations, this paper establishes a new perspective that recognizes a well-established set of stylistic signs and idioms apart from the obvious stark juxtaposition of two keys.

### **Genesis, Transformations and Mutations**

C. Catherine Losada (College-Conservatory of Music,  
University of Cincinnati), chair

### **Ursula Mamlok's Path to Serialism**

Barry Wiener (New York, NY)

Recent discussions of Ursula Mamlok's music have focused on her use of serial matrices, pc invariants and tonal references in works of the

1980s (Straus 2009; Straus 2016; Shanley 2016), theorizing these techniques as normative in her music. In this paper, I discuss Mamlok's gradual adoption of serial procedures in the 1960s and 70s, drawing on her private papers (now housed at the Akademie der Künste in Berlin). I provide an overview of her techniques and development, discussing selected works in detail together with associated sketches. My investigation helps to elucidate the nature of Mamlok's unique synthesis of serial techniques and its relationship to her earlier non-serial twelve-tone compositions, written during her studies with Stefan Wolpe and Ralph Shapey in 1960–64.

While Mamlok uses a series in the second movement of *Designs* (1962), the first movement is not serial. Rather, Mamlok employs unordered hexachords in Shapey's manner. Mamlok first used a serial matrix during the composition of *Stray Birds* for Soprano, Flute and Cello (1963). She used combinatoriality for the first time in the *Capriccios* for Oboe and Piano (1968). In the Sextet (1977), Mamlok extended her control to the parameter of rhythm and created several series permutations as well.

My exploration of Mamlok's evolution sheds light both on her artistry (clarifying her use of techniques that have been misrepresented) and on trends in American twelve-tone music that are often overlooked in the music-historical and music-theoretic literature.

**TC-Generated Pcset Chains and their Transformational Network  
in *sur incises* by Pierre Boulez**  
Ciro G. Scotto (Ohio University)

This paper formulates a transpositional combinational (TC) based theoretical model for analyzing the harmonic and formal structure of *sur incises* (1996, 1998) for three pianos and percussion by Pierre Boulez. The theory extends the TC model of Boulez's pitch-class multiplication operation developed by Ciro Scotto (2014) into new territory, and the paper demonstrates the analytical advantages of a TC based theory compared to the theories of pcset multiplication formulated by Catherine Losada (2008, 2014), Stephen Heinemann (1998), and Lev Koblyakov (1990). The TC based theory introduces the concept of hexachordal mutation, which transforms one hexachordal set-class (SC) into a member of a different SC. Hexachordal mutations form a transformational network with the contextual transposition operation J that relates harmonic complexes of hexachords generated by TC. The union of transformationally related mutated hexachords produces pcset chains that generate, organize, and interrelate much of the pcset material

with cardinalities greater than six in *sur incisés*. Since pcset chains and their corresponding TC-transformational network organize and interrelate hexachords from different SCs rather than just transformationally relating the members of a single SC, the theoretical model extends the pentachordal network and contextual operations David Lewin (1993) developed for analyzing Stockhausen's *Klavierstück III*.

### **Object/Process: Functions of Repetition in Birtwistle's Recent Music**

Antares Boyle (University of British Columbia)

Many analysts note an apparent paradox in the functions of repetition: it can create discontinuities at the boundaries of the repeated segment, but can also promote continuity in the form of a groove or ostinato (Lidov 2005, Margulis 2014). The first type, objectifying repetition, highlights the repeated material as a significant musical entity: it is foreground and is typically of formal or rhetorical importance to the work as a whole. In the second type, the repeated material itself (the ostinato) becomes subordinate to an ongoing metric process and typically plays a background role. Contemporary repetitive music often cultivates ambiguity between these dual functions for expressive purposes. My paper explores the textural manipulations arising from Harrison Birtwistle's repetitions in two works, "Frieze 2" and "Frieze 3" from *Nine Movements for String Quartet*. I begin by describing generalized prototypes for the two repetition functions, drawing on and supplementing typologies by Middleton (1990), Lidov (2005), and Leydon (2002). Using these models, I show how Birtwistle's brief "ostinati" combine characteristics of the two prototypes. I then show how a hidden, global chaconne in each movement embodies some of the same contradictions underlying the local repetitions. Thus, the same ambiguities of identity, continuity, and textural priority that animate local passages are also at the heart of Birtwistle's larger forms.

### **Serialism as Existentialist Metaphor in the Music of Camillo Togni (1922-1993)**

Christoph Neidhöfer (McGill University)

In Italy, as elsewhere, World War II led to a fundamental questioning of the function of the arts and to a reorientation of artistic creation. Following calls by writers and philosophers such as Adorno, Mann, and Sartre for the arts to play an active role in the rebuilding of



the post-war world, and by following recent examples of politically engaged music (e.g., Schoenberg's *Ode to Napoleon, A Survivor from Warsaw*, Dallapiccola's *The Prisoner*), Italian composers produced a large body of politically committed music in the 1950s that can be grouped into three broad categories of (1) so-called "protest music" (Dallapiccola 1953), (2) works with biblical themes, and (3) music treating existentialist topics from contemporary philosophy and literature. Whereas recent scholarship on Italian politically engaged music has focused mainly on works of the first two kinds—on the works of "protest music" by Nono, Dallapiccola, and others (De Benedictis, Earle, Guerrero, Nielinger, Rizzardi, Samuel, et al) and religiously themed compositions by Dallapiccola, Petrassi, etc. (Alegant, Ciolfi)—music focusing on existentialist topics has received less analytical attention so far (Carroll).

Taking as point of departure two vocal works by Camillo Togni on texts by Sartre (*Three Studies* [1950], *Ricerca* op. 36 [1954]), this paper demonstrates, with information from the sketches, how the composer continued to devise serial strategies as metaphors for the philosopher's politically charged existentialist narratives in purely instrumental works as well. I examine this in an analysis of Togni's *Fantasia concertante* (1957) for flute and string orchestra.

## **Mentorship and Diversity**

*Sponsored by the Committee on Diversity*

Chair: J. Daniel Jenkins (University of South Carolina)

This session will focus on the role that mentorship plays in the lives and career successes of racially and ethnically diverse students and scholars. The session will have two parts. Part I will feature a roundtable discussion in which a group of participants of diverse backgrounds and experiences react to and discuss readings about the topic of mentorship. In Part II, we will discuss the pipeline that one travels from high school through undergraduate education, graduate school, landing a job, and finally, getting tenure. Mentors and mentees who represent each stage of this process will reflect on the particulars of their situations, as well as offer more general advice. We hope the session will allow us to reflect on the challenges that lie before us in our efforts to be good mentors and to consider what strategies we might employ to improve the diversity of the Society.

## Part I: Roundtable Discussion

Daphne Tan (University of Toronto), moderator  
 Christopher Endrinal (Florida Gulf Coast University)  
 Sumanth Gopinath (University of Minnesota–Twin Cities)  
 Nancy Rao (Rutgers University)  
 Harvey Stokes (Hampton University)

## Part II: The Pipeline

Jan Miyake (Oberlin Conservatory)  
 Evan Jones (Florida State University)  
 Lissa Reed (Eastman School of Music)  
 Maureen Carr (The Pennsylvania State University)  
 Anthony W. Randolph (Howard University)  
 Richard Desinord (Eastman School of Music)  
 Joseph N. Straus (City University of New York)  
 Ellie Hisama (Columbia University)  
 Yayoi Uno Everett (University of Illinois-Chicago)  
 Juan Chattah (University of Miami)

## Music and Body

Marianne Kielian-Gilbert (Indiana University), chair

### **Philosophies of the Body in *Feminine Endings*: Historicizing Music Theory's Embodied Turn** Vivian Luong (University of Michigan)

Bodies—listeners' bodies, performers' bodies, sonic/musical bodies—have become key music-theoretical objects of study in recent decades. Following Suzanne Cusick's feminist critique of music theory's mind/body problem (1994), accounts of embodied musical experience now proliferate across music-theoretical scholarship from performance and analysis to music cognition as well as music and disability studies. While Cusick's and other feminist music-theoretical texts are often referenced in this literature, music theorists have yet to consider the feminist-philosophical context out of which these influential writings on the body emerged.

My paper illuminates the philosophical orientations that color one such text, McClary's *Feminine Endings*. While a significant contribution to

new musicology, I argue that McClary's text also opened a space for bodily inquiry in music theory. Drawing on Elizabeth Grosz's history of feminist approaches to the body, I contextualize *Feminine Endings* in relation to three categories of feminist thought: egalitarian feminism, social constructionism, and sexual difference. In contrast to McClary's critics who understand her work as an imprecise borrowing of *écriture féminine*, I demonstrate how observed inconsistencies in McClary's project arise out of two factors: 1) a tension between her investments in egalitarian feminism and social constructionism; and 2) the historical moment in which *Feminine Endings* emerged as theories of sexual difference by Grosz, Judith Butler, and Donna Haraway were taking hold. By situating *Feminine Endings* as a key music-theoretical text, this paper calls for (re)writing the history of music theory's embodied turn to adequately acknowledge its debt to early feminist music scholarship.

### **Analyzing Improvised Music–Dance Interactions**

Chris Stover (The New School)

This paper analyzes improvisational interactions between musicians and dancers in three performance scenarios: a Cuban *rumba guaguancó* performance, a Brazilian *candomblé* ritual, and a drum–dance performance from Ghana. Its analytic focus is on the way in which participants develop simple gestures into more elaborate expressions through the course of a complex multi-directional dialogue. While this can unfold in a great many directions, certain part-specific performance constraints help determine ranges of expected behaviors; therefore, there is a high degree of expectation inherent in any given performance. These expectations may be fulfilled or denied, and their successful navigation is an important indicator, for insiders, of the quality of the performance. Across the three excerpts analyzed, three themes are foregrounded: (1) how the extemporaneous call-response dialogue between lead drummer and male dancer in rumba guaguancó unfolds, and how it grounds other improvisation interactions across the ensemble; (2) how a four-part dialogue between dancer and three drummers in candomblé animates tempo entrainment; especially group decisions to speed up the tempo; and (3) how a number of improvised performance decisions contribute to different kinds of beat orientations—laying back or pushing ahead, for example—in Ghanaian drum-dance music.

## **Empirical Approaches to Eighteenth-Century Music**

Nathan Martin (University of Michigan), chair

### **Developing an Analytical Framework for Fonte and Monte, and its Application to an Empirical Study of Haydn's Symphonies**

David Jayasuriya (University of Southampton)

Fonte and Monte were prominent harmonic-contrapuntal schemata in eighteenth-century compositional pedagogy and practice. This paper discusses the development of an analytical model for these schemata drawing on diverse theoretical and historical sources. It concludes with empirical results and a case study from Haydn's symphonies.

I discuss Fonte and Monte in the *partimenti* and *solfeggi*, which already include techniques such as elision and *Zwitter*, and whose long 'block' schemata are precursors to more concise galant formations. Riepel includes many references to the two schemata in his *Anfangsgründe*, where he emphasises that Fonte is still current, while Monte is past its peak and requires variation. In his *Anleitung*, Koch focuses more on the role of the schemata in phrase construction, and presents formal models for small compositions consistent with Haydn's schematic employment in his symphonic minuets and trios. I discuss cognitive models in recent psychological schema theory which motivate the hierarchy of categories, parameters and types central to my analytical framework for the schemata.

Haydn's symphonies contain 452 instances of Fonte and Monte, evenly distributed across the entire set. Instead of an expected decline in the employment of these schemata, we find an increase in Fonte from the early 1770s, and a resurgence of Monte in the *Paris* and *London* symphonies. Statistical analysis also provides valuable insights into individual parametric trends. I conclude by discussing schematic manipulation as a strategy of communication in Haydn's last symphony, and explain how its identification and interpretation were aided by application of the analytical framework.

### **Similarity, Prototypicality, and the Classical Cadence Typology: Classification based on *Family Resemblance***

David R. W. Sears (Johannes Kepler University Linz)

In the *Formenlehre* tradition, contemporary accounts of the classical cadence typically identify the most common cadence categories according to essential characteristics relating to harmony and melody. In

the perfect authentic cadence, for example, the dominant and tonic harmonies of the cadential progression must be in root position, and the tonic must support scale degree 1 in the soprano voice. I consider an alternative view, one that exemplifies the probabilistic approach to category formation adopted by cognitive psychologists over the last half century, in which a category is understood as a network of overlapping attributes, and members are prototypical to the extent that they bear a *family resemblance* to—have attributes in common with—other members of the category.

To support this claim, this paper presents a corpus study of the classical cadence that reexamines the cadence typology presented in William E. Caplin's treatise, *Classical Form*—represented here by a collection of 245 exemplars selected from 50 sonata-form expositions in Haydn's string quartets (Opp. 17–76) of the five cadence categories that achieve cadential arrival—using a family of techniques for similarity estimation and clustering pioneered by psychologist Amos Tversky. My findings suggest that category systems for the classical cadence are psychologically relevant if they mirror the structure of attributes encountered in a given repertory that listeners are likely to learn and remember, where category membership is determined not by essential features, but by family resemblance.

## ***Friday afternoon, 3 November***

### **Special Invited Session**

### **Models in Improvisation, Performance, and Composition**

Daphne Leong (University of Colorado-Boulder), chair

#### **The Teaching and Practice of Improvised Counterpoint in the Renaissance**

Philippe Canguilhem (Université de Toulouse)

Oral counterpoint, currently known as *cantare super librum*, was widely taught and practiced within the choirs and chapels of many European churches throughout the 15th and 16th centuries. But how did the singers learn to sing in counterpoint, and what did their improvisations look like, when compared with the written-out compositions we have preserved from the same period? To answer these questions, I will

interpret a number of treatises that explain the teaching methods and didactic progression, as well as the techniques employed by the musicians to realize their counterpoints “in real time.” I will focus on the works of Coclico, Lusitano, and Zarlino, and I will also use some historical evidence, particularly the statement given by Correa de Arauxo in his fascinating letter of 1637.

### **Who Invented Partimenti? Newly Discovered Evidences of Partimento Practices in Rome and Naples**

Giorgio Sanguinetti (University of Rome–Tor Vergata)

When dealing with the difficult issue of determining when and where partimenti came into use, I conjectured about a Roman origin. That was an elegant solution: in the early years of the eighteenth century, Rome was probably the most advanced musical center in Europe, and the earliest signed partimenti manuscript collection, that by Bernardo Pasquini, originated here about 1707. A migration to Naples occurred later, following Alessandro Scarlatti’s move from Rome to Naples.

As it turned out later, after my book *The Art of Partimento* came out, things seem to be more complicated. Newly discovered sources, such as the *Regole o vero Toccate di studio del Sig. Abb[at]e Fran[cesco] Mancini 1695* (F-Pn Rés. 2315) prove that partimenti were in use in Naples already at the end of the seventeenth century, and possibly earlier. In fact, the Mancini manuscript, and in particular the 21 Toccate for harpsichord, betray an impressive level of sophistication and virtuosity, which would be unlikely to have been reached in a short time. Other manuscripts, such as the coeval Rocco Greco manuscript (I-Nc 33.2.3) show that bass string majors studied partimenti at the keyboard, but also learned how to *harmonically* improvise diminutions on standard bass patterns on their instruments. Thus, musicological research helps us to better understand the origins of the practice, but also to find a solution for the problem we face today when teaching partimenti to non-keyboard majors.

### **Notating the Performed and (usually) Unseen**

Elaine Chew (Queen Mary University of London)

Music notation normally presents an abstract notion of time that largely ignores performed tempi, rhythms, and timing (rubato, agogic accents, and pauses). This has led to a schism between music as notated (in score time) and music as performed (in real time). I shall describe a

series of experiments demonstrating a range of unconventional treatments of common music notation (CMN). In *Practicing Haydn* (2013), created in collaboration with composer Peter Child and conceptual artist Lina Viste Grønli, my sight-reading of a Haydn sonata movement is meticulously transcribed into a performable score, complete with all the starts and stops, errors and repetitions. In *Stolen Rhythm* (2009), Cheryl Frances-Hoad's rapid-paced re-notation of the same sonata movement suggests a different hearing of Haydn's original work. In pieces created by *Morpheus* (2016) the optimization software, a collaboration with Dorien Herremans, re-assignments of pitches to template rhythms hard constrained to follow recurrent patterns and mimic tonal tension profiles of an existing piece re-forms familiar pieces to create alternate musical universes. In *Stolen Heartbeats* (2017), electrocardiogram recordings of abnormal heart rhythms are transcribed semi-automatically to form rhythmic frameworks for assemblage pieces. The extent to which CMN can encode even abnormal physiological rhythms suggests new ways to represent and make evident the usually unseen creative work of performance.

### **Roundtable**

Philippe Canguilhem (Université de Toulouse)  
 Elaine Chew (Queen Mary University of London)  
 Giorgio Sanguinetti (University of Rome–Tor Vergata)  
 Daphne Leong (University of Colorado Boulder), moderator

The session will conclude with a roundtable discussion on the following topics:

- the roles of notation in different types of musical practice: improvisation, performance, composition, and pedagogy
- the use of models in musical creation and pedagogy
- musical pedagogy and historical improvisation
- questions from the audience

Live, video, and audio demonstrations and performances will play a prominent role in the roundtable.

## What Does Music Theory Want? The Ethics of Musical Hermeneutics

*Sponsored by the Psychoanalysis Interest Group*

Naomi Waltham-Smith (University of Pennsylvania), chair

Respondent: Seth Brodsky (University of Chicago)

The relation between musical hermeneutics and music theory is longstanding but not harmonious, shadowed by rivalries, disavowals, and breaks. There is no interpretation without desire, and no desire without subjects. Perhaps theory's historical and recurring breaks with interpretation are also breaks with—or repressions of—the subject. This panel explores these relationships with the help of psychoanalysis.

Most fundamentally, we want to ask: what does music theory want? Psychoanalysis was from the start a hermeneutic practice and also a “science of desire,” an attempt to understand the foundations, and the limits, of any hermeneutic endeavor. This three-hour special session, sponsored by the Psychoanalysis Interest Group, addresses this topic via six twenty minute presentations, each followed by 5 minutes of Q & A, with a formal response by Professor Seth Brodsky (University of Chicago). The papers approach our topic from a range of different angles, so as to bridge a gap we often see between theoretical and analytical questions. The first three papers show how psychoanalysis illuminates the nature of the musical object by addressing issues of performance, work-ontology and music-text relationships. Turning from the musical object towards the listener and the discipline, the second half of the panel considers the practice of listening within clinical psychoanalysis in tandem with the listening we do in music theory. As a whole, the panel suggests that psychoanalysis can work within, through and alongside music theory to reimagine the place of the listener-subject and the futures of our discipline.

### Music and Disavowal

Joanna Demers (University of Southern California)

In a 1983 *Artforum* essay on New York art-rock, Kim Gordon of Sonic Youth writes, “People pay to see others believe in themselves.” Greil Marcus' punk history *Lipstick Traces* (1989) cites this statement to valorize punk musicians who dare what the rest of us only imagine. But a later sentence in Gordon's essay asks, “How long can someone continue to exert intensity before it becomes mannered and dishonest?” In fact, Gordon's essay plainly argues that punks perform belief in



themselves as entertainment, and yet act as if their performance is not theater. And the audience performs its belief in that spectacle, acting as if the show provided true catharsis. The “as ifs” are crucial, for they reveal fault-lines separating belief from what Žižek (1989) terms “fetishistic disavowal.” For Gordon, the tragedy of punk rock is that the disjunction between sincere belief and disavowed belief becomes too demanding—too real—to maintain.

My paper argues that such instances of fetishistic disavowal in music are often misdiagnosed. Traditional music aesthetics (Cook 1990; Hamilton 2007; Scruton 1997) and legal studies (Fuller 1997) rationalize such disavowals as utilitarian metaphors offered for the sake of argument, but never actually believed. But a psychoanalytic approach illuminates the ambivalence that is central to the musical experience. Moments of disavowal in music can serve a role analogous to that of the chorus of an ancient Greek tragedy, which, Lacan (1992) argues, believes the requisite fantasies for us.

### **A Hermeneutics of Recovery: Recovering Hermeneutics**

Dylan Principi (Princeton University)

This paper offers a narrative account of Darius Milhaud’s cantata *Le Château du feu* and draws from the writings of Ludwig Wittgenstein, Gilles Deleuze, and Lawrence Kramer in order to critique the epistemological relation of description to music’s ontologies. The Lacanian notion that knowledge is mediated by language hearkens to Nietzsche, and fortifies Kramer’s assertion that “there is no such thing as music”—or, no such transcendental category. Instead, music emerges as a perceptual category as subjects *circumnavigate* their experiences with all kinds of description. Deleuze’s *Bergsonism* deconstructs the temporal distinction between past and present, asserting that consciousness emerges through the hermeneutic process of *actualization*, in which the subject recovers a recollection from the ontological past and re-perceives it in the psychological present. Through actualization, the descriptive associations that subjects ascribe to music determine the epistemological form of its knowable ontologies: music is the aggregate of its descriptions. In other words, where there is music, there is hermeneutics.

By invoking memories of Holocaust violence, the ontologies of Milhaud’s cantata reach beyond score and performance to encompass the re-perception of recalled atrocities. The cantata’s repeated, ascending glissando motive springs to life as the ferrous rasp of a death-camp crematorium door, while canons separated by semitone revive the

weeping of bereaved mothers. *Le Château du feu* is a ritual of re-perception through which victims' voices gain embodiment to speak once again, yielding meanings that are ontologically indissociable from "the music itself."

**The Real Thing: New Music, Psychoanalysis, and Beat Furrer's  
"Voicelessness: the Snow has no Voice (1986)"**

David Bard-Schwarz (University of North Texas)

In this talk I will discuss Furrer's piece for solo piano from three perspectives: 1) a musical representation of a poem by Sylvia Plath, 2) what the piece does with a single half step (B-natural/C-natural), and 3) how its approach to the Lacanian Real has cultural significance for early 21<sup>st</sup>-century subjectivity.

The poem: Furrer's piece is a song without words for piano based on the "Munich Mannequins" by Sylvia Plath.

The Music: This piano work is written in such a way that after one system is played, the bass staff becomes the treble staff of the next system; that system then has a new bass staff. The new bass staff of the second system then becomes the treble staff of the next, etc.

The analyses will focus on what happens with pitch-classes B-natural and C-natural in relation to the images of voice and voicelessness that pervade Plath's poem. I will conclude the musical-analytical portion of the talk by showing how Furrer obliterates the subordinate relationship inherent in the half step for centuries of common practice music making. In Furrer, the two pitch-classes are coordinated with one another, and subordination is (as it were) cracked open to reveal the Lacanian Real.

**Rethinking the 'Phonographic Unconscious': Sonic Materiality  
and Psychoanalytic Technique**

Clara Latham (Massachusetts Institute of Technology)

A prevalent axiom of sound studies is the notion that the technological reproduction of sound has a claim to materiality that the ears do not. The propensity of sound studies scholars to focus on sound technologies is tied to an archival orientation towards the 20th century, as well as a turn toward materiality that is part of a larger backlash against the linguistic turn, the study of representation, and traditional conceptions of hermeneutics grounded in textuality. The adage that technological reproductions of sound render it more "thing like" ignores historicized concepts of sound as entangled with aesthetics and

physiology, furnishing a technological authority over the real, and granting primacy to the technological reproduction of sound in the modern age.

This paper argues that the psychoanalytic technique itself is a technology of sound, asking in what ways does the practice of psychoanalysis, the speaking and listening that constitutes the method, depend on sound as part of the empirical world. I consider Freud's famous comparison of the psychoanalytic method to a telephone, with the unconscious minds of analyst and analysand operating as transducers of the speech that constitutes the practice. I suggest that if we approach psychoanalysis as an instrument that can be understood both as a verification of subjective interior—via the speech that constitutes the method—and one of subjective imagination—via the fantasies that are spoken—we can use it as a means of dissolving the distinction between the material ear and its counterpart of music, sound, or speech.

### **From Adaptation to Analysis: Music Theory, Psychoanalysis, and the Neo-Liberal Academy**

James R. Currie (State University of New York at Buffalo)

Neoliberal forces impinge upon academic research, forcing it towards instrumental and ideological adaptation to the existing economic and political reality. In this context Lacanian psychoanalysis is pertinent, for its analytic acts aim not to enable the patient to adapt to pre-existent reality, but rather to acknowledge that the repressed forces of the drive destabilize attempts at naturalizing such adaptations. Since ideological interpellation is also reliant on such naturalizing maneuvers, psychoanalysis is therefore a useful ally for helping music theory resist the forces that increasingly pressure it into accepting the ideological coordinates of the present. This paper thus proposes that music theorists relate to music in a fashion analogous to how psychoanalysts relate to patients: by desiring to illuminate how something always exceeds and destabilizes full adaptation to presiding discursive contexts. This would necessitate analytic and hermeneutic practice, for as in the talking-cure, where the specificity of the patient's speech catches her out in relationship to the impossibility of her identifications, here the specificity of each music's mode of non-alignment can most effectively be stumbled upon. Since in the scene of music theory such discursive contexts are created by music theorists themselves, analytic and hermeneutic practices would therefore also be as much self-reflexive interrogation of the music theorist as it would be musically illuminating. And through such self-reflection, the specificity of the theorist's musical

relations would once more find a route back to her discursive relations to the neo-liberal academy.

**Don't Cage the Gift-Giver: Freedom, Subjectivity, and the Mastery Drive in Psychoanalysis and Musical Hermeneutics**

Daniel Villegas Vélez (Pontificia Universidad Javeriana, Bogota)

This paper considers a recent “ethical turn” in music theory and musicology through the following analogy: musical hermeneutics occupies the same place in music theory as psychoanalysis does in the human sciences. Both deal with desire and interpretation. Both find resistance from positivism and metaphysics. These resistances are matched by an autoimmune resistance, a denial to analyze themselves as disciplines which results from their dependence on a principle of sovereignty, a “mastery drive” (*Bemächtigungstrieb*) (Derrida 2002). Both, finally, assume an ethical position: for musical hermeneutics, music is a promise of freedom that parallels the psychoanalytic promise of happiness (Lacan 2008). The main wager of the ethical turn in musicology is to make musical works “into living things towards which we must develop an ethical position” (Abbate 2004). For Abbate, we cannot repay the gift of freedom that music offers by “putting the gift-giver in a cage,” that is, assigning a determinate meaning to the plurality offered by music. Lawrence Kramer (2016) holds that freedom is the condition for interpretation, while William Cheng (2016) associates musical autonomy and academic freedom as a condition that demands reparative care in response. Throughout these diverse cases, freedom depends on a metaphysics of sovereignty as autonomy and omnipotence of the (autoimmune) subject: to interpret, withhold interpretation, or replace interpretation with care. But, if the analogy still holds, as long as musical hermeneutics does not think its own mastery drive, its interpretations will remain the source of resistance from outside and from within.

## Topics in Geometrical Music Theory

Rachel Hall (Saint Joseph's University), chair

### Near-Symmetry: A Theory of Chord Quality with Implications for Voice Leading

Inés Thiebaut (University of Utah) and Nicholas R. Nelson (Stony Brook University)

Traditional methods of musical analysis tend to treat chord symmetry as a binary property: chords are either symmetrical or they are not. Symmetry is thus understood as a static property that inheres in a chord. This paper proposes instead a dynamic, transformational approach to chord asymmetry by addressing two questions: 1) is it possible to render an asymmetrical chord symmetrical by adjusting one of its tones by some distance (cardinality stays the same)? And 2) is it possible to render it symmetrical by adjoining one or more tones (cardinality increases)? The authors refer to these distinct symmetrical potentialities as 'degrees of near-symmetry.'

To measure the symmetrical potentiality of a collection, the authors draw and extend upon the literature on parsimonious voice-leading distances as elucidated in Callender, Tymoczko and Quinn (2008) and Douthett and Steinbach (1998), as well as on the atonal voice-leading literature by Straus (1997, 2003, 2005, 2011) and transformational theory by Lewin (1982, 1987, 1992). Having calculated the near-symmetry degrees of all pc-sets from cardinalities 3 through 6, the authors explore relationships between pc-sets not generally considered to be closely related but that share the same (or similar) symmetrical potentiality and examine how these otherwise-disparate sets are deployed in similar manners across the work of various composers. The authors also explore the various ways in which pc-sets with special degrees of near-symmetry behave in certain parsimonious and SUM-class voice-leading spaces.

### Generic (Mod-7) Voice-Leading Spaces

Leah Frederick (Indiana University)

In the burgeoning field of geometric music theory, scholars have explored ways of spatially representing voice leadings between chords. The *OPTIC* spaces provide a way to examine all "classes" of  $n$ -note chords formed under various types of equivalence: octave, permutational, transpositional, inversional, and cardinality. Although it is possible to map diatonic progressions in these spaces, they often appear irregular since the spaces are constructed with the fundamental unit of a mod-12 semitone,

rather than a mod-7 diatonic step. Outside of geometric music theory, the properties of diatonic structure have been studied more broadly: Clough has established framework for describing diatonic structure analogous to that of Forte's set theory; Hook provides a more generalized, "generic," version of this work to describe any seven-note scale. This paper employs these theories in order to explore the fundamental difference between mod-12 and mod-7 spaces: that is, whether the spaces are fundamentally discrete or continuous.

After reviewing the construction of these voice-leading spaces, this paper will present the mod-7 *OPTIC*-, *OPTI*-, *OPT*-, and *OP*-spaces of 2- and 3-note chords. Although these spaces are fundamentally discrete, they can be imagined as lattice points within a continuous space. This construction reveals that the chromatic (mod-12) and generic (mod-7) voice-leading lattices both derive from the same topological space. In fact, although the discrete versions of these lattices appear to be quite different, the topological space underlying each of these graphs depends solely on the number of notes in the chords and the particular *OPTIC* relations applied.

### **Generalized Trichordal and Tetrachordal *Tonnetz*: Geometry and Analytical Applications**

Jason Yust (Boston University)

Some recent work on generalized *Tonnetz* has examined the topologies resulting from Richard Cohn's common-tone based formulation, while other work has reformulated the *Tonnetz* as a network of voice-leading relationships and investigated the resulting geometries. This paper considers the original common-tone based formulation and takes a geometrical approach, showing that *Tonnetz* can always be realized in toroidal spaces, and that the resulting spaces always correspond to one of the possible Fourier phase spaces. We can optimize the given *Tonnetz* to the space (or vice-versa) using the DFT. Short analytical examples from Stravinsky's "Owl and the Pussycat" and Shostakovich's String Quartet no. 12 demonstrate how the embedding in phase spaces broadens the potential application on non-triadic trichordal *Tonnetz*.

Two-dimensional *Tonnetz* may be understood as simplicial decompositions of the 2-torus into regions associated with the representatives of a single Forte set class, making simplicial decompositions of the 3-torus a natural generalization to tetrachords. This means that a three-dimensional *Tonnetz* is a network of *three* tetrachord-types related by shared trichordal subsets. Essential to constructing the three-dimensional *Tonnetz* is the duplication of interval

classes with distinguishable intervallic axes. I illustrate one possible three-dimensional *Tonnetz*, whose duplicated ic3s can be enharmonically distinguished as minor thirds or augmented seconds, in an analysis of Brahms' Sarabande WoO 5/1 and its reuse in the Op. 88 Quintet. Duplicated intervals in other three-dimensional *Tonnetze* may be understood through Hauptmannian or tuning-theory based distinctions or distinctions between chordal and non-chordal intervals.

### Generalized Normal Forms

Julian Hook (Indiana University)

This talk strengthens the connections between pitch-class set theory (Forte et al.) and geometric music theory (Callender, Quinn, Tymoczko) by showing that generalized versions of “normal forms” or “prime forms” may be derived under any combination of the *OPTIC* equivalence relations. In this conception, the usual “normal order” of a collection of notes is its *OPC* normal form, inasmuch as all collections sharing the same normal order are related by some combination of octave, permutational, and cardinality equivalence. The familiar “prime form” is the *OPTIC* normal form, which relies on transpositional and inversional equivalence as well. Calculation of normal forms corresponding to other subsets of the *OPTIC* relations helps to clarify ways in which different sets or strings of notes may be related; as more relations are added, more things become equivalent, and normal forms become simpler. Normal forms provide a systematic means, previously lacking, for labeling maps of *OPTIC* spaces, and may be used to define *normal regions*, useful aids to visualizing the smaller spaces that arise through the addition of new relations to those already present in some larger space. The talk will review the *OPTIC* relations, present a detailed algorithm for the calculation of all normal forms, and offer examples of normal forms, normal regions, and ways in which they may be used.

## Harmony and Voice Leading in Popular Music

Daniel Harrison (Yale University), chair

### A Functional Analysis of Chord Progressions in Popular Music

Stefanie Acevedo (Yale University)

This paper formalizes the harmonic norms of a popular music corpus (the McGill Billboard Corpus; Burgoyne 2012) by reconceptualizing harmonic objects as progressions, eschewing single chords or functions as the most salient cognitive entities learned through enculturation. While recent music-theoretical work uses computational methods to analyze harmonic probabilities in musical corpora and model their stylistic norms (i.e. de Clercq and Temperley 2011; Temperley and Clercq 2013; White 2014; White and Quinn, in press), it often focuses on analyzing single chord counts, chord-to-chord transitional probabilities, or common-practice harmonic functions. Given the varied role of harmony (Tagg 2014) and a preponderance of common *stock* progressions, like the “Doo-Wop” (I-vi-IV-V) or “Four-Chord” (I-V-vi-IV), in popular music, the progression is taken as a starting point for analysis.

Songs are segmented into entropy-bounded chord sequences, resulting in recursive loops (including nested repetitions of *stock* progressions). Due to key ambiguity arising from repetition or mode mixture in popular styles, the sequences are further abstracted from their tonal center and categorized only by chord quality and root-to-root intervallic distance. The analysis is, therefore, devoid of key or chord function labels. The sequences, then reduced to the smallest repeated segment or *chain*, are classified into prototypes, including possible variant progressions and *functions*, the latter couched within specific formal and metrical contexts. Representative musical examples are provided. The results’ ties to and implications for schema theory, cognitive theories of learning and expectation, and a general definition of *tonality* (including harmonic interaction with thematic and formal processes) are discussed.

### PL Voice Leading and the Uncanny in Pop Music

David Forrest (Texas Tech University)

Richard Cohn identifies chromatic, major-third root movement as a special class of triadic progression. The contrary motion of half steps, described by neo-Riemannian labels as PL or LP, produces a perceptual



paradox that simultaneously destroys any sense of background diatonic collection and forces irreconcilable interpretations of consonance and dissonance. Studies by Cohn, Richard Taruskin, and Matthew Bribitzer-Stull identify art- and film-music examples ranging from *Orfeo* to *Star Wars* that connect this type of progression with descriptions of uncanny or supernatural phenomena. This paper expands the social implications of the technique by exploring the association in contemporary pop music. Surveying over 50 songs from 1958-2016, the paper identifies six types of uncanny scenarios associated with PL and LP progressions: visions, transcending mental barriers, supernatural phenomena, psychological conditions, nonsense poetry, and descriptions of dystopia. While some songs fit neatly into one category or the other, several examples engage more than one category. In many examples the harmonic transformations occur at conspicuous moments where a word-for-word connection to the lyrics makes the voice-leading paradox particularly effective. With each category, this paper inspects one example in detail and lists others in a table. The paper also provides hermeneutic readings where the association between lyrics and harmony is less obvious. While not every PL/LP transformation evokes an uncanny experience, when the transformations are used conspicuously between adjacent or framing harmonies, the pervasive associations with the uncanny, across sub-genre and generational lines, are hard to ignore.

## **Interpreting Metal Music**

Brad Osborn (University of Kansas), chair

### **Becoming the Beast: Musical Expression in the Extreme Metal Voice**

Eric Smialek (McGill University)

Thus far, scholarship on extreme-metal music has focused almost entirely on sociological issues raised by the music's transgressive ethos, lyrics, and subculture. Indeed, the often explicitly violent or Satanic images of extreme metal appear to invite this emphasis. But to seem powerful and convincing to fans, extreme metal must also communicate transgression *musically*. As Michelle Phillipov has argued, a tendency to favour political concerns within popular-music studies risks ignoring questions of musical pleasure (Phillipov 2012). To demonstrate an analytical approach, I have chosen the extreme-metal voice as a topic that has proved difficult for popular-music scholars to discuss in detail.

Using spectrograms, I will argue that the acoustical properties of vowel formants serve a primary expressive role in enhancing the uncanny timbral qualities of extreme-metal vocals.

I begin from a performer's perspective, addressing the physiological mechanisms involved in the production of extreme-metal screams as well as their acoustical characteristics. I then detail two separate contexts where vocalists have sacrificed the intelligibility of their lyrics by expressively altering their vowels: 1) a recorded improvisation from a volunteer vocalist and 2) an excerpt from "The Vowel Song" (2008) by the band Zimmers Hole. Finally, I present the results of a corpus study on 48 wordless screams that shows quantifiable differences in how vocalists in different metal subgenres approach vowels. By revealing expressive vocal nuances that have passed unnoticed in popular-music scholarship, I hope to show how investigating questions about musical sound can provide unique and broadly applicable insights into extreme metal's appeal.

**"So Complete in Beautiful Deformity": Unexpected Beginnings  
and Rotated Riffs in the Music of Meshuggah**

Olivia Lucas (Victoria University of Wellington)

The music of the Swedish death metal band Meshuggah is known for combining a rigid 4/4-based song structure with looping riffs in a variety of meters. Some riffs, however, further complicate this structure by seeming to begin *in media res*. In this paper, focusing on two songs from the 2008 album *obZen*, I examine this previously overlooked compositional technique in which rhythmic patterns can only be heard to cohere retrospectively and with repetition.

In my analyses, I move between conventional transcriptions and spectrograms, with an eye (and ear) toward questioning what each can tell us about musical events. In studying Meshuggah's music, spectrograms open up a revealing perspective on rhythmic structures, particularly with regard to visualizing event onsets, groupings and repetition of groupings. Using spectrograms in this way focuses on readily apparent clusters and gaps of visual material that indicate rhythmic patterns—groupings that often align with the aural experience of the music.

This study demonstrates the importance of grouping structure for understanding Meshuggah's polyrhythmic style. In the context of a musical style that pits riffs against the 4/4-based structure, riffs that emerge as if in the middle of some much longer process destabilize this

relationship. With song lyrics often centered on the desire for radical freedom or enlightenment, and musical patterns that ritualize the suppression of elements that break the “order” of 4/4, I suggest that Meshuggah’s use of repetition and variation explores ideas of freedom and rigid control, liveliness and predictability.

## ***Friday evening, 3 November***

### **The Music of Chen Yi**

*Sponsored by the Committee on the Status of Women*

Jennifer Bain (Dalhousie University), chair

Chen Yi, Lorena Searcy Cravens/Millsap/Missouri Distinguished  
Professor of Composition (University of Missouri-Kansas City)  
John Roeder (University of British Columbia)  
Marianne Kielian-Gilbert (Indiana University)  
Nancy Rao (Rutgers University)

For 2017, the Committee on the Status of Women is hosting a session on the music of renowned composer, Chen Yi, to celebrate the fortieth anniversary of SMT in 2017, as well as the thirtieth anniversary of the Committee on the Status of Women.

Performed and commissioned by musicians and ensembles, including Yehudi Menuhin, Evelyn Glennie, the Cleveland Orchestra, the BBC Symphony, and the Sächsische Staatskapelle Dresden, Dr. Chen's music “blends Chinese and Western traditions, transcending cultural and musical boundaries.” To delve into her music deeply, the session will have three parts: it will begin with a workshop conducted by Chen Yi on her chamber work, *Happy Rain on a Spring Night*, for flute, clarinet, violin, cello, and piano. The score and a recording will be circulated ahead of time, so the audience and the panel can prepare for the session.

In the second hour, three scholars (John Roeder, Marianne Kielian-Gilbert, and Nancy Rao) will give 20-minute analytical presentations on various aspects of Chen Yi’s music, while the third hour will be devoted to discussion by panel members, the composer, and the audience.

**Interactions of Folk Melody and Transformational  
(Dis)continuities in Chen Yi's *Ba Ban***

John Roeder (University of British Columbia)

Chen Yi's *Ba Ban* (1999) for solo piano, like many works of Western-trained Chinese composers, situates fragments of evocative traditional folk melody within a post-tonal discourse that is well described by transformation theory. The eponymous *qupai* ("named tune") that it quotes is a standard of the *sizhu* ("silk-and-bamboo") repertoire of Jiangnan and elsewhere (Thrasher 1989). In *sizhu* performance practice, the evenly pulsed rhythm of the 68-beat melody is greatly augmented and each pitch is highly "flowered," that is, decorated. Even the plain version of the tune has a distinctive temporality that arises from its multivalent grouping structure (Roeder 2011), but the partly improvised flowering process also affords special sensations of time that are simultaneously unpredictable locally yet highly directed across longer timespans. Chen's piece, often simulating the timbral quality of *sizhu* heterophony with mistuned octaves, reproduces some of these temporal qualities by quoting distinctive phrases and elaborating their pitches. Intermingled with this discourse, though, it presents multilinear threads of motivic transformation through virtuoso figurations typical of Western piano repertoire. This paper examines how the distinctive pitch, rhythmic, and grouping continuity of the tune sometimes takes command of the otherwise transformational temporality of these post-tonal materials, while at other times the transformational logic fractures and absorbs it. Without presuming compositional intent, but in tribute to the 30<sup>th</sup> anniversary of the SMT CSW, I suggest how this hybridity might resonate with some ideas of third-wave feminist theory.

**Experiencing Chen Yi's Music // Alternate Lines of Connection,  
Aesthetic Practice, and Sexual Difference**

Marianne Kielian-Gilbert (Indiana University)

The expressive landscapes of contemporary art music suggest the potential (and myth) in modernist and cosmopolitan orientations to offer an all-purpose perceptual aesthetics and inclusive musical language, one capable of extending across or undoing national borders. This tension or seeming contradiction between universal aspiration and the lived experience of composers, performers, and listeners intervenes in the gaps and interactions between understanding and experience, and in differing perceptual orientations and relationships of sexual difference

and power negotiated within and between musical borders and boundary crossings.

Drawing on the work of musicologist Brigid Cohen (2012, 2014), feminist philosophers Adriana Cavarero (2000, 2003), Luce Irigaray (2002), and Elizabeth Grosz (2005, 2011), and music theorist Nancy Rao (2007, 2014), my brief account of encountering Chen Yi's music will suggest alternate lines of connection between its aesthetic practices, relational potential, *polis*, and commemorative impulses. Events and textures interact in such works as *As In a Dream* (soprano, pipa, zheng), *Memory* (solo violin), *Tu (Burning)*, and *Dragon Rhyme* (movement 1) in a variety of ways, emerging from, popping out of, providing backdrops for, and becoming emblematic of specific emotional/affective characters and differential fabrics. Moving between, displacing and traversing—Chen Yi's music, its dispositions, narratives, encounters and migrations, tangle self and community, borderland and nation, exile and place.

### **“Shi” and Temporality: A Reading of Gestures in *Happy Rain on A Spring Night***

Nancy Rao (Rutgers University)

The notion of “Shi” is an aesthetic essence deeply ingrained in Chinese culture, and ubiquitous in descriptions of calligraphy, music and painting all through Chinese history. In treatises on the performance of guqin since Han Dynasty (206 BC–220 AD), for example, “Shi” is frequently evoked as a shaping force in performance. Though a multifaceted notion, “Shi” pertains particularly to a sense of temporality. Whereas in Western music, the notion of temporality, especially the term “rhythm,” brings up concepts of meter, accent, subdivision, duration, all of which are quantifiable, in Chinese music the notion of “Shi” denotes a sense of temporality that is gestural and “task-oriented” (Clayton 2013), thus indivisible and unquantifiable. It shapes the temporal process of musical event. While shaping sound through time, “Shi” cannot be measured by clock-time. Rather, the potential, the energy, and the disposition of “Shi” make it similar to “gesture,” in the sense that is defined by Robert Hatten (2004). Similar to Hatten's notion of gesture, “Shi” emphasizes the dynamism produced, and the tension that animates various elements in the temporal process. Emanating from “Shi” is an internal energy that gives rise to a temporal process delineated by the timbre and the full dynamic shape, rather than the pulse or meter.

The paper will focus on the effect of “Shi” as an organizing force of Chen Yi's *Happy Rain on A Spring Night* (2004), and will offer a reading

of the work by considering the disposition and energy of gestural events. The piece, using the Pierrot ensemble, is based on a poem by Du Fu (Tang Dynasty, 712-770). Though the work's structure follows the principle of Golden Section strictly, the paper will consider the organizing force of "Shi," and the different ways that gestures play an important role in its aesthetic appeal, and its rendition of the spirit of the poem.

## Topic and Schema in the Long Eighteenth Century

Gilad Rabinovitch (Georgia State University), chair

### Of "Elegant Tones" and "Fantastical Progressions": A Historical, Schema-Based, and Comprovisational Perspective on Diminished Seventh-Chord Modulation, c. 1720–1830

Vasili Byros (Northwestern University)

18th-century Germanophone music theory coined the term *chorda elegantiora* ("elegant tone") to categorize scale degrees that are chromatic inflections of their diatonic forms, not something borrowed from another key (Mattheson 1719; Walther 1732; Kellner 1737). #4 is principal among these "elegant tones": already in 1728, Johann Heinichen used the phrase *bizarrer Satz* ("fantastical progression") to describe a remarkable but nonetheless common occurrence, where a diminished seventh-chord (DIM7) is used to modulate by placing it on #4 of the desired key. Discussions of the DIM7 on #4 and instructions to modulate freely via this "fantastical progression" appear copiously throughout the long 18th century.

By drawing on historical, corpus-analytic, and creative methodologies, my paper argues that the #iv°7 indicates an extended conception of key in the 18th century, one that carries not only analytic and hermeneutic but also practical implications: specifically, the concept of #iv°7 represents the entire problem of 18th-century modulation, when framed as a pragmatic improvisational and compositional question—how to modulate convincingly and with expression.

Historical instructions and analyses, alongside hundreds of basses from C.P.E. Bach's *Versuch* and Albrechtsberger's exhaustive study of modulation (1793–1806), reveal a highly-codified practice of DIM7 usage in the 18th century, whereby the chord's syntactic behaviors are inherited from historical bass-line schemata. This allows for multiple

levels of harmonic-functional *Mehrdeutigkeit* (Weber 1832) and wide-reaching tonal explorations, which found their deepest expression in the fantasia genre, here reflected practically in my own late-Classical-style fantasia for fortepiano, as a form of arts-based research.

### **On the Form Functionality of Recitative Intrusions in *Le nozze di Figaro***

Paul Sherrill (The College of Wooster)

Taking the arias and small ensembles of *Le nozze di Figaro* as examples, this paper investigates how Mozart uses recitative as a musical topic imported into periodic music. Although most memorably the trio “Cosa sento!” lapses into a long passage of *accompagnato* narration, many of the opera’s numbers involve fleeting intrusions of the recitative topic. Mozart’s use of recitative in these moments evinces a semiotic grammar in which topical signals reliably help to construct theatrical and expressive meaning.

The basis of that expressive grammar lies in the way these topical borrowings pit two incommensurate formal systems against one another. As intrusions into periodic music, passages of recitative necessarily have a “contextual” formal function as, for instance, the beginning of a consequent phrase. But the recitative gestures themselves import an “intrinsic” formal function from the phrasal syntax of recitative. Because both systems serve their own theatrical ends, a number that navigates between them can chart novel types of meaning.

For instance, in “Cinque... dieci...” Figaro misdeploys a recitative question formula in place of a cadence just at the moment that his stage business goes awry. Figaro’s melodic gesture, though it would articulate a satisfactory close within recitative, fails to fit the duet’s cadential rhetoric: as a topical intrusion, it does not participate in the chain of implications and realizations that drives formal function. It thus overlaps the end of Figaro’s action-music with a comical aside, creating (like all recitative intrusions) a Hattenesque “trope” of two temporalities.

### **The Yodeling Style and Early Nineteenth-Century Cosmopolitanism: How Topics Are Assembled**

Andrew Malilay White (University of Chicago)

This paper extends recent work on musical topic by showing the cultural mechanisms behind the emergence of the “yodeling style” in the early nineteenth century. Danuta Mirka has argued that musical topics are “styles and genres taken out of their proper context and used in

another” (2014). Topic theory, then, can describe a process where specialized regional musics are incorporated into the musics of European capitals in a periphery-to-center model.

At the turn of the nineteenth century, the yodel became international: London’s *Harmonicon*, for example, declared in 1829 that “every vagabond in Paris can now give [a yodel] with as much facility as the Tyrolese mountaineers.” I contend that the condescending eye of urban cosmopolitanism played a major role in the rise of the yodel. Regional styles ultimately gave urban concertgoers a yardstick to measure their own sense of taste. My argument is informed by recent work on the musical topic by Mirka and Hatten (2014), as well as comparative and ethnographic studies of the yodel by Zemp (1987) and Sichardt (1939). Excerpts of pieces by Haibel, Rossini, Hummel, Marschner, Moscheles, and Mozart provide additional support.

Ultimately, the story of the “yodeling style” illustrates how topics can be constructed and how they implicate political actors. I argue that the ascent of the “yodeling style” is a sign of an emerging pan-urban cosmopolitanism, and further, that this form of cosmopolitanism is an essential part of the musical topic as used at the turn of the nineteenth century.

### **The Volta: A Galant Gesture of Culmination**

Nathaniel Mitchell (Princeton University)

In this paper, I explore a pre-cadential schema in galant style that I call the Volta. The Volta features four events grouped into two stages: stage one charges up the dominant via #4-5, while stage two releases to the tonic via 4-3. After introducing the Volta and its common variants, I define its characteristic pre-cadential formal function and explore its semantic range within Metastasian da capo aria. The schema enjoyed greatest currency during the 1730s, but remained an active member of the musical discourse through the century’s end. I illustrate the Volta’s role in eighteenth-century style with representative excerpts from Vinci, Pergolesi, Hasse, Galuppi, Haydn, and Mozart.



## **Considering Coltrane: Analytical Perspectives after Fifty Years**

Rich Pellegrin (University of Florida), chair

From the mid-1950s until his death fifty years ago in 1967, John Coltrane progressed through three vastly different style periods. This special session highlights the multifaceted nature of his career by drawing on a wide range of methodologies. The six papers of the session break into three pairs of presentations, each occupying a one-hour block of time with its own discussion period.

Our initial pair of papers focuses on historical and textual analysis. Rich Pellegrin utilizes reductive and transformational approaches to help inform our understanding of Coltrane's overall career trajectory. Barry Long examines Coltrane's usage of text as musical device and the impact this had on subsequent black activism, focusing on his recording of "Alabama."

The second hour of the session features detailed analyses of music from Coltrane's middle and late periods. Brian Levy uses original transcriptions of "Pursuance" and "Miles' Mode" to investigate the complex rhythmic and harmonic interactions among the members of the Coltrane Quartet. John O'Gallagher examines Coltrane's late music—often assumed to be "free"—through the lens of set theory, demonstrating how pieces such as "Saturn" and "Iris" are in fact highly organized.

The papers in our third hour employ new and original software to observe, analyze, and illustrate numerous subtleties of Coltrane's music. Klaus Frieler approaches Coltrane's work by comparing it computationally and statistically with that of Miles Davis. Milton Mermikides analyzes micro-rhythmic aspects of Coltrane's music via original software which capitalizes upon recent developments in digital technology and rhythmic perception research.

## **Chromatic-Third Relationships and Coltrane's Path to "Free" Jazz**

Rich Pellegrin (University of Florida)

This presentation complements existing biographical accounts of Coltrane's career trajectory by investigating theoretical explanations for his stylistic development. Methodological discussion demonstrates neo-Riemannian modeling of voicings rather than harmonies, and uncovers commonalities between reductive and transformational analytical

approaches using the stable-norms/salient-deviations (SNSD) model (Pellegrin 2016).

Coltrane first used chromatic-third relationships during his vertical/change-running period to chromaticize simple tonal progressions and create greater harmonic density while improvising on jazz standards. These major-third cycles were ripe with implications that were logically realized in “Giant Steps” (GS), which pushes the limits of tonality and contains zero-sum voice-leading throughout.

GS itself had implications which Coltrane then pursued during his modal period. Unhappy with the ultra-clean sound of GS, Coltrane began superimposing major-third cycles over (implied) pedal points. The freer dissonances created a harmonically-rich sound, but also pointed towards fully chromatic music. In the late-period work “Venus,” Coltrane moves through chromatic-third progressions en route from diatonicism to free improvisation. This represents a microcosm of Coltrane’s career overall, evidencing the premise that for him chromatic-third relationships function as an intermediary—both historical and theoretical—between tonality and “atonality.”

This hypothesis is bolstered by drawing a parallel with the function of chromatic-third relationships in the development of Western classical music. For example, the fact that Coltrane’s chromatic-third cycles led him to compose GS, arguably a non-tonal work, recalls Cohn’s (1997) proposition that the parsimonious voice-leading properties inherent in—and specific to—the triad were “fortuitous” for the development of tonality, yet themselves also led to the “destruction” of tonality.

### **The Black Blower of the Now: Coltrane, King, and Crossing Rhetorical Borders**

Barry Long (Bucknell University)

When Martin Luther King, Jr. described the “fierce urgency of now” at 1963’s March on Washington, he drew upon a shared cultural memory and social consciousness. In a manner as much musical as rhetorical, Dr. King explicated his theme through a series of calls and responses on the riff, “now is the time.” Such forms draw upon a century’s worth of practices embedded within the American musical and social fabric. When poet and activist Amiri Baraka cited John Coltrane as the “black blower of the now” in his 1979 poem “AM/TRAK,” he asserted the saxophonist’s contemporary cultural weight more than a decade after his passing. In ways similar to improvised performance, each example leverages the vitality and relevance of a forward-looking

emphasis on “the now” against the blurred borders of jazz and spoken word.

Coltrane’s recording of “Alabama” following King’s eulogy for the four girls murdered in the Birmingham church bombing marked a seminal confluence of journalism, rhetoric, and improvisation. Similarities in their spoken cadences and melodic phrase lengths recall activist marriages of music and text dating back to the coded meanings of spirituals, yet the instrumental nature of the performance and the written word’s initial non-musical utility mark a significant departure. Coltrane’s next work, the landmark “A Love Supreme,” builds upon this model to offer extended phrases and a final movement that syllabically corresponds to his text, signaling the increased influence of extramusical source materials upon the exploratory freedom of his late career.

### **“Pursuance” and “Miles’ Mode”: Untangling the Complex Harmonic and Rhythmic Interactions of John Coltrane’s Classic Quartet**

Brian Levy (New England Conservatory of Music)

The legacy of John Coltrane rests principally on the recordings of his Classic Quartet. But published analyses of these performances focus on Coltrane’s individual line, ignoring its relationship to the playing of other members of the Quartet. These analyses also tend to privilege harmonic and motivic connections that emphasize unity over formal aspects that reflect the performative nature of jazz. Looking instead at transcriptions of the playing of all members of the Quartet treats the music as a whole and reveals multiple layers of interaction.

Examining full transcriptions of “Miles’ Mode” (*Coltrane*, 1962) uncovers layers of harmonic conflict that an analysis of Coltrane’s line alone would miss—such as Tyner’s quartal voicings (inflected functionally and transposed chromatically) and Coltrane’s progressions based on third-relations, both of which conflict with the modal context. Similar examination of Elvin Jones’s and McCoy Tyner’s performance in “Pursuance” (*A Love Supreme*, 1964), reveals phenomena of the same sort in terms of rhythm and meter, illustrating a synthesis of rhythmic and harmonic layering. Analysis of both harmonic *and* rhythmic layers reveals a complexity of interaction that an analysis through the lens of functional harmony would miss.

The interactions in “Miles’ Mode” and “Pursuance” exemplify how the Quartet creates a rhetoric of tension and release by playing with and against prevailing harmonic substructures and rhythmic substructures *in*

*time*. In addition, analysis of the rhythmic and harmonic interactions of Coltrane's predecessors (e.g., Max Roach and Charlie Parker) reveals precedents for the innovative sound of the Classic Quartet.

### **Set-Class Usage and Development in Late-Period Improvisations of John Coltrane**

John O'Gallagher (Birmingham Conservatoire, UK)

In this paper I shall argue, firstly, that there is strong evidence to suggest—contrary to lingering popular belief—that the late-period improvisations of the saxophonist John Coltrane are in fact highly structured; and secondly, that this structure is often achieved via a conceptual organizing principle in which melodic unity and clarity are manifest through the use of trichordal pitch collections. The presentation will focus on the track 'Iris' from the recording *Stellar Regions* (recorded 1967; posthumous release 1995) and 'Saturn' from the recording *Interstellar Space* (recorded 1967; posthumous release 1974) as exemplars of this improvisational approach.

Musical set theory will be employed as the main methodology through which to present evidence of such trichord pitch-class sets in Coltrane's late work. Three small-scale case studies from 'Iris' and 'Saturn' will illustrate Coltrane's use of set classes (013), (024) and (025) in support of my argument. *En route*, the potential influence of Nicolas Slonimsky's *Thesaurus of Scales and Melodic Patterns* (1947) will be examined, showing not only Coltrane's almost literal duplication of specific exercises during these improvisations, but also the larger implications of the segmentation of these exercises into trichordal subsets.

While the three examples to be discussed each have unique features, together they reveal Coltrane's larger conceptual design, in which interval content is a unifying force and where trichordal pitch collections realize this interval content, both with clarity and melodic precision.

### **Miles vs. Trane: Computational and Statistical Comparison of the Improvisatory Styles of Miles Davis and John Coltrane**

Klaus Frieler, (Hochschule für Musik, Franz Liszt Weimar)

Much has been written about John Coltrane and Miles Davis, from autobiographical works over detailed musicological analyses up to cultural and sociological accounts of their life, work, and legacy. Fewer works are concerned with a direct comparison of both artists'

improvisatorial approach. Comparisons often boil down to the contrast of Coltrane being an “angry” player with a calm personality and Miles a “cool” player with an assertive personality. We like to add a new analytical perspective by using computational and statistical methods as developed in the context of Jazzomat Research Project. Based on a large set of solo transcriptions taken from the Weimar Jazz Database, spanning different stylistic phases for both artists (currently 13 solos by Coltrane from 1956-1963 and 8 solos by Miles Davis from 1954-1966), we identify concurrent and overlapping stylistic traits. This approach utilizes a large set of musical features extracted from the solos. Results indicate that both players differ in many aspects. The cliché of the “extroverted” style of Coltrane and the “introverted” style of Davis does indeed hold up as indicated by vastly different note densities and overall spacing of tones and phrases. Some surprising and subtle differences also showed up. For instance, Davis has a tendency to avoid the third of the underlying chord and also major and minor thirds as well as larger intervals. Furthermore, Coltrane based his improvisations to a larger extent on patterns than Davis and both players have no significant overlap in their respective pattern vocabularies.

### **Changes over Time: The Analysis, Modeling, and Development of Micro-Rhythmic Expression through Digital Technology**

Milton Mermikides (University of Surrey)

This paper presents an overview of existing research – and offers novel perspectives - on expressive micro rhythm; the salient ‘deviations’ from the conventional lattice of rhythmic notation. Long advocated by practitioner-educators such as Mingus and Crook, this hugely important component of jazz expression and virtuosity is often obfuscated by unclear and contradictory terminology, and the welcome adoption of digital technology in its precise calculation remains largely in the realm of post-hoc description rather than offering practical implications in performance and pedagogy. However, recent developments in digital technology and our understanding of rhythmic performance and perception have created an excellent opportunity to improve research in this field. Original software is presented that engages with a range of micro-timing and micro- rhythmic analytical frameworks (from Mingus, Benadon, Butterfield, London, Biles to Mermikides) and with pre-recorded material as well as real-time performance. These rhythmic mechanics can be heard to operate on multiple musical time levels from the hyper-measure down to the tatum. The ‘feedback metronome’ demonstrated offers new analytical approaches as well as pedagogical

opportunities that reconsider the metronome's role in jazz learning, and our appreciation and understanding of this important but often under-represented feature of jazz virtuosity. New analyses of Coltrane performances are also presented including swing ratios of ride cymbal patterns, micro-rhythmic permutations in *Acknowledgment*, plasticity of ensemble grooves in *Mr. Knight*, and the use of hypermetric rotation.

## Irony and Topics

Byron Almén (University of Texas at Austin), chair

### Musical Topic and Ironic Gesture in the Songs of Steely Dan

Timothy Koozin (University of Houston)

Steely Dan is widely recognized as a leading American jazz-rock band with sales of over 40 million albums worldwide. This study examines the distinctive approach to stylistic borrowing and juxtaposition evident in the band's performances and integral to the songwriting of core band members Walter Becker and Donald Fagen. With examples selected from the band's many hit songs in the 1970s as well as their meticulous studio compositions from 2000–2003, the paper explores how Steely Dan's music is broadly ironic in its approach to musical genre, strategically positioning gestures laden with cultural meaning to create oppositions of expression and syntax that result in the projection of musical irony.

Building upon previous investigations of melodic/harmonic conflict that have been called "the melodic-harmonic divorce in rock," this study examines Steely Dan's strategic juxtaposition of material projecting different and even conflicting gestural, topical, and structural implications. The music of Steely Dan has received previous analytical attention that has focused on its jazz-influenced harmonic complexity and sophistication. This study shows through a close examination of musical gesture how Becker and Fagen juxtapose stylistically divergent elements that resonate with jazz traditions and support an ironic edge in their music, while steadfastly maintaining an authentic grounding in pentatonic-based rock. The analysis further explores how musical and social meanings are mediated through a topical discourse that enacts a comedic narrative, projecting juxtapositions and figural incongruities that are comparable to topical relationships that have been examined in eighteenth-century opera buffa.

## Insidious Irony in the “Tarantella” from John Corigliano’s Symphony No. 1

Cara Stroud (Michigan State University)

The finale to Corigliano’s *Gazebo Dances*, a boisterous tarantella, at first seems an unlikely choice for a symphonic theme in a movement that depicts the tragic loss of a friend to AIDS. The tarantella quotation in the second movement of Corigliano’s Symphony No. 1, with its bouncy leaps, rambunctious dance rhythms, and its tonal emphasis on C major, contrasts sharply with the somber and expressive mood established in the first movement of the symphony. Ultimately, the tarantella theme is torn apart—destroyed by musical disruptions that gradually distort and remove original features of the theme. In an ironic narrative archetype, features can retrospectively take on the role of incipient, or emergent, transgressions, especially if they act in a way to tear apart the order established at the beginning of the work. I explore how multiple layers of irony enact an ironic narrative in the “Tarantella” movement, which, in turn, points to tragic cultural ironies in society’s response to AIDS.

In this ironic landscape, the pastoral becomes the grotesque, a dance spins out of control, and the solid foundation of a diatonic pitch center crumbles in the face of atonal uncertainty. The ironic narrative archetype is one layer to be uncovered in a story that draws together ironies at different interpretive levels, from the structural archetype to the work’s biographical and cultural context.

## Music Analysis in Comparative Perspective

Justin London (Carleton College), chair

### A Corpus Study of Pitch Polarity in Praise-Singing and Hip-Hop

Aaron Carter-Ényi (Morehouse College) and David Àiná (Lagos State University)

*Tonal counterpoint* is a common device in the oral improvisatory tradition of Yorùbá *oríkì* (praise-singing), first documented by Òlátunji (1984). Both *tonal* and *counterpoint* are terms familiar to musicians, but the meaning here is the linguistic *tonal*, not the harmonic, and the rhetorical *counterpoint*, not polyphonic. Òlátunji describes couplets in which each phrase is parallel if not identical in terms of phonic content and the first sets up a tonal expectancy for the second. The contrast might also be

between words within a single phrase. There are three primary categories of tonal counterpoint in Yorùbá *oríkè*: parallelism of similar words; homophone change; and non-lexical contrast providing paralinguistic affect. Through the application of computational analysis to a broad corpus, we provide substantial documentation for a phenomenon that may be as ubiquitous in Africana (Black) vocal arts as rhyming is in Indo-European cultures. Analysis of an American hip-hop subcorpus suggests diachronic change in the use and complexity of pitch polarity over the last three decades. Over the decades American hip-hop has evolved away from couplets to include patterns involving three or more phrases, or even marked contrasts within a single phrase. During the same period, pitch polarity has remained more stable in examples of traditional vocal arts from Kenya and Nigeria despite varying degrees of exposure to emerging global hip-hop. This presentation incorporates concepts from music theory and linguistics with signal processing techniques to analyze a newly gathered and annotated corpus of recorded music.

### **Logical Form, Musical Internalism, and Form-Functional Theory**

Somangshu Mukherji (University of Michigan)

Like language, music is often believed to refer to external, worldly realities. Just as words refer supposedly to thoughts, things, and actions, music is said to refer to extra-musical programs, topics, gestures, and so on. In this paper, however, I will share a recent proposal, originating in mid-20<sup>th</sup> century philosophical debates, and refined in contemporary linguistics, according to which language does not inherently refer to, or communicate, anything at all—which therefore rejects the above *externalist* view of language altogether. Instead, this proposal argues that meaning in language arises from how a sentence’s surface structure (i.e. its “Logical Form”) is generated, through *language-internal, grammatical* procedures. In this light, I will defend a similar, *internalist* attitude to music, which I will do by reconsidering William Caplin’s theory of formal functions. Formal functions are beginnings, middles, and endings, which, as Caplin has said himself, are a musical piece’s internal (or “introversive,” following Agawu) meanings. And as I will illustrate, these form-functional meanings depend on how a piece’s surface is generated through *music-internal, grammatical* procedures. This suggests a connection between music’s form-functional structure, and linguistic Logical Form. So, I will end by discussing a striking implication this has for music theory: linguists argue that all languages share a universal grammar, and differ only in the varied Logical Forms this grammar



generates. Therefore, stylistic differences in music could be just (semantic) differences in their form-functional structures too, which mask a potentially universal musical grammar – suggesting that form-functional theory is a *universal semantics* of music.

## ***Saturday morning, 4 November***

### **Harmony and Voice-Leading in Nineteenth Century Music**

Frank Samarotto (Indiana University), chair

#### **Emergent Modality: Minor-to-Major Progressions as “Tragic-to-Transcendent” Narratives in Brahms’s Lieder**

Loretta Terrigno (The Julliard School)

Brahms’s songs “Schwermut” (op. 58, no. 5), “Dämmerung senkte sich von oben” (op. 59, no. 1), and “Todessehnen” (op. 86, no. 6) use minor-to-major progressions to portray poetic oppositions between earthly struggle and transcendent death, as well as temporalities that are latent in the poem. A cadential six-four chord (Robert Hatten’s “arrival six-four chord”; 1994) at the structural cadence in each song confirms the major mode and depicts achieved future transcendence. In preparing the emergent major tonic, each song prolongs VI or IV, dramatizing the transformation of scale degrees 3 and 6 into their major-mode counterparts as the protagonist envisions the future.

This claim extends studies by Heather Platt (1992) and Lauri Suurpää (2001), which explore how Brahms’s songs that imply transcendent death progress from a minor key to a cadential six-four chord in the parallel major. Platt and Suurpää show that “Mit vierzig Jahren” (op. 94, no. 1) prolongs a Neapolitan harmony, while “Immer leiser wird mein Schlummer” (op. 105, no. 2) uses a chromaticized I<sup>5-6</sup>. As I will show, “Schwermut” prolongs C-flat major (VI) to portray present melancholy (E-flat minor) yielding to desired future catharsis (E-flat major), while “Dämmerung senkte sich von oben” passes through prolongations of E-flat major (VI) and C major (IV) as the moon—a symbol of future enlightenment—transforms darkness (G minor) into light (G major). “Todessehnen” prolongs D minor (VI) to convey the transformative catalyst of Christ’s love, which enables the protagonist’s escape from earthly burdens (F-sharp minor) into transcendent death (F-sharp major).

# **Linear-Analytical Elements in Leo Mazel's Work: Revisiting Chopin's Fantasy, op. 49**

Ellen Bakulina (University of North Texas)

The Russian music-theoretical tradition is generally perceived as decidedly non-Schenkerian. This is generally true; however, ideas similar to Schenker's have appeared in Russian-language scholarship. In this paper, I show elements of linear thinking in several of Leo Mazel's writings on Chopin, with a special focus on his monograph (1937) on Chopin's Fantasy, op. 49. My principal objectives are (1) to draw parallels between Mazel's and Schenker's work, and (2) to build an original Schenkerian reading of the Fantasy, a reading informed by Mazel's quasi-prolongational insights.

Several elements in Mazel's work have direct relevance to Schenkerian theory. First, Mazel explains mm. 1–2 of the Fantasy as projecting a perfect fourth on two levels. Second, his harmonic reductions essentially represent what Schenkerians call imaginary continuo. This is also relevant to his article (1965) on Chopin's A-major prelude from op. 28. The third and most intriguing linear element is Mazel's analysis of the Fantasy's Lento passage. This analysis, which I "translate" into standard Schenkerian notation, amounts to a prolongational idea, while also suggesting motivic parallelism among descending seconds. I finish by incorporating this idea into my own, strictly Schenkerian reading of the work. This reading is also partly (mostly at the deepest level) based on Carl Schachter's analysis of the same piece. My reading thus synthesizes ideas from Russian- and English-language analytical traditions; it also takes linear elements, implicit in Mazel's work, to a level of structural complexity offered by Schenker's theories.

## **♭IV in Theory and Chopin**

Justin Lavacek and Timothy Jackson (University of North Texas)

As chromaticism expanded in the long nineteenth century, composers sometimes relied upon the expedient of enharmonic spelling at the cost of indicating true chord function. In this foundational study of the rare case of ♭IV, we focus on those examples where the voice leading suggests that we accept such striking chromaticism at the composer's word. From our analyses of ♭IV usage, we have derived three voice leading paradigms and will present examples ranging from local surface progressions to the deepest layer of harmonic

organization. They are: 1) I- $\flat$ IV-V-I, 2) I-IV- $\flat$ IV-I<sup>6</sup>, and 3)  $\flat$ IV as the upper third of  $\flat$ II. Chopin was a pioneer of all of these usages, often conjuring up  $\flat$ IV in relationship with the more common lowerings,  $\flat$ II and  $\flat$ VI, an interdependent family of expressive inflections.

The larger conclusion we draw is that some chromaticism cannot be reduced to a diatonic background, but is indeed structurally chromatic. This view of irreducible chromaticism resonates with, rather than represses, the expanded expressive spectrum achieved in the Romantic period. It is offered as an amendment to Schenker's claim, still reaffirmed by prominent followers, that only diatonic tones can be found at the deepest structural level. We contend that the permeation of chromaticism like  $\flat$ IV deep into tonal grammar was integral to the naturally expanding life of the tone and not merely colorful surface adornment.

### **Sunken IIs and Inwardness: Correspondences Between Voice-Leading and Moments of Introspection in Three Pieces by Robert Schumann**

Alexander Martin (The Graduate Center, CUNY)

This paper investigates the hermeneutical implications of passages where major V is followed, and prolonged, by minor II. The seeming breach of tonal syntax creates a perceived ebb in tonal flow and gives the impression that V has somehow turned inward. By analogy to origami, I call this family of V prolongations a *dominant sink fold*; the *Oberquintteiler* here is a  $\Downarrow$ II, or *sunken II chord*. Because of their special voice-leading properties and inward affect,  $\Downarrow$ IIs possess unique potential for creating text-music correspondences. I will examine the role of  $\Downarrow$ IIs in three works by Robert Schumann, where they are meaningfully coordinated with moments of introspection and heightened subjectivity.

In "Der Nussbaum," Mosen's poetry concerns blossoms coquettishly gossiping about a young maiden's impending marriage, but the focus shifts to the maiden's inner world and sexual naiveté in stanza 4. Schumann's G-major setting (op. 25/3) renders this stanza in A minor *qua*  $\Downarrow$ II at the middleground level. Similarly, in "Berg' und Burgen" (Heine), the objective river scenery recedes before the subjective heartbreak of the poem's protagonist. In Schumann's op. 24/7, the climactic line *Birgt sein Innres Tod und Nacht* (conceals [the river's] inner Death and Night) brings the music to a II: PAC that

functions as  $\Downarrow$ II, elaborating a fourth-progression within the structural dominant.

The appearance of  $\Downarrow$ II is especially provocative in *Charakterstücke*, where poetic content is adumbrated by title alone. In my final example, I will argue that a  $\Downarrow$ II lies at the expressive heart of *Träumerei* (op. 15/7).

## Poster Session

Philip Duker (University of Delaware), chair

### Hindemith's Harmonic Fluctuation and Obscured Tonality in Satie's *Nocturnes*

Alexander Amato (Stephen F. Austin State University)

To accommodate the elaborations of harmony and tonality that characterized many twentieth-century musical styles, Paul Hindemith (1895-1963) stated that it is not the scalar context of chord roots that initiate tonality, but rather the juxtaposition of the chords' constituent intervals (Hindemith 1942). As part of his compositional practice, he devised a system of measuring dissonance and tonal force in harmonies, classifying them by intervallic content into six groups of graduating dissonance while discounting the scalar context of the chords' roots. He coined the term *harmonic fluctuation* for varying levels of dissonance between adjacent harmonies. Recent analyses employing harmonic fluctuation (Harrison 2016) show that it can be an important component, if not the main component in the analysis of many post-tonal styles, being adaptable to many musical contexts.

Intervals also played a key role in Erik Satie's composition of his *Nocturnes* (1919) for solo piano. Satie departed from his practice of parodying earlier styles and shifted to a more serious compositional style in the *Nocturnes* by largely abandoning functional harmony and systematically using intervals as the basis for his harmonic language, and this is evident in the works' sketches. Taking into account the favoring of intervals in both Hindemith's and Satie's construction methods, this study will trace the evolution of Satie's use of chromaticism and obscured tonality in his *Nocturnes* by utilizing harmonic fluctuation.

## Some Thoughts on Maximally-Smooth Voice Leading Among Pcsets and Set Classes

André Brégère (Queensborough Community College, CUNY)

The study of voice-leading among pitch sets and pitch-class sets has been a prominent topic of music theory in the past twenty years. A variety of approaches, focused on harmonic similarity, transformational networks, or parsimonious voice-leading, have more recently been subsumed under a geometrical model based on a mapping of pitch or pc sets onto dimensional coordinates using the semitone as a metric. These developments have led to some early attempts to establish a general typology of voice-leading *sets* (vlset) and voice-leading *classes* (vlclass), as a higher-level analog to the pc-set and set-class typologies.

My paper examines vlsets and vlclasses from a purposely narrowed perspective, limited to instances of *Maximally-Smooth* (MS) voice leading—i.e., wherein motion between pcs is limited to one semitone. I show that there exist, for each cardinality, only a relatively limited number of MS-vlsets, and an even smaller number of MS-vlclasses. Focusing initially on pcsets and set-classes of cardinality two and three (including multisets), I examine the properties MS- vlsets and vlclasses, corresponding to various types of relations (T/I, K-net isographies, constant sums), and explore the various geometrical features of the resulting voice-leading spaces. I then extend these observations to other cardinalities, and conclude with suggestions for a unified, systematic typology of MS-vlsets and vlclasses for all cardinalities.

## Twirling Triplets: What Makes Music Spin?

Niels Chr. Hansen (Ohio State University)

While music scholars have long noted that triplets evoke sensations of spinning or rotation in listeners (Jankélévitch, 1961; Mellers, 1954), this topic has not been subject to theoretical development or empirical scrutiny.

Addressing this question, we first solicited musical examples “connoting spinning, rotating, twirling, or swirling” using SMT Discuss. Analysis revealed a prominence of fast, repeated, isochronous patterns employing stepwise pitch movement and compound meters.

To explain these associations, we devised an *Ecological Theory of Rotating Sounds (ETRoS)* inspired by ecological acoustics (Gibson, 1979). Specifically, listeners acquire sensitivity to continuous fluctuations in location, pitch, and dynamics emitted by rotating sound sources. Whereas immobile musical instruments producing discrete pitches

render location and pitch cues largely unavailable, loudness changes remain pertinent. *ETROS* posits that stress patterns for binary (strong-weak) and ternary (e.g., strong-weak-weak) rhythms are consistent with a spinning trajectory, unlike archetypal quaternary or quinary patterns (e.g. strong-weak-medium-weak, strong-weak-medium-weak-weak). For binary rhythms, however, ecologically simpler, pendular representations may be cognitively preferred (Chater & Vitányi, 2003).

Two perceptual experiments tested *ETROS*. Participants in Experiment 1 rated how much binary, ternary, quaternary, and quinary figures evoked sensations of rotation. Experiment 2 used a two-alternative forced-choice paradigm pitting ecological quaternary stimuli (strong-medium-weak-medium) against unecological ones containing the strong-weak-medium-weak pattern more typical of Western music. Our results show greater perceived rotation for ecological patterns, for faster tempi, and for ternary/quaternary/quinary compared to binary stimuli.

In conclusion, ecological acoustics provides a plausible explanation for the musical qualia of rotation, potentially explaining why composers resort to triplet/compound rhythms.

### **The Shape and Structure of Musical Contour Space**

David Kant and Larry Polansky (University of California Santa Cruz)

Musical contour remains an active topic in music analysis, ethnomusicology, music cognition, and composition. Different strains of contour theory have employed various formulations and tools to categorize and measure contour. Contour is succinctly described as the sequence of ups and downs, or changes in direction rather than the magnitude of those changes, in some musical feature: melody, rhythm, or even sound spectra, from the shortest gesture to larger forms.

Our work examines the structure of contour space, using new mathematical and computational tools. We refigure contour as a *quotient space*, introducing a general definition of contour as *equivalence class* on the space of possible contours. This representation unifies various contour representations, presents a generalized mathematical model, and suggests new tools for understanding contour.

We develop a geometric interpretation of contour space and its enumeration that reveals combinatorial contour as a highly structured lower-dimensional subspace of *linear contour* space. Through a change-of-basis, we construct a coordinate system specific to combinatorial contour, which allows us to work directly with and only with combinatorial contours. Continuing, we offer a comparative analysis of existing contour definitions by representing them as quotient spaces,

and we examine their relation to other mathematical measures. We find that most contour metrics (Morris' and Marvin and LaPrade's CSIM, Quinn's C+SIM, Polansky's OCD) correlate closely to cosine (angular) distance. This leads to a formulation of contour in terms of polar coordinates, where angle expresses difference in shape and magnitude difference in scale, creating a theory that unifies magnitude and contour.

### **Defining Phrases in Popular Music**

Jeremy M. Robins (Florida State University)

Phrases in common-practice music are traditionally defined by harmonic processes, particularly goal-directed progressions to tonic. In popular music, however, harmonic motion toward a tonic is not always present, making traditional approaches to phrase segmentation problematic. This paper presents a methodology for phrase segmentation using melodic activity that can be applied to a broad spectrum of popular music.

Inconsistency in methodology between scholars highlights the analytical challenge of phrase segmentation in popular music. Applying the three primary criteria cited by scholars—unified melodic activity, goal-directed motion, and vocal breath/rest—can result in conflicting segmentations for the same musical excerpt. My methodology delineates phrases by melodic activity, specifically repetition and contrast between subphrases, and is modeled after phrase-structure research by Caplin (1998), Callahan (2013), and Richards (2016). Resulting common phrase paradigms include various sentence types, repeated subphrases, and rotated subphrases. Composite structures include periods, double periods, repeated phrases, modified repeated phrases, and rotated phrases.

The primary goal of this research is to provide a systematic method that lacks ambiguity or ad hoc parameters for phrase segmentation. This approach provides consistent results, is applicable to music featuring recurring chord loops, allows for a detailed consideration of phrase structures across the variety of popular music styles, and opens the door to research into the interaction of phrase structure and large formal units.

### **Meter in French and Italian Opera, 1809-1859**

Nicholas J. Shea (The Ohio State University)

Current and historical methods of metric analysis often assume that the first beat of a metric group is stronger than the second. This,

however, is not the case in all repertoires. For example, a study by William Rothstein (2011) demonstrates that Verdi's midcentury operas often place emphasis on even-numbered beats. This paper shows this metric trend to be even more prevalent in a corpus of 200 nineteenth-century operatic excerpts, (1809-1859).

I present a formal model that classifies phrases according to anacrusis length and prosodic accent, showing where large-scale metric accents fall within a phrase. This model produces three metric types which align with Rothstein's (2011) previous work. Compositional and historical features (e.g., language, premiere date, librettist, etc.) were tracked alongside type in order to determine whether preferences for certain metric forms were more prevalent in certain contexts. This indeed was the case. For instance, use of even-emphasis meter increases over time, even though odd emphasis meter remains most common. Individual composers also show a significantly distinguishable preference toward each type of meter. These results not only confirm that the highest concentration of even-emphasis meter occurs in Verdi's midcentury operas (Rothstein 2011), but that Verdi is the primary user of this type overall. I also demonstrate that language and composer nationality do not significantly affect an excerpt's metric type; only Verdi shows distinction in these areas. With this finding, I argue against using nationalist language to identify metric types and instead propose suggestions that better reflect an updated understanding of nineteenth-century metric conventions.

## **Form and Sound Quality**

Seth Monahan (Eastman School of Music), chair

### **Form and Ignorability in Ambient Music**

Frank Lehman (Tufts University)

Brian Eno's famous dictum concerning ambient music, that "it must be as ignorable as it is interesting," presents a curious challenge to analysts. To the extent that analysis reflects listener responses to music, then interpretations of ambient compositions should reckon with the ebb and flow of attention. The ambient style is often framed as non-hierarchical, non-teleological, and sometimes even non-intentional. If these qualities are true, and ambient music floats in a vaporous "vertical time" with no figure/ground distinction, then traditional *formal analysis*—



the study of how events and sections are coordinated to shape musical wholes—would seem a tenuous prospect.

In this talk, I present a case for investigating ambient music in terms of larger formal structures than normally acknowledged by either fans or creators. To ensure I do not neglect the “ignorability” contingency, I invert two established analytical paradigms. First, I devise a set of analytical *un*-salience conditions: gestures and attitudes that permit tuning out the music. Second, I flip Fink's (2005) notion of recombinant teleology, arguing that ambient music often exhibits overlapping strategies for masking or subverting goal-directedness.

Following illustrative examples from various artists, I offer a large-scale case-study, *The Magnificent Void* (1996) by composer Steve Roach. Using spectrographic visualizations, I isolate a number of structures that give *Void* a foggy but persistent sense of internal memory. My case for “symphonic” architecture is bolstered by a reduction that traces timbral and tonal design over the course of the album, focusing especially on relative spectral/timbral brightness and toneness/noisiness.

### **Sound-Quality Modulation in Sibelius's Orchestral Works**

Blair Johnston (Indiana University)

In this paper, I analyze timbral and dynamic characteristics in five passages by Sibelius and I consider how these dimensions of sound interact with form and harmony in post-Romantic orchestral music. Sibelius offers vivid case studies. His is music in which complex musical structures are orchestrated in highly individual ways; in which form, material, and sounds themselves sometimes blur.

My idea here is “modulation”—not in the usual musical sense, but in a sense borrowed from acoustics and electronics: varying the envelope of one signal according to the envelope of another signal. I mean this as metaphor, as a way to evoke expressive experiences I have had with this music and radiate outward toward general observations. Information about form and harmony suggests certain experiential envelopes—genre- and style-sensitive carriers, so to speak. Sound-quality curves shape and reshape these envelopes, resulting in modulated analytical hearings that can reflect listening experience, where sound qualities, formal understanding, and harmonic-melodic apperceptions affect each other deeply.

One goal is to fold measurable sonic dimensions into interpretive accounts based on time-tested music-analytical methodologies. At the same time, I want to suggest some ways that the study of orchestral music might draw upon spectromorphological and audio-analytic

approaches. In the five Sibelius passages, intensifications and relaxations in timbral/dynamic envelopes do not line up neatly with formal/harmonic intensifications and relaxations. These sound-quality modulations thus involve complex processes of amplification and attenuation across different dimensions. I find such situations to be of special expressive interest in post-Romantic music.

## **Metrical Templates and Distributions**

Joti Rockwell (Pomona College), chair

### **Meter as Template: Metric Allusion in Music by Thomas Adès**

Daniel Goldberg (University of Connecticut)

In describing how listeners establish and maintain a sense of meter, psychologically and experientially oriented metric theories often focus on particular musical events, through interpretation of accents and grouping or projection of individual musical durations into the immediate future. This attention to the moment-by-moment unfolding of music in time is essential for explaining the ability to synchronize with precise and changing temporal organization, but the complementary role of past experience in shaping listeners' metric interpretations remains mostly unexplored. In this presentation, I argue that most listeners bring to a new piece of music a learned, largely unconscious repertoire of meters that function as templates, simplifying the process of inferring meter by providing strong expectations for when sounds will occur.

In principle, these learned expectations influence metric induction in any music. Music by Thomas Adès offers an apt demonstration of the phenomenon because of Adès's practice of alluding to familiar meters by presenting their rhythmic patterns in attenuated or distorted form. Analyses of score excerpts and timing from recorded performances illustrate how Adès invokes familiar metric templates by manipulating rhythm and by using other characteristics that typically occur in conjunction with unequivocal meters, including tertian harmonies and conventional handling of dissonance, dynamics, and timbre. These examples highlight the integral part that past experience plays in metric hearing and draw attention to the relationship among notation, sound, and perception.

## **Who's Feeling Crooked Now? "Progressive Bluegrass" in the Metric Disruptions of Punch Brothers**

James Palmer (University of British Columbia)

Punch Brothers, led by mandolin virtuoso Chris Thile, is a "progressive bluegrass" supergroup. Their standard bluegrass instrumentation—mandolin, fiddle, banjo, guitar, and bass—is at times their most bluegrass element. While early albums established their artistic prowess, their 2012 album, "Who's Feeling Young Now?" "shifted the emphasis...to playful storytelling" (Chinen 2012). The most conspicuous element of play found throughout this album is its "crooked" meter. I demonstrate how one can perceive Punch Brothers' metric indebtedness to bluegrass, while also discerning the distance of the Brooklyn-based group from the original "Crooked Road" (the Virginia Heritage Music Trail) in their progressive art rock approach to other musical aspects.

The song "New York City" is emblematic of Punch Brothers' bluegrass-rooted "crookedness," containing straightforward metric elisions or deletions, typical of bluegrass. "Soon Or Never" raises the stakes with two metric disruptions that engage a common bluegrass time quirk known as a "backstep." Punch Brothers takes this typical bluegrass manoeuvre and builds a two-fold disruption that begets further metric quirks later in the song. "Don't Get Married Without Me" creates the perceptions of metric deletion and addition through a progressively lengthening anacrusis. My transcriptions suggest different metric interpretations of the song's disruptions of different pulse levels. These metric quirks become increasingly disruptive throughout the song as Punch Brothers saturates the metric structure with numerous conflicting impulses.

I conclude with a discussion of Punch Brothers' carefully crafted text to "Don't Get Married Without Me" as it engages with multiple metric disruptions.

## Time, Form, and Affect

Judy Lochhead (Stony Brook University), chair

### Pitch, Form, and Time in Two Works by Henri Dutilleux

Robert Baker (The Catholic University of America)

Henri Dutilleux described his *croissance progressive* (progressive growth) technique as a process in which “thematic elements” undergo gradual development such that by the end of the work, they “reach their definitive form” (Potter, 1997). But this directional quality is questioned by some works whose main element from the beginning also appears at the end, suggesting, as Dutilleux stated, “a notion of time as circular” (Nichols, 1994). In this paper, I consider two works, *Ainsi la nuit* (1976), and *Mystère de l’instant* (1989), to show a broader conceptualization of the progressive growth technique in two ways. First, I expand upon existing analyses by Potter, Monpoel and Hesketh to reveal new evidence of Dutilleux’s technique in *Ainsi* ... in relation to pitch material by way of tri-chord pair analysis rather than the typical unordered hexachord approach to the opening chord. Second, I argue connections between movements in both works with Boulezian conceptions of smooth and striated time, and, in this light, show temporally proportional analyses of Dutilleux’s work that reveal goal-oriented formal locations consistently signified by a disruption or negation of metered subdivision and coordination. To more fully realize these implications, I draw a connection to Deleuzian theories on *Chronos* versus *Aïôn*, the undivided extended present versus a durationless instant separating past and future. In conclusion, I argue that the progressive growth technique can be understood to operate beyond conventional pitch and rhythm relationships, carrying deeper connections on levels of musical time and form.

### Affect as Form: The Joy of Time in Toshio Hosokawa’s *Vertical Time Study I*

Mariusz Kozak (Columbia University)

Despite its evocative title, Toshio Hosokawa’s *Vertical Time Study I* (1993) for clarinet, cello, and piano does not seem to cast any ambiguity on the issue of time. In fact, it unfolds in a relatively straightforward, linear manner, and appears to develop its initial gesture within a squarely conventional form. Thus, the trio begins with low intensity, builds up to a climax by fragmentation and an increase in rhythmic activity, and

eventually returns to the quiet opening. However, this reading obscures an unusual temporality that underlies the piece, a temporality that might very well be construed as “vertical,” if only in the sense of contradicting the more typical “horizontal” impulses of teleology or closure. To highlight this aspect, I propose that the development of the trio’s opening gesture is cast within a structure that can be effectively explicated using formal properties of affects. In this paper, I argue that affects are socially constructed and culturally stipulated spatial and temporal forms of our engagement with the world. Based on the premise that musical structure is created by listeners as they affectively engage with music, I suggest that when used as analytical tools, the formal properties of affects offer a productive framework for interpreting contemporary music in which composers challenge traditional concepts and experiences of temporality. I demonstrate this claim by exploring how Hosokawa is able to contravene the illusory sense of linear development by using intensities—loudness, articulation, and silence—as materials that shape the recurrence of the opening gesture.

## **Theorizing Musicality**

Leigh VanHandel (Michigan State University), chair

### **Theory, Analysis, and Characterizations of the Musical**

Elizabeth Hellmuth Margulis (University of Arkansas)

The description “highly musical” can be applied to entities as various as people, analyses, compositions, and performances. But what exactly does it mean for one performance or analysis to be more musical than another? By systematically interrogating the use of this term in various contexts, this paper seeks to reveal covert cultural attitudes and intuitions about music.

First, the paper examines cases where a theorist characterizes an analysis as especially “musical.” In analytic contexts, the descriptive “musical” is often set in opposition to the descriptive “theoretical,” reflecting an awareness of the way music’s most compelling aspects can elude capture by prevailing analytic systems, and a continuing effort to listen beyond these systems and develop new tools that are responsive to the unique aspects of individual works.

Second, the paper examines cases where performances are described as particularly musical. In both characterizations of analysis and in

characterizations of performance, the term musical is asked to carry the residue after existing modes of understanding are exhausted.

Third, the paper examines a number of studies where people rated the musicality of sound sequences, ranging from collections of pitches to utterances normally thought of as speech.

The final section of the paper asks whether the relationship between theory and the musical is necessarily one of pursuit and elusiveness, or whether other models might exist. For example, is it possible to develop theories and analyses that more directly target the musical without pushing our notion of the musical further away?

### **Specific Correlations Between Abilities in Mathematics and Music Theory**

Nancy Rogers, Jane Piper Clendinning, Sara Hart and Colleen Ganley  
(Florida State University)

Music theory teachers often observe that students who report great difficulty learning mathematics also find music theory especially challenging. This is not surprising: positive correlations between mathematical and musical abilities have been widely documented, and such connections have been asserted at least since the time of the Ancient Greeks. However, most research compares musicians with non-musicians, and musical performance (not music theory) is typically emphasized. Our pair of studies includes only trained musicians and specifically examines their success in music theory courses.

We begin with an examination of correlations between student performance in music theory, mathematics, and English. This statistical study demonstrates a particularly strong relationship between math and music theory, and it distinguishes this correlation from general intelligence or academic aptitude. Our follow-up study investigates the precise nature of this math/music link, which previous research suggests is likely not causal but instead stems from etiological factors that contribute to success in both fields. Rather than relying solely on broad measures such as standardized exams, we assessed potential shared cognitive processing factors (e.g., spatial reasoning) and affective factors (e.g., anxiety), including basic numeracy, spatial skills, pattern recognition, and anxiety and confidence. We observed numerous positive correlations between mathematical/spatial skills and music theory performance. There were also significant positive correlations between confidence in both fields and performance in music theory classes, and corresponding negative correlations between anxiety in both fields and performance in music theory classes. We believe our results

clarify some components of the oft-cited connection between mathematics and music.

## **Words and Music**

Jocelyn Neal (University of North Carolina Chapel Hill),  
chair

### **Lyricist as Analyst: Rhyme Scheme as “Music-Setting” in the Great American Songbook**

John Y. Lawrence (University of Chicago)

Although most songwriting teams in the Great American Songbook wrote music first and lyrics second, most studies of music-text interaction in this repertoire still evince a lyrics-first mindset, in which the music is viewed as “text-setting.” In this paper, I propose the opposite approach: considering lyrics as a form of “music-setting,” in which the lyricist’s superimposition of a verbal form (the rhyme scheme) upon the composer’s pre-existing musical form counts as an act of analysis.

I examine songs written in the years 1924–1943 by teams who worked in a music-first fashion. From these, I generate a list of the standard 8-bar phrase forms that the lyricists “set.” These are classified as “open” or “closed,” depending on whether the phrase is constructed from motivically parallel halves. Each possible rhyme scheme is likewise open (e.g. abbc) or closed (e.g. abab).

My analyses focus on cases in which there is a contrast between open lyrics and closed music (or vice versa), and cases in which lyricists set the same musical phrase to multiple rhyme schemes across a song. I suggest that in the latter, widening or narrowing the space between rhymes contributes a sense of verbal “looseness” or “tightness,” affecting a sense of rhyme-rhythmic motion.

My conclusion affirms that lyricists’ rhyme schemes are more than just static arrangements of similar-sounding words. We cannot understand the forms of these songs without them, because they dynamically impart the essential formal properties of closure and motion at or above the musical level.

### **Textual Norms and Deformations in Beatles' Bridge Sections 1963–67**

David Heetderks (Oberlin College Conservatory) and Aleksander  
Ferlazzo (Rutgers University)

When defining verses, choruses, and bridges, scholars of form in rock have identified sectional layout, harmony, hypermeter, and melodic/harmonic divorce as key musical features. By contrast, little attention has been paid to *textual* features of these sections, such as scansion and rhyme frequency. Our presentation shows that recurring types of textual contrast occur in verse and bridge sections in Beatles songs from 1963 to 1967. Verse sections are more likely to have irregular scansion, more frequent rhyme, and internal hypermetric elisions, while bridge sections are more likely to have regular scansion, less frequent rhyme, and regular hypermeter. These contrasting features form a robust norm in the Beatles' music, and they illuminate the differing relationships between vocal persona and musical environment that often occurs in these two sections. Some songs thwart these norms for expressive purposes. For example, the bridge of "Doctor Robert," is normative in its scansion and hypermeter, but deviates in its texture, harmony, and text in order to suggest the grotesque and create unfulfilled expectation. The bridge of "Yes It Is" departs from its expected pattern of rhyme, scansion, and hypermeter at a crucial turning point in the text, highlighting the lead singer's complex psychological state. Our study shows that, in Beatles music, textual patterns of scansion and rhyme play a significant role in defining formal functions of different sections and constructing songs' vocal personae.

### **The Music of Georg Friedrich Haas**

Aleksandra Vojcic (University of Michigan), chair

#### **Playing with Shadows: The Reinjection Loop in Georg Friedrich Haas's *Live-Elektronische Musik***

Landon Morrison (McGill University/ Centre for Interdisciplinary  
Research in Music Media and Technologies)

The music of Austrian composer Georg Friedrich Haas is often grouped within the loose generic bounds of spectralism, but the composer dismisses this overly narrow characterization; instead, he positions his work at the intersection of several compositional



approaches [Haas 2007]. Recent scholarship seems to support this view, suggesting that Haas's music can be understood as a dramatic confrontation between "clashing harmonic systems" [Hasegawa 2015]. Building on these observations, this paper focuses on Haas's recent endeavors in the domain of *live-elektronische Musik*, showing how the composer deploys a relatively straightforward technical procedure—the reinjection loop, or the delayed playback of recorded sound at various speeds—to juxtapose different modes of pitch organization, including twelve-tone temperament, microtonality, and just intonation. In *Ein Schattenspiel* (2004) for solo piano, recorded material is consistently played back at an accelerated ratio of 33/32, producing a quartertone system that recalls Ivan Wyschnegradsky's *ultrachromatisme* and *espaces non octaviant*. By contrast, materials in *String Quartet No.4* (2003) are reinjected in a stop-and-go manner at different speeds, yielding fluid pitch relationships between the performers and live electronics: just-intoned harmonies clash with near-octave sonorities, twelve-tone melodies are harmonized with overtone spectra, and at times, indeterminacy throws the music open to chance. In these works, the reinjection loop functions on multiple levels, bringing the performers into contact with their immediate pasts, but also bringing Haas into dialogue with the long-cast shadows of his own musical predecessors, sparking a conflation of historical memory as various strains of influence collide in a musical pastiche.

### **Liminal Spaces in Georg Friedrich Haas's *limited approximations***

William Mason (Oberlin Conservatory)

This paper considers theoretical properties of 72-tone equal temperament and their usage in Georg Friedrich Haas's *limited approximations* (2010), scored for six microtonally tuned pianos and orchestra. I argue that Haas's oft-cited relationship to the French spectral school is best exemplified not in his technical praxis—which is starkly dissimilar from the high-tech preoccupations of spectral composers like Tristan Murail or Kaija Saariaho—but in Haas's broader aesthetic orientation to the concept of liminality, also a spectral hallmark. 72-tone equal temperament affords him a technical infrastructure in which to move smoothly between systems of pitch organization or, more often, to explore the transitional space not only between tuning systems but also between pitch and timbre, and consonance and dissonance. In *limited approximations* this encourages hearing the piece as manifesting an uneasy sound world characterized by murky, grotesque sonorities that give way to beautiful but fleeting

moments of clarity, like objects in a heat haze coming into focus. I take those moments of systemic clarity to be aurally marked events that guide the listener through a piece that otherwise lacks recurring formal or motivic elements, and my analysis draws attention to those moments.

## *Saturday afternoon, 4 November*

### **Plenary Session**

### **Chase, Dance, Enchant: Music's Partnerships**

#### **Chasing the Phantom: Features of a Supracultural New Music**

Michael Tenzer (University of British Columbia)

Since 2000, Balinese composer Dewa Alit (b. 1973) has split his time between home and abroad, absorbing many kinds of music. His latest gamelan work (2016) is *Ngejuk Memedi*, from the Balinese *ngejuk*, to chase, and *memedi*, a feared phantom of the Balinese unseen world that takes human form. It animates Alit's evolving desire to "see gamelan in a new way, in relation to other traditions" (Alit in Tenzer, 2011), while submitting to the phantom-like elusiveness of the goal.

Alit works less with inherited musical materials, and more with heuristics specially conceived. Like contemporary composers elsewhere, he critiques the structures and procedures of his inherited classical tradition as overdetermined and spent, limiting the reach of new expression. He has thought his way through to a terse set of non-negotiable features—mallet techniques, intonations, interpart relations, rehearsal and performance sociality—minimal and sufficient to convey a bedrock Balineseness without constraining liberation from the past. And he has added material gleaned from his travels and imagination.

Analyzing part of *Ngejuk Memedi*, I will portray an emergent supraculturalism. By linking it to particular examples from elsewhere (Brazil, Israel, et al.), I characterize a global trend into which Alit has tapped, that comes into focus only once one delimits the intellectual and aesthetic desiderata certain musicians have challenged themselves to explore. These explorations are generating musics rooted in separate traditional practices but aspiring to global reach. Often notated by composers but transmitted and performed orally, such music is highly conceptual but deeply embodied in felt groove. Its signature element is the juxtaposition or layering of complex, asymmetrical periodicities that

are rare or unknown in source traditions, but trace to ideas circulating from African, Indian, Western and other art musics that have become common currency. In these intersecting senses, they comprise a new phenomenon.

Inquiries into music of this ilk could provide common cause for music theorists and ethnomusicologists, positioning them to receive future developments with insight. A key challenge for its analytical description is to represent the hyper-elastic groove sensations elicited by the flow of irregular periodicities in multiple misalignments with groups dispersed in stratified layers.

### **Stepping Out: Hearing Balanchine**

Gretchen Horlacher (Indiana University)

Igor Stravinsky once stated that he suffered from a rare form of kleptomania, stealing others' music to "make it his own." Balanchine, his choreographic collaborator for many iconic ballets of the twentieth century, followed a similar path, also reworking the ideas and practices of dance and other art forms to create a unique neoclassical style. Even his widely known saying "See the music, hear the dance," was not strictly his own. Rather, it came from essayist Glenway Wescott who wrote in 1963 that "Suddenly I *see* the music; suddenly I *hear* the movements of the dancers." (Croce, 2009) Wescott had good reason to attribute musical powers to the choreographer, for Balanchine was broadly trained as a musician: his piano and music theory studies allowed him to provide piano accompaniment for his dancers. Moreover, Balanchine's singular training and disposition made his choreography integral to the music he chose.

My title reworks the words of Balanchine, suggesting that we as musicians can benefit from "hearing" his choreography. Music theory has gladly embraced the study of physical movement, and especially the movement of human bodies, as a meaningful source and analog for our own attentions to the metaphor of musical movement. The study of ballet, especially when a choreographer draws upon sophisticated musical understanding, gives us the opportunity to hear what we see, and see what we hear. In this talk I will join physical and metaphorical movement in two of Balanchine's iconic ballets, his setting of Tchaikovsky's *Serenade for Strings* and his collaboration with Stravinsky for the ballet *Orpheus*. Taking Balanchine's cue, I hope to show how musical and dance movement partner one another.

## **Music's Stubborn Enchantments (and Music Theory's)**

Steven Rings (University of Chicago)

In 1918, Max Weber (paraphrasing Schiller) famously proclaimed modernity's "disenchantment of the world." Weber was speaking specifically about the waning of belief in the cold light of science, secularism, and rationalized, bureaucratic capitalism, but his dictum has proven remarkably resonant beyond the social science quad. Indeed, various species of disenchantment arguably pervade the postmodern humanities, as both diagnosis and method: the critical theorist disenchant, unmasks, demystifies. Most music theorists, it need hardly be said, do something quite different. As the SMT celebrates its 40th year, music theory—with its wide-eyed enthusiasms and unapologetic close readings, its loving attention to the sonic and the aesthetic, its frequent aloofness from the social and political—remains a discipline apart, a sort of blissed-out, sylvan glade within the left-melancholic academy.

Depending on one's intellectual commitments this may be cause for celebration or withering critique. But before we exult or condemn, we should try, once again, to understand *why*, as music theorists, many of us are so prone to enchantment (despite frequent admonishments from our academic neighbors), and what this might mean for our discipline's future and its place in the academic ecology. In this talk I first consider the institutional, pedagogical, and material conditions that reinforce music theory's aestheticized practices, specifically in the undergraduate theory classroom. I then pivot to research, taking the song "Poor Places" by the band Wilco as a case study to stage a fictive encounter between (unabashedly enchanted) music analysis and more critically wary perspectives from sound studies and Latourian actor-network theory.

## *Sunday morning, 5 November*

### **Dialogic Form**

Steven Vande Moortele (University of Toronto), chair

### **A Contribution to the Theory of Tonal Alterations in Sonata Recapitulations**

Jonathan Guez (The College of Wooster)

Despite differences in critical alignment, studies of sonata-like structures tend to share one feature in common: they devote the least amount of time to recapitulations. Two theoretical presuppositions may explain this neglect: (1) that the thematic layout of the recapitulation mirrors that of the exposition, and (2) that one obligatory tonal alteration is all that is needed to make a tonic-recapitulating sonata conclude in the key in which it began. The present paper uses examples from Schubert's piano music to complexify the second of these in hopes of painting a more complete, and analytically adequate, picture of the ways tonal alterations are made in practice. Its goal is to reveal the wide range of strategies available to composers for enacting a sonata's obligatory tonal adjustment.

The central analytical section of the paper identifies six strategies for performing tonal alterations, each of which is suggestive of different narrative or dramatic situations. Moving from less to more "involved," the strategies are:

- Alterations in silence
- Immediate alterations
- Thick alterations
- Multiple alterations
- Impotent alterations, and
- Self-effacing alterations

Tonal alterations may be obligatory in sonatas with on-tonic recapitulations, but they are not for that reason deployed by composers *pro forma*. Indeed, Schubert (and others) composed tonal alterations in a range of sophisticated and dramatically appropriate ways. A detailed look at this understudied aspect of sonata composition enhances our music-analytic categories, sharpens our interpretive acumen, and invites us to hear recapitulations as sites of robust tonal dramas.

### Schumann's Early Experiments in Sonata Form

Jon-Tomas Godin (Brandon University)

This paper seeks to connect Schumann's early compositions in sonata style to Classical traditions, while simultaneously exploring the new temporal and rhetorical effects his creative reimagining of the form achieves. While the past decade has seen a revival of interest in Schumann's concept of sonata form, most of this research leaves aside the piano sonatas and other sonata form movements that constitute Schumann's earliest published attempts in the genre. Using a combination of analytical methods including formal functions, tonal organization and metric dissonance, I establish a broader basis for understanding how Schumann approached his early works in large-scale form.

Throughout the paper, I identify means by which Schuman subverts Classical sonata norms relating to formal boundaries and the resulting effects at both intrathematic and interthematic levels. On the intrathematic level, such effects include reorganization or deletion of beginning, middle or ending function at the phrase level to create local-level ambiguity. Such reorganizations also impact formal organization at the movement level, where they either again create more large-scale ambiguity, or in some cases, lead to greater integration between different levels of the formal hierarchy. On the interthematic level, Schumann uses the inherent parallelism of sonata form in the first movements of his Op. 11 and Op. 14 sonatas to redefine conventional formal boundaries, thus creating new rhetorical effects.

### Dialogic Form in the First Movement of Mahler's Tenth Symphony

Eric Hogrefe (University of Louisville)

The first movement of Mahler's Tenth Symphony raises a formal question that applies broadly to all nineteenth- and twentieth-century music: how do Classical-era formal categories operate after the Classical era? Julian Horton (2005), Seth Monahan (2011, 2015), Steven Vande Moortele (2013), and others have offered possible solutions, but little has been achieved in terms of consensus. This paper offers a model for viewing form in Mahler's Tenth Symphony that refines Hepokoski and Darcy's dialogic perspective by distinguishing between four *dialogic attitudes* based on the master tropes of rhetoric: metaphor, metonymy, synecdoche, and irony.

In the first movement of Mahler's Tenth Symphony, sonata form conventions interact freely with conventions more commonly associated with nineteenth-century slow movements creating a composite form. But within this composite, the two formal traditions are treated differently; Adagio conventions are largely upheld while sonata conventions are largely overturned, violated, or otherwise negated. My analysis shows how Mahler's movement is best understood as enacting a conflict between dialogic attitudes based on metaphor and metonymy, as opposed to representing an uncertain blend of disparate formal traditions.

### **Anton Bruckner's Slow Movements: Dialogic Perspectives**

Gabriel Venegas (Universidad de Costa Rica, San José)

Bruckner's treatment of form and the textual idiosyncrasies of his symphonies loom large in his music's reception history. Because the idea of a "Bruckner symphony" is hard to match with traditional notions of authenticity and authorship, Bruckner scholarship has operated under text-critical discourses that construe his oeuvre as defective and problematic. Similarly, in addressing traditional and innovative formal aspects of Bruckner's music, critics have tended to overemphasize one side or the other; some judging his symphonies as formless, others considering them excessively predictable and overly reliant on classical models. It seems then that a more constructive appraisal of Bruckner's music requires an epistemological change of gears. Towards that aim, this paper presents an analysis-based method that embraces the particularities of Bruckner's music as its foremost potential.

The scope of the study is restricted to Bruckner's slow movements. Building upon James Hepokoski's dialogic approach, I propose conceiving formal-expressive meaning in Bruckner's symphonic Adagios as growing out of a two-dimensional dialogue. First, there is the outward dialogue (the Hepokoskian dialogic dimension), in which the individual exemplar dialogues with its implied genre. Second, I suggest considering an inward dialogue among the various versions of a single movement, and the interplay between inward and outward dialogues.

The proposed analytical method has the advantage of both accounting for Bruckner's formal idiosyncrasies and turning the "Bruckner Problem" into the Bruckner Potential. It provides an analytical/theoretical framework that clears the way for a more nuanced and sympathetic understanding of Bruckner's music.

## **Computational and Corpus-Based Approaches to Music** Johanna Devaney (The Ohio State University), chair

### **A Machine Learning Approach to Modality and Tonality in Early Music**

Daniel C. Tompkins (Florida State University)

This paper presents a corpus study that identifies the number of statistically distinct modes used in sacred and secular genres from 1400–1750. Corpora used for the study include Masses, motets, and secular songs from the Franco-Flemish School, works by Palestrina, secular Italian songs with alfabeto guitar tablature from the early seventeenth century, and works by J.S. Bach. K-means clustering of key profiles are used to determine the number of distinguishable modes in each corpus. The results of this study show that the number of modes present in a corpus depends not only on date of publication but also on the genre of a composition. Secular genres are more likely to cluster into two modes while sacred genres cluster into several modes. This paper also explores the differences between systems of notation and musical practice and suggests other ways in which machine learning techniques can be in dialogue with the study of harmonic practice in early music.

### **Automated Contrapuntal-Rhythm Detection and Reduction for Renaissance Music**

Alexander Morgan (L'université libre de Bruxelles)

Contrapuntal rhythm (hereafter CR) is the rate at which fundamental counterpoint progresses, expressed as a durational value, most often the minim. Accurate assessment of CR in Renaissance music is crucial for several analytical procedures including reduction, similarity comparisons, and the quantification of style change. While the concept of CR has been extensively theorized by Ruth DeFord (2015), the present study is the first to offer a precise and dynamic means of ascertaining it in Renaissance music. The main analytical considerations of my period-inspired and fully reproducible approach for assessing a piece's CR are dissonance treatment, attack density, and cadence placement. When done by an analyst, counterpoint reduction can be convincing and dynamic, but difficult to reproduce by others; conversely, the two prevailing automated methods take observations at every new note ("salami slicing", Christopher White, Ian Quinn, 2014) or at regular rhythmic intervals (Christopher Antila, Julie Cumming);



both of these approaches are perfectly reproducible but not dynamic and therefore necessarily occasionally inaccurate. By contrast, an essential tenet of my approach is that CR is generally stable, but can and does vary within a single piece, without the need of a change in notated time signature. I begin with an examination of how CR and reduction are addressed by Johannes Tinctoris (1477) and Pietro Pontio (1588), then I describe each step of my method with sample analyses.

### **Renaissance “Dissonance Fingerprints”: A Corpus Study of Dissonance Treatment from Dufay to Victoria**

Malcolm Sailor and Andie Sigler (McGill University)

Using new software that sorts dissonant note-pairs into dissonant idioms (e.g., suspension, *cambiata*), we present the results of a corpus study of over 2,100 movements of Renaissance counterpoint, from Dufay (1397–1474) to Victoria (1548–1611). As a major nexus of stylistic evolution in Renaissance music, dissonance treatment has long been studied, but computer-assisted analysis enables us to: (1) re-examine it on a more comprehensive scale, (2) describe, search for, and count new dissonant idioms, and (3) calculate individual composers’ “dissonance fingerprint,” which may prove useful in questions of attribution.

Dissonant idiom definitions in Palestrina’s style, as described by theorists such as Jeppesen and Schubert, successfully categorize virtually all High Renaissance dissonance but cannot account for a significant minority of dissonances in earlier music (e.g., Ockeghem). Defining new idioms to account for these earlier dissonances, we show that the trajectory of Renaissance dissonance treatment was a consolidation where general tendencies of dissonance treatment (e.g., downwards resolution) became uniform, and the most common dissonant idioms (passing tones, etc.) became very nearly the only acceptable idioms.

The rigor required for computer analysis leads us to identify a new family of dissonant idioms: a pair of voices simultaneously attack a dissonant interval, but one of these voices sounds a pitch-class either still sounding in another voice or left at the moment of onset. Since explaining such dissonances requires invoking notes from outside the dissonant pair, such idioms indicate an emerging necessity for something like a chordal model to explain dissonance treatment.

### **A Corpus-Based Model of Voice Leading in Tonal Music**

Robert T. Kelley (Lander University)

This study proposes an empirically derived model of tonal voice leading that can be used to teach part writing in undergraduate harmony courses. Machine-learning algorithms divided scale degrees into classes based on their voice-leading tendencies in the corpus. The resulting theory therefore extends Harrison's (1994) harmonic-function-based voice-leading models, Quinn's (2005) "Harmonic Function without Primary Triads," and Shaffer's (2014) scale-degree categories in *Open Music Theory*, and provides corpus-derived evidence for the use of scale-degree functions. The dataset used in this study was generated from MIDI files of 1582 four-voice homorhythmic chorale-style hymns selected from *The Cyber Hymnal*. An algorithm for determining harmonic function was applied to create a list of each voice's scale-degree numbers and their harmonic functional context. Using this data, the machine learning produced a hidden Markov model with six states that can be interpreted as scale-degree functions. Dividing the model into 21 scale-degree classes clarifies how each of the original six classes behaves in every harmonic context. This computer-generated statistical voice-leading model was then consolidated into a simple set of voice-leading procedures applicable to all tonal contexts that undergraduate music majors can easily learn in order to master the technique of tonal part writing and analysis.

### **Twentieth-Century Analytical Methods**

Severine Neff (University of North Carolina Chapel Hill),  
chair

#### **Liquidation and Its Origins**

Áine Heneghan (University of Michigan)

This year marks the fiftieth anniversary of the publication of Schoenberg's *Fundamentals of Musical Composition*, a book in which the technique of liquidation is first elucidated. Alexander Goehr, in one of the earliest reviews, celebrated the concept while decrying the term itself, seemingly because of its association with the Second World War. Schoenberg's appropriation, however, reaches back to the First World War, when contemporary accounts of the financial crisis referred to

liquidation [*liquidieren*, *Liquidation*] and to businesses being dissolved [*aufgelöst*].

As a musical term, liquidation is idiosyncratic. Probing its history enables us to capture the resonances that it had for Schoenberg and, in so doing, to refine our current usage. This philological investigation entails examining a host of related terms, charting their use over time. In his German writings, we observe differences in the two editions of the *Harmonielehre* as well as an expansion in meaning as *Auflösung* depicts dissolution as well as resolution. His English writings provide further details: in the drafts for *Fundamentals*, he describes the process where “characteristic features” are “annihilated/disintegrated” and “transformed into insignificance,” and where “obligatory” forms become “non-obligatory.” Through his library, we gain access to the meaning of these descriptors and come closer to understanding the “obligations” of the motive. Reading Schoenberg’s texts in their original form allows for a clearer and richer understanding of liquidation and provides a much-needed framework for differentiating formal components such as “shape” [*Gestalt*], “figure” [*Figur*], and “motive” [*Motiv*].

### **Music Theory on the Radio: Excavating Hans Keller’s Functional Analyses**

William O'Hara (Gettysburg College)

Hans Keller developed his method of “functional analysis” (FA), which he described as “the *musical* analysis of music.” Heavily influenced by his studies in Freudian psychology, Keller believed that his analyses revealed “the latent unity behind manifest contrasts,” without using any labels or descriptive prose. In an effort to make explicit to his listeners what he believed to have been the composer’s own unified perception of the work, Keller’s analyses set between-movement interludes that extracted, juxtaposed, and modified prominent themes, and included intervals of silence, during which listeners were to reflect on what they had just heard. Keller produced a total of fourteen FAs (Figure 3), focusing primarily on the music of Haydn, Mozart, and Beethoven. These functional analyses have often been remarked upon—frequently appearing in the same breath as Rudolph Reti’s motivic studies, or even Schenkerian analysis—but their musical details have never been systematically studied. This paper explores Keller’s first functional analysis, of Mozart’s D Minor String Quartet (K. 421), revealing Keller’s analytical interest in the relationships between the motives and themes

of a given movement, and with motivic connections and thematic transformations *across* movements. Through Keller's re-arrangements of motives and themes, the listener is meant to *hear* one motive gradually transforming into the other. Keller's FAs are thus revealed as a style of analysis whose form—a musical performance—mirrors its content: a mediation between the listener's experience and the non-linear temporality of compositional labor.

## Screening the Sounds of Copland

Matthew McDonald (Northeastern University), chair

### "The Copland Sound" as Object of Appropriation

Stanley V. Kleppinger (University of Nebraska-Lincoln)

Neil Lerner and others have explored the indelible impact of a musical approach, often casually called the "Copland Sound," upon a significant cross-section of American films. Following Lerner's suggestion that this approach is more properly described as a multiplicity of "Copland sounds," this paper explores and catalogs constellations of particular musical parameters that were welded by Copland to specific extra-musical contexts (whether provided by ballet or filmic settings, texts of vocal works, or contemporaneous historical associations such as World War II). This thinner slicing of the Copland Sound into specific topics (labeled here as, e.g., *idyllic nature*, *protagonistic introspection*, *triumphalism*, and *exuberant country dance*) first opens the way to exploring the composer's manipulation and combination of his own topics (à la Hatten 1994, 2004), thus allowing for the tracing of narratives in his other music. In addition, by prying these styles loose from their original dramatic settings, Copland also foreshadows their appropriation by subsequent composers for novel programmatic purposes since the 1950s. The Copland Sound is so closely bound to Americana because the extra-musical subjects with which it was first associated were unequivocally American: the virgin frontier, the wild west, New York City, rural New England, Abraham Lincoln, John Henry. But I will show that later troping on this package of styles can point alternatively to a broad sense of Americanness, to the specific topics each style represents, or to both.

### **James Horner, Aaron Copland, and Three Fields of Inquiry**

Scott Murphy (University of Kansas)

As Neil Lerner has shown, the late film composer James Horner appropriated some “wide open” music of Aaron Copland. In particular, he finds in Horner’s scores for *Apollo 13* and *The Perfect Storm* undisguised instances of a three-harmony wedge progression lifted from Copland’s *Appalachian Spring* that I call the “Copland” schema. In three parts, this presentation both scrutinizes Horner’s “Copland” and serves as apology by proxy. First, aficionados and critics repeatedly single out Horner as the most notorious of borrowers of preexisting music, yet the field of films with the “Copland” in their soundtracks is wider than those scored only by Horner. Second, the “Copland’s” field of associations in film music has grown beyond both its affiliation with religious sentiment in the original ballet, and Lerner’s connection of its initial consecutive rising fourths with the vastness of *Apollo 13*’s outer-space frontier. While some cinematic uses of the “Copland” accompany wide-open scenes, particularly rugged American wilds, they are also conjoined to scenes of determination and self-determination as much as they accompany some sense of spaciousness. A thorough analysis of the “Copland’s” structure suggests homologies with all three of these signifieds. Third, Horner’s multivalent allusions to the “Copland” in his score for *Field of Dreams* reach a level of nuanced sophistication, as demonstrated through the employment of a two-dimensional “modal-transpositional field.” As the film’s narrative conveys the viewer among redesigned aspirational and topographical norms, Horner’s music conveys the listener among transformations of a musical emblem for the conventionalized American Dream.

### **Foundational Concepts in the Nineteenth Century**

Brian Hyer (University of Wisconsin-Madison), chair

#### **Harmonic Materialities: Syntactic and Statistical**

Matthew Boyle (Indiana University)

Discussions of *primo ottocento* opera have long understated its harmonic qualities. I contend that this persistent attitude is the residue of a historic shift in the meanings of harmony. In the decades surrounding 1800, and, largely fuelled by the theories of Rameau, harmony began to describe primarily the rules governing chordal

objects. It subsequently shed its prior usage as a descriptor of texture. Before discarding its textural meanings, harmony did not stand solely as a prime exemplar of what Leonard Meyer called syntactic parameters in music. Harmony instead encompassed both syntactic and statistical parameters equally, uniting the spiritual and the material. The writings of Sulzer, Burney, Rousseau, Stendhal, Fétis, and the Italian pedagogical tradition preserve these antiquated meanings of harmony. Harmony, in short, once was used to describe musical syntaxes and musical textures, usually in one of five ways: as chordal, as instrumental, as contrapuntal, as timbral, and as a measure of euphony. The conservative tradition of *ottocento* opera demands re-expanding the semantic scope of harmony to its pre-Ramellian borders. Instead of emphasizing metaphysical chromaticism, Italian operas placed aesthetic attention on the material qualities of harmony. I examine the harmonic materiality of two sets of conventions: a timbrally luxurious *mesa di voce* gesture and the haptic sensualism of pizzicato accompaniments. Such an attitude suggests paths of dialogue between music theory and recent trends in operatic criticism which prize the material, bodily, and drastic components of musical experiences over the compositional, technical, and the hermeneutic.

### **Charles Darwin vs. Herbert Spencer: Reinterpreting a Historic Debate About the Evolutionary Origins of Music**

Miriam Piilonen (Northwestern University)

In this paper, I compare Charles Darwin's evolutionary music theory and Herbert Spencer's lesser-known (and often mischaracterized) ideas in order to explore the implications of combining music theory and evolutionary theory. In 1857, two years before the publication of Darwin's *Origin of Species*, the philosopher and biologist Herbert Spencer published "The Origin and Function of Music" in *Fraser's Magazine*. Darwin's own perspective on the evolutionary origins of music did not appear until *The Descent of Man* (1871), where he placed the origins of music in the spontaneous formation of rhythms and cadences in animal courtship rituals, corresponding to the pre-linguistic phase of human evolution. By contrast, Spencer proposed a theory of origins where music represents a specifically human stage of evolutionary advance, beyond linguistic acquisition. Where Darwin understands music as an unconscious proto-language that emerges alongside the instinctual urge for domination and sexual reproduction, Spencer describes the biological activity of music as an advanced province of the human

species, which alone possesses the emotional “force” and “variation” necessary for musical expression. For Spencer, what is primal is not sexuality but rather the unique receptivity of a musical body to emotions, both pleasurable and painful. In sharpening the distinctions of this evolutionist debate, I show that both Darwin and Spencer invoke music to delineate a human-animal boundary, such that the formal features of music become entwined with the limits and potentials of the human species.

## Copland and Bernstein

Michael Buchler (Florida State University), chair

### “What the Image Allows”: Thomas Newman, Aaron Copland, and a Question of Triads

Anthony Bushard (University of Nebraska, Lincoln)

Aaron Copland’s music has continued to provide material for scores ranging from *Apollo 13* to *The Martian* that evoke “wide open spaces,” the “American Dream,” and mankind’s exploration of the self and our existence. Yet, films like *American Beauty* and *Revolutionary Road*—scored by Thomas Newman—do not extol the benefits of life in modern society and, instead, examine the isolation and anxiety inherent in the films’ communities.

Contrary to the optimism often perceived in Copland’s dramatic music, his complex piano works can project introspection, anxiety, and isolation. Amidst intense dissonance and dense polyphonic activity in the Variations, Sonata, and Fantasy, Copland tends to ease the volatility with searching melodies, sparse textures, and registral extremes often accompanied by static, open-voiced triads that encourage more focused listening. Similarly, Newman’s piano-dominated, triadic scoring for more intimate suburban settings acts as an audiovisual “zoom” lens that invites viewers to look more closely at suburbia’s troubling realities.

While Copland sought “the note that cost,” Newman prized “what the image allows.” For example, in *American Beauty*’s iconic “plastic bag” sequence, cinematographer Conrad Hall’s arresting, tripartite framing of Ricky-Jane-bag allowed Newman to respond musically with “Newman triads”: consecutive parallel perfect fifths supporting a widely-spaced melody comprised primarily of corresponding chordal thirds. In this paper, I will examine how “Newman triads” have helped create some of cinema’s most compelling audiovisual alliances by channeling a sense of

Copland's *urban* loneliness to convey similar feelings and emotions while underscoring *suburban* narratives, thus reinterpreting conventional appropriation of the Copland trope.

### Playing it “Cool”: Serialism and Fugue on Broadway

Thomas Posen (McGill University)

In addition to fugues being rare in Broadway musicals, Bernstein's “Cool Fugue” from *West Side Story* (1957) is anything but typical. It might seem surprising to recognize that, in a work intended to sell tickets in the popular sphere, Bernstein included not only a fugue, but a *serial* fugue. In this paper, I use set-theoretic and transformational tools to show how Bernstein's “Cool Fugue” from *West Side Story* (1957) not only opens with a twelve-tone row, but is also structured according to twelve-tone serial principles in its entirety. I analyze aspects of the row and interpret the relationship of subject and answer components by shifting axes of inversion that cause wedging. I formalize these relationships with Klumpenhower Networks and show how the networks share positive network isography with set class 3-5 (016), a set class that many of the important motives and even *Leitmotifs* share.

In the process of analysis, I comment on the phenomenology of even and odd indexes of inversion as they relate to the Transposition Hyperoperator  $\langle T_n \rangle$ . Finally, to show the cyclical serial organization of the fugue, I use Hook's *Uniform Triadic Transformations* to model the group of alternating subject and answer components. I show how the serial process interacts with—and helps define—the unfolding fugal process. Although some scholars suggest that Bernstein reinforced pejorative myths of twelve-tone music as a fad of the postwar period, he too “fooled with serialism” and his own serial pieces sometimes made it into places we might least expect.



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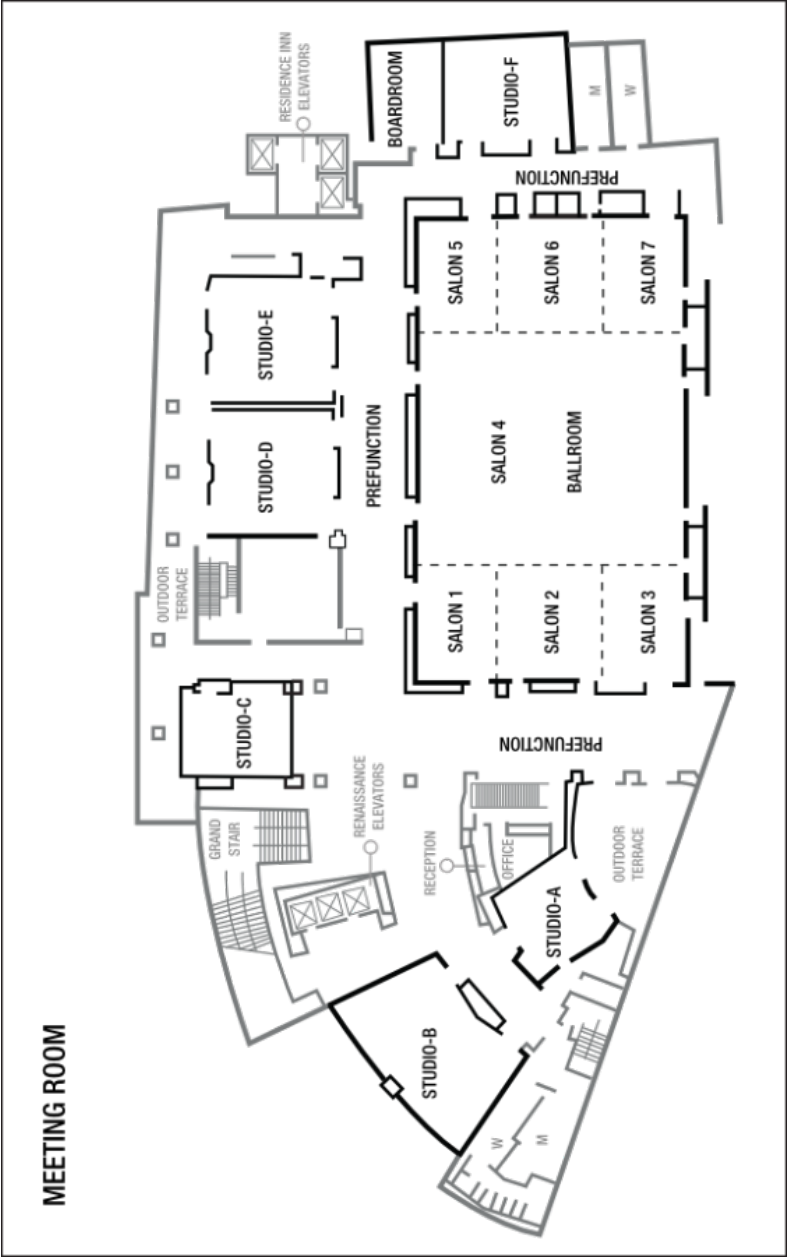
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