

MTSNYS 49th Annual Meeting
July–September 2020
Virtual Conference

Keynote Event: “After ‘Reframing Music Theory:’ Doing the Work”

Moderator: Ellie M. Hisama, Columbia University

“The Role of the Privileged: Labor, Service, and How to Be an Effective Ally”
Clifton Boyd, Yale University

“Taking Steps Towards an Antiracist Music Theory Pedagogy”
Catrina Kim, University of North Carolina at Greensboro

“Who Does Your Scholarship Serve?”
Alissandra Reed, Eastman School of Music

Founded in 2017, Project Spectrum is a graduate student-led coalition supported by affiliate members (including faculty members, independent scholars, and non-academic music professionals) committed to increasing diversity, equity, inclusion, and accessibility in music theory, musicology, and ethnomusicology. At the 2018 AMS/SMT Joint Annual Meeting, we hosted our inaugural symposium, “Diversifying Music Academia: Strengthening the Pipeline.” This event inspired the SMT’s groundbreaking 2019 plenary session, “Reframing Music Theory,” in which four senior scholars took up some of the symposium’s themes and shared them with the SMT membership at large. In our keynote address, we build upon our field’s contemporary moment of self-reflection and hope to inspire music theorists to take concrete action to create the change that they would like to see in the field.

Graduate-student committee members of Project Spectrum will present three lightning talks that center on the question of what do we do after “Reframing Music Theory?” The first paper offers strategies to those who often find themselves in positions of privilege (i.e., the “majority”) on how to actively work against hegemonic power structures and support those in marginalized communities. The second paper considers the most common barriers to diversifying music theory classes and suggests specific actions to address them. Finally, arguing that equitable academic scholarship must be aware of its relationships to non-academic communities, the third paper challenges attendees to reframe their own scholarship in terms of whom in the world it benefits.

Discussion and Question/Answer

Please join our keynote presenters on Sunday, August 9, from 2–3pm EDT for a discussion on these papers.

Bodies and Voices: Popular Music Methodology

“Gendering Virtual Space: Vocal Placement in Recorded Popular Music”

Michèle Duguay, The Graduate Center, CUNY

This paper establishes a methodology for analyzing *virtual space*—the sense of physical space evoked in a recording via reverberation, stereo placement, and other sonic parameters. More specifically, I analyze *vocal placement*—the apparent location of a voice within this virtual space. While these sonic features are a central concern for both mixing engineers and listeners, they are seldom analyzed. Existing music-theoretical approaches to the analysis of virtual space rely primarily on the analyst’s subjective perception (Moore & Dockwray 2010; Camilleri 2010; Vad 2017; Zinser 2019). To complement these studies, I provide an empirical method using digital sound-processing tools to precisely locate recorded sound sources in virtual space. To illustrate my methodology, I analyze vocal placement in “Love The Way You Lie” (Eminem feat. Rihanna 2010), “The Monster” (Eminem feat. Rihanna 2013), and “MotorSport” (Migos, Nicki Minaj, Cardi B 2018). Through my analysis of these songs, I argue that the vocal placement of an artist is often based on gender. This paper demonstrates how digital methods can be used to analyze the construction of gendered meanings in recorded performance.

“Inclusive Methods of Popular Music Performance Analysis”

Nicholas Shea, Arizona State University

Brittany Howard echoes a sentiment common amongst practicing popular musicians: “I got my education by just listening to records... I don’t really care about chords.” Howard instead outlines how her experiences growing up black and poor in rural Alabama act as pressures on her characteristic sound—she frames her guitar playing by gesture (“the eagle claw”) and style (“the James Brown lick”) and describes herself as a songwriter, not a vocalist or guitarist, due to her perceived lack of training.

Music-theoretic analysis traditionally prioritizes expert perspectives on harmony to evaluate musical function and structure. Such a focus in popular music presents methodological and potential moral implications. Given that harmonic patterning in popular music is syntactic (Nobile 2016), diffuse (White and Quinn 2018), generally inaccessible (Pollard-Gott 1983), and deprioritized in practice, expert-listener perspectives are invariably privileged—incongruent with those of musicians like Howard who face barriers to formal training.

This study reinforces the perceptual validity of practicing pop-rock musicians through accessible methods of performance analysis. I use low-cost motion-capture techniques to investigate how a performer’s instrument, training/experience, and stylistic preferences influence their real-time generation of musical texture. Results demonstrate that guitarists consistently prioritize fretboard parsimony, regardless of style (e.g., “rock” or “pop”), and utilize pronounced gestures to articulate formal boundaries, regardless of harmonic context. From this, I argue that performance gestures are functional (i.e., convey *identity* and *syntax*, like harmony) and demonstrate the utility of gestural analysis in case studies of performances by guitarists Brittany Howard, St. Vincent, and Nancy Wilson.

Improvisation and the Open Score

“A Graph Theoretical Approach to ‘Interactional Complexity’ in the Music of Earle Brown”

Drake Andersen, Vassar College

One of the most significant obstacles to analyzing open form works is identifying groupings and hierarchical levels. In the open form compositions of Earle Brown, musical events can be arranged in any order in performance, but due to the nonlinear and largely athenatic approach to material, no obvious groupings are suggested beyond the division of events onto separate pages. A more robust

analytical strategy emerges through careful consideration of Brown's preferred performance practice, characterized by "smooth transitions and long lines of connected material."

In this paper, I illustrate how mathematical graph theory can be used to determine the potential for unbroken chains of overlapping events in Brown's music, and therefore suggest prevalent formal groupings and paths in performance. In this framework, the events of Brown's compositions are represented as vertices in a graph, while possible "smooth transitions"—as determined by instrumentation and indications of linearity in Brown's scores—are represented as edges. The qualities of such graphs correlate to the combinatorial potential of events in Brown's scores, a property he referred to as "interactional complexity." The proposed methodology identifies not only potential points of transition between two events, but also groupings of three or more events that can be combined—complete induced subgraphs, or "cliques"—which can, in turn, be understood as formal units. By comparing these deep qualities of individual compositions, it becomes clear that Brown became more and more interested in a high degree of interactional complexity over the course of his career.

"Referents in the Palimpsests of Jazz: Disentangling Theme from Improvisation in Recordings of Ellington and Strayhorn's 'Satin Doll'"

Sean Smither, Rutgers University, The Juilliard School

In a 2002 article, Benjamin Givan compares jazz improvisations to palimpsests, writing that the utterances on the musical surface "provide us with clues to the improviser's underlying conception of the theme" (41). The sounding music represents a negotiation between extemporization and fixed text where it is seldom clear which elements are "part of the theme" and which are improvised. While recent research has sought to better understand both what a jazz theme is (Kane 2017) and how such themes may be effectively analyzed (Stover 2013), the palimpsests that are jazz improvisations continue to pose problems for analysts due to the dense entanglement of thematic material and improvised utterances.

In this presentation, I refashion Givan's above observation as an imperative for jazz analysis, arguing that any account of jazz improvisation must necessarily engage with the notion of a *referent*, "an underlying formal scheme or guiding image specific to a given piece" (Pressing 1988, 53). First, I introduce some considerations and methods for disentangling improvisational referents from the musical surface of a given performance, using Duke Ellington and Billy Strayhorn's "Satin Doll" as a case study. A comparative analysis of nine recordings of Ellington and Strayhorn's composition reveals how features of a referent fluctuate over time and necessitate an analytical approach sensitive to the relation between referents and the performances they inform. This results in a reconfiguring of the objects of jazz analysis and suggests new ways of complicating the relationship between improvisation and text in jazz practice and beyond.

Meter

"Metric Flexibility in Early Recordings of Self-Accompanied 'Hillbilly' Songs: Clarence Ashley's 'The House Carpenter' (1930) and Buell Kazee's 'The Butcher's Boy' (1928)"

Tobias Tschiedl, McGill University

Metric flexibility is a salient feature of many early recordings of self-accompanied "hillbilly" song. Where meter does not function as a coordinator of events between distinct performers, musicians are free to spontaneously expand or contract individual durations within a melody and to elaborate on the spot—improvise rhythmically—on pre-existing material.

Rockwell (2011) explains rhythmic complications in a related repertoire as isolated instances of "disruptions of expected pulse layers" within an otherwise regular metric grid. However, where multiple instances of such "disruption" occur in close vicinity, this results in contradictory metric

cues precluding altogether the establishment of any such grid. An examination of Clarence Ashley's 1930 recording of "The House Carpenter" illustrates the limitations of Rockwell's approach: It necessarily frames metric flexibility as a conflict between distinct stable states (possible normalizations), and more fundamentally, any such normalization takes a retrospective, atemporal view on rhythm. By contrast, projective theory (Hasty 1997) dispenses with this assumption of underlying stable pulse levels undergoing "disruption." I rehearse this approach in an analysis of Buell Kazee's 1928 recording of "The Butcher's Boy", where microtiming and non-coinciding metrical cues result in metric underdetermination.

My analysis treats metric flexibility not as a mere deviation from a regular, stable framework, but as a vital constituent of the rhythmic feel of these recordings. This not only challenges Lerdahl and Jackendoff's claim that stable structures lie at the basis of rhythmic intuitions, but also highlights pockets of complexity in a repertoire often dismissed as "simple."

"What if Harmonic Function is All About Meter?"

Christopher White, University of Massachusetts Amherst

Music theorists have long noted that changes in harmonic function correspond to metric accents. My paper argues that these two domains are not only aligned, but are fundamentally intertwined. Using a mixture of corpus analysis, music analysis, and psychological evidence, I argue that harmonic function is not merely a *syntactic* phenomenon, but rather also a *metric* phenomenon. My cross-disciplinary argument begins with experimental data, showing that listeners hear harmonies that introduce more pcs into a texture as proportionally more accented. Second, using corpus analysis, I link this pc/accent interconnection with meter. Third, I relate the notion of maximal pc change to (Neo-) Riemannian conceptions of harmonic function in which the three triadic/functional prototypes are maximally distinct within diatonic pitch class space. Finally, I design a computational model to test the extent to which the overlap between meter and pc change determines tonal chord grammars. The results indicate that a system which generates chord progressions based *only* on metric preferences approximates tonal chord progressions as well (if not better than!) other grammatical models of harmonic progression. In sum, through a mix of empirical methods and music analysis, this paper demonstrates the connections between pc change, accent, and meter, and shows how those connections account for aspects of chord-progression syntax in various tonal traditions.

Novel Topics

"Transforming the Post-Tonal Topic in Ligeti's Violin Concerto"

James Donaldson, McGill University

This paper proposes an analytical method of post-tonal Topical Networks. Through mapping Lewinian-inspired transformational networks onto hierarchies of topical characteristics, I demonstrate how topics freed from tonal syntax can relate more dynamically. Accordingly, this paper expands post-tonal topical interaction beyond oppositions, specifically adapting Hatten's more cooperative troping categories of how topics interact with one another to interpret topical relations (Hatten 2004, 2014).

I apply this method to Ligeti's Violin Concerto. First, I identify four central topics of folk, chorale, lament, and fanfare. Second, I introduce my hierarchy of topical realization (after Griemas (1984 [1966])): Elementary (necessary characteristics which a topic comprises, though are insufficient to suggest a topic), Intermediate (additional characteristics or nuances lead the listener to suspect a topic), and Actant (specific characteristics which establish a topic). I network these hierarchies, showing the oppositions of between the lament's and fanfare's characteristics at Elementary and Intermediate levels and a larger opposition between fifths and tritones across the four topics. I adopt Callender 2007's *S*/transformation to map significant, topically-related harmonies across the work.

Such a decentralized model reflects broader goals of semiotic theories such the ‘virtually infinite’ network of interpretants (Eco 1984) and Barthes analysis through a network of ‘codes’ (Barthes 1974). Through the lens of topical networks, the semiotic relationships of Ligeti’s Violin Concerto suggest a new method of understanding form in post-tonal music.

“Arrangement and its Discontents: Towards a Theory of Transformative Dissonance”

Stefan Greenfield-Casas, Northwestern University

In 2013 the Wuppertal Symphony Orchestra premiered the so-called “Final Symphony”—a program of orchestral arrangements based on Nobuo Uematsu’s music for the *Final Fantasy* video games—at the Historische Stadthalle; just two years later, the London Symphony Orchestra recorded the Final Symphony at Abbey Road Studios. Even among the ever-growing brand of game music concerts, the Final Symphony stands apart with its extreme “highbrow” aspirations: rather than “simple” medleys and standalone pieces based on orchestral transcriptions of 8- and 16-bit music, the concert program instead borrows the music from three of the *Final Fantasy* games and freely arranges the music from these games into “proper” symphonic forms. And yet, by nature of the unpretentious source music (“lowbrow” video games), these arrangements aspiring to Romantic Workhood traverse a “critical space” (Szendy 2008) of what I call “transformative dissonance,” speaking to the “fundamental incompatibility” ludomusicologist William Gibbons sees between video games and classical music (2018, 157). Drawing on an amalgamation of philosophies of arrangement, transformational theory, and musical hermeneutics, I outline a theory of transformative dissonance to address the critical space inherent to the increasingly common trend of “classifying” (Gibbons 2018) video game and film scores. Using the *Final Fantasy X Piano Concerto* from the Final Symphony program as my case study, I show that the noted “dissonance” of the transformation, rather than carrying a negative valence, is instead a hermeneutically charged product of the “importation” inherent to topical styles and genres.

“The Sound of Starlight in George Crumb’s ‘Music of the Starry Night’”

Rachel Hottle, McGill University

In the final movement of George Crumb’s *Music for a Summer Evening* for two pianos and percussion, titled “Music of the Starry Night,” Crumb uses timbre and texture to musically evoke the abstract notion of starlight. In this paper, I identify possible timbral analogs of the visual features of starlight, and analyze how the sound of starlight marks both small and large-scale formal processes within the movement. My analysis draws on frameworks from literary studies, cognitive linguistics, and music theory to posit some explanations for how musical features are able to acquire visual meaning for listeners. I analyze timbral descriptions from a selection of orchestral treatises to provide evidence for glockenspiel, crotales, and triangle as being particularly associated with the sound of starlight. I then use Lawrence Zbikowski’s 2012 methodology of cross-domain mapping to identify and analyze possible timbral analogs of the visual features of stars. I propose that the high spectral centroid of glockenspiel, crotales, and triangle maps onto the brightness of stars. These instruments’ strong attacks, rapid decays, and long, quiet resonances may map onto the intensity of star’s centers and their small appearance to us. It is my hope that this research can contribute to discussions of the construction of musical meaning, as well as the use of timbre as a structural property in music of the twentieth and twenty-first centuries.

“♭2 as a Hotness Topic in Post-Millennial Pop”

Eron Smith, Eastman School of Music

Previous research has connected ♭2 (as part of a triad) to sadness in common-practice music and power in metal. In post-millennial pop music, however, as evidenced by my corpus of over 50 songs,

b² acts overwhelmingly as a melodic (not harmonic!) signifier of hotness. I use examples by a variety of artists, including Justin Timberlake, Britney Spears, and Miley Cyrus, to demonstrate the prevalence of the Hot-b² topic, frame it as a connection between hotness and exoticism, and identify its typical schemata.

Previous scholars have identified how b² evokes non-Western—particularly Andalusian and Arab—scales. As such, its sound is deeply intertwined with a long history of sexualization of the “other” and of appropriating “foreignness” to seem worldly. b², as a signifier of exoticism, conveys a combination of sexiness and extravagance: in other words, hotness. Some songs make this connection explicit through lyrics, b²-b³ augmented seconds, and “exotic” timbres.

The most common context for b² is accompanimental, as an upper leading tone to 1. Typically, it manifests as a looped neighbor motion, sometimes presented as an isolated, tonally ambiguous half step. Occasionally, it also occurs as a passing note in a chromatic descent from b³.

In identifying the cultural and gestural contexts for Hot b², we set a precedent for topical and gestural listening in post-millennial pop music. Future work will examine the topical associations of other scale degrees and extend the premise to rap, trap, EDM, and other related genres.

(Per)Form

“The Sonata-Fugue Hybrid in Haydn’s Early Symphonies”

Carl Burdick, University of Cincinnati

Among Joseph Haydn’s earliest symphonies are thirteen sonata-form movements that incorporate fugal techniques, including two finales that integrate sonata and fugue. I document three strategies Haydn devises in service of the sonata-fugue hybrid. The dialogue surrounding these strategies represents a formative stage for his most characteristic techniques.

The tension between fugue and sonata concerns expectations for formal continuity and the closing effect of cadences. Sonata form was in two parts delineated by cadential closure. On the other hand, fugue was continuous and should avoid conveying rest during its course. Formal expectations for fugue were otherwise flexible and enabled it to adhere to the rotational process of sonata form. The sonata-fugue hybrid finales of Haydn’s Symphonies no. 3 and 40 adopt fugal continuity by mitigating cadential closure, but also engage sonata form’s characteristic rotational patterns.

These divergences fall outside the norms postulated by Hepokoski and Darcy (2006). But the techniques Haydn employs in these hybrid movements interact with his contemporaneous style. This includes common strategies for starting the exposition and recapitulation. Additionally, the use of fugal techniques contributes to both monothematic and continuous expositional strategies and to recapitulatory revisions.

By integrating fugue into the sonata process, Haydn began to develop sonata-form procedures drawing on fugal techniques. Though some of these strategies fell into disuse, others became hallmarks of Haydn’s sonata style and deserve a more prominent role in our history of sonata form.

“Lyric Forms as ‘Performed’ Speech in *Das Rheingold*”

Craig Duke, Indiana University

There is a growing recognition that Richard Wagner’s mature music dramas still owed much to his predecessors in 19th-century opera. This paper explores one specific generic connection— lyric form (AABA or AABC)—in *Das Rheingold*. As I demonstrate through four examples, Wagner continued to use lyric form in a largely traditional way: as a “closed piece” (*pezzo chiuso*) to set a self-contained monologue within a larger unit. By analyzing these excerpts through an “operatic” lens, I also examine the ways that musical function and dramatic function are inseparably linked, and indeed, often merged.

Seen from this perspective, the novelty of Wagner's practice in *Rheingold* lies mainly in his adherence to dramatic verisimilitude: almost every monologue is part of an interaction between or among characters (rather than a soliloquy). The larger units in which lyric forms occur are thus defined, at the highest level, by dramatic continuity. Consequently, Wagner only uses lyric form when it makes dramatic sense for a character to speak in a poetic monologue. This includes many possibilities, ranging from the formal, elevated speech of business negotiations (Fasolt) to playful deception (Flosshilde) to outright manipulation (Loge). I call these situations *semidiegetic* because there are aspects of "performance" in the way the character is communicating to others, even when that character is not literally singing within the story.

"The Dramatic Potential of Auxiliary Cadences in Cole Porter Songs with Minor-to-Major Choruses"

Morgan Markel (Eastman School of Music)

In the Great American Songbook, verse-chorus songs with choruses in the minor mode are far less common than those in major. Even rarer are choruses that move from minor to the relative major. Yet, Cole Porter wrote seven well-known solo numbers with this harmonic schema for seven different musicals that premiered during the height of his Broadway career between 1929 and 1954. In this paper, I interpret these songs as featuring large-scale auxiliary cadences that direct them forward toward their final cadences. Through analyses of individual songs, such as "So In Love" from *Kiss me Kate* (1948) and "Get Out Of Town" from *Leave it to Me* (1938), I demonstrate how the auxiliary cadences in these songs interact with form, motives, and lyrics to create dynamic narratives in which musical and lyrical resolution is reserved until the conclusion of each song. Moreover, I offer three closely-related voice-leading prototypes to summarize the similar harmonic and contrapuntal motion exhibited in these songs: in each prototype, the verse prolongs the major submediant (VI), and the beginning of the chorus prolongs the minor submediant (vi) before moving to and confirming the tonic *Stufe* (I). Together, my analyses and prototypes build and expand upon the work of Berry (1999), Buchler (2016), Forte (1993, 1995), and Shafel (1999, 2016), who have used Schenkerian analysis as a means to explore voice leading, counterpoint, and motives in individual songs in the Great American Songbook.

"Periodically Asymmetrical: On the Analytical Implications of an Expanded Antecedent"

Xieyi (Abby) Zhang, Georgia State University

Current-day discussions of phrase expansions in the antecedent-consequent period often fall into two categories, both of which require an expansion of the consequent. However, the possibility of an expanded antecedent followed by a consequent of standard length remains unaddressed in the literature. This category subverts the period's usual phrase-rhythmic narrative, which typically interprets the consequent as being dependent on norms set by the antecedent. Instead, these consequents adopt a more active role in "fixing" the antecedent's protracted length.

This paper examines such periods in which an expanded antecedent comes before a standard consequent. Drawing primarily from Dvořák, a composer whose music contains many antecedent expansions, I begin by exploring three types of phrase expansions that may arise in the antecedent: an internal phrase expansion before the antecedent's cadence, a cadence-altering suffix, and a post-cadential extension. Following this exploration, I demonstrate the analytical possibilities of this phrase expansion using the opening movement from Dvořák's Op. 22/i.

Reconceiving Theory

“From a Certain Point of View: Learning to Hear Consonance as Dissonance in Late Nineteenth-Century Tonality”

Kyle Hutchinson, University of Toronto

Approaches to chromatic harmony often focus on tonal function as a property intrinsic to vertical chords. As Hyer (2011) notes, for Riemann “it is not what a chord does that matters, but what it is.” This perspective also dominates neo-Riemannian approaches to triadic chromaticism; Cohn (2012) observes, “when a consonant triad progresses to its hexatonic pole...the resulting interval ought to be a dissonant diminished-seventh. But if we perceive the new chord as a triad, then we are perceiving [a] consonant major sixth. What ought to be dissonant is unaccountably consonant...” This paper proposes a model for learning to hear that consonance as a dissonance. While neo-Riemannian approaches often accentuate consonant chromatic triads as tonally disunifying (Rings 2011a), this paper proposes a model that accentuates voice-leading paradigms, and their relation to the conventions of dissonance resolution in common-practice tonality, as a primary factor in discharging harmonic function. Specifically, consonant triads contain a minor third, which often resolves outward by semitones to a perfect fifth in a way that stresses an enharmonic reinterpretation as a diminished seventh, and thereby projects a sense of dominant function (Harrison 1995).

Recasting the abstract voice-leading observations of neo-Riemannian approaches as synchronous with functional voice-leading behavior provides an effective means of demonstrating reciprocity between these chromatic entities and conventional tonal practices. Simultaneously, this approach suggests that the sense of tonal magic that analysts like Lorenz and Kurth describe results from this disjunction between the vertical consonance heard on a phenomenological level, and linear dissonances that coalesce structurally.

“David Kraehenbuehl’s Vision of Music Theory”

Stephen Lett, University of Saskatchewan

Although we often imagine early North American music theory as comprising “positivist” inquiry into “musical structure,” David Kraehenbuehl, founding editor of the *Journal of Music Theory*, used his platform to advocate for something different. Instead of structure, the object of music theory would be musical experience. And instead of a methodology based in logical positivism, music theory would be an empirical social science. In this paper I elaborate Kraehenbuehl’s vision in order to critically reflect on the image of musical experience on which he bases his own theoretical practice. To begin, I engage his prefatory editorials for the first issues of *JMT* in order to sketch his vision of the field. Continuing, I study how he performed this vision in his research. To conclude I explore how Kraehenbuehl’s assumptions about what it means to listen continue to animate music-theoretical research, and I argue that by recentering his thought we might better imagine a music theory that values other theorizations of listening experience.

“Music Analysis as an Ethico-onto-epistem-ology”

Vivian Luong, University of Saskatchewan

This paper contemplates the lines music theorists draw around our work—from our music-notational systems to the disciplinary divisions that distinguish us. To begin, I note the harmful effects that such lines might pose by comparing them to Karen Barad’s notion of agential cuts. For Barad, acts of knowledge production—of making agential cuts—are entwined with ethics and ontology, which she expresses with the term “ethico-onto-epistem-ology.” Bringing this entanglement to analysis, I frame the practice as not only a form of knowing, but also of relating and world-making.

The second part of my paper turns to affective autoethnography to illustrate these latent aspects in analysis. Here, I draw on the work of Lauren Berlant and Kathleen Stewart to define affective autoethnography as self-reflexive writing on experience, feeling, and space. Referencing

their writings as models, I offer five vignettes on the worlds that formed around my Schenkerian analysis of J. S. Bach's Prelude in B-flat minor, BWV 891. These examples depict analytical worlds as scenes of good and harmful relations across a network of bodies.

After demonstrating the ethical possibilities in analysis, I conclude by relating my autoethnographic writing to feminist music theory. This scholarship argued that the omission of theorists' loving musical relationships enforced limitations on what counted as research and who counted as theorists. To combat these restrictions, these authors advocated for more diverse accounts of music. With autoethnography, this paper expands this work of re-drawing disciplinary lines so that different identities and perspectives can emerge.

The French Collection

“O V, Where Are Thou? Notre Dame Polyphony, ‘Dominant’ Sonorities, and a New Approach to Diatonic Set Theory”

Jessica Fulkerson, Tufts University

The paucity of medieval sonority analysis is largely due to the limitations of our current analytical approaches. Systems such as those developed by Fuller (1986) and Hartt (2010) are classificatory and become more complicated with additional voices. A labeling system like chromatic set theory works for any number of voices and indicates exact intervallic content, but may not recognize transpositions within a diatonic framework.

However, traditional diatonic set theory is also misleading because the same set can represent two sonorities that are strikingly different—aurally, functionally, or both. I propose an evolved system of mod7 notation utilizing “interval symbols” to show similarity in step-class content between sonorities while differentiating exact intervallic content. I apply this system to two *tripla* by Pérotin, *Alleluia Nativitas gloriose virginis* and *Alleluia Posui adiutorium*. Because a sonority's function and stability largely depend on dissonance content, I also propose a system of “dissonance values.”

I then turn to the relationship between the “tonic” of Pérotin's *tripla* and a handful of sets that act analogously to the dominant chord in Common Practice music in that they are more stable than any sound besides the home sonority and provide the main contrast to it. Factors such as intervallic content (dissonance value), metric placement, number of occurrences, and interaction with the home sonority ultimately point to one set type as the primary stable point of contrast to the home sonority: the “dominant” set type.

“Collection Space: Systematizing Parsimonious Transformation in French Scalar Tonality”

Matthew Kiple, Temple University

The “scalar tonality” associated with the music of early twentieth-century Russian and French composers represents one path at a tonal crossroad, located at what Richard Cohn (2012) posits as a third stage of tonal evolution. Analytical methods used to demystify this music focus on context rather than systemic pitch hierarchies, emphasizing harmony's additive rather than reductive properties. Most scholars demonstrate how collections such as whole-tone, octatonic, and acoustic, et al., supplant the diatonic collection as primary referential objects, but a comprehensive system of parsimonious transformations among referential collections has yet to be excavated. In lieu of such a system, I offer what I call “collection space”—a parsimonious intercardinal voice-leading space for maximally and nearly even sets—as a transformational space representative of Cohn's third tonal-evolutionary stage.

This paper is divided into three parts: 1) a rebuttal of criticisms toward graphical spaces of voice-leading relations among intercardinal multisets, 2) the construction of collection space as an exclusive network of parsimonious connections among maximally and nearly even collections of cardinalities four through eight, analogized with Cohn's pan-triadic and Tristan-genus systems, and 3) a demonstration with animated analyses of music by Faure, Debussy, and Lili Boulanger, coordinated

with live piano demonstrations. I also illustrate how collection space connects systemically to pan-triadic and Tristan- genus systems via what I call “pivotal subsets.” My intention is to elucidate the abundance of possible voice-leading connections and harmonic juxtapositions characteristic of scalar-tonal French music, and to demonstrate how collection space reflects unequivocally this music’s tonal iridescence.

Timbre

“Janáček’s Virtual Viola d’Amore”

Ethan Edl, Yale University

Leoš Janáček frequently included the archaic viola d’amore in his music, yet his writing demonstrates little knowledge of the instrument’s technical affordances. Although previous scholarship has thus cast Janáček’s use of the viola d’amore as naïve or crudely symbolic (Tyrrell 1982), I argue for a more serious and productive relationship between composer and instrument. I propose two complementary readings, one which draws attention to how Janáček uses the timbre of the instrument, and one which draws attention to the suggestive overlap between the instrument’s construction and the composer’s own idiosyncratic harmonic theories. These two readings will be explored through the analysis of several musical examples which demonstrate an apparent interest in composing-out various imagined effects of the viola d’amore.

From these analyses, Janáček’s viola d’amore appears as a complex object which, paradoxically, is ill-suited to being realized on an actual viola d’amore. I therefore propose thinking of Janáček’s viola d’amore as a qualified kind of *virtual* instrument, in the literal sense of selecting and exaggerating certain imagined “virtues” of the instrument. Janáček’s viola d’amore is thus both a compelling case study in the re-appropriation of instruments, and also a useful supplement to recent scholarship on how the encounter between bodies and instruments is conditioned by embodied knowledge (De Souza 2017). The sense of “virtual” I propose invites us to attend to the *gaps* in knowledge and productive (mis)readings made possible by naïve encounters with musical instruments.

“A Set of Continua for the Acoustic Properties of Tanya Tagaq’s Katajjaq Sounds”

Kristi Hardman, The Graduate Center, CUNY

This paper suggests that the acoustic properties—the timbral and energy characteristics—of katajjaq (throat singing) sounds are best situated on a continua of relative values for Tanya Tagaq’s voice and performance style. The six sounds that Tagaq employs in her katajjaq-inspired passages are Silence, Breath In, Exhaling Deep, Inhaling Deep, Exhaling High, and Inhaling High. In order to compare the acoustic properties of these sounds, a more robust method is needed than the traditional timbral opposition chart, which shows major differences between the deep and high pitches but does not indicate a difference between exhaled and inhaled sounds with similar pitches. With the aid of computer-analyzed acoustic measurements (RMS energy, periodicity, and spectral centroid), I suggest that these sounds be placed on a set of continua of various acoustic properties, allowing for a more in-depth comparison of the sounds. To create the continua, I import the audio file of Tagaq’s demonstrations of katajjaq into Sonic Visualiser and apply plugins for RMS energy (loudness), periodicity (noisiness), and spectral centroid (brightness) to the audio signal. Using this data, I create box and whisker graphs for each of the three parameters, establishing the central tendency values for each of the six sounds. Based on these graphs, I construct continua of the acoustic properties of Tagaq’s katajjaq sounds—a continuum of loudness, of noisiness, and of brightness. These continua provide a nuanced way of describing the subtle, but important, differences between Tagaq’s katajjaq sounds that are not apparent from a timbral opposition chart.

“Chord Spacing and Quality: Lessons from Timbre Research”

Noah Kahrs and Matt G-Y Chiu, Eastman School of Music

In describing the opening of Debussy’s *Cathédrale engloutie* as “an open fifth,” one strips the chord of its distinct character; although octave equivalence may seem innocuous, listeners often notice spacing more than PC content. To quantify this seemingly-intangible quality, this paper extends the Discrete Fourier Transform (DFT) theory of chord qualia from PCsets to Psets. The DFT has several common musical uses. Applied to audio, it identifies pitches, but a second DFT can be applied to this spectrum, yielding the “cepstrum” engineers use to describe timbre. In music theory, the DFT measures interval content in PCsets. This paper’s model, the pitch-DFT (P-DFT) lies between these approaches, considering note data without octave equivalence. By identifying regularities in P-space, the P-DFT analyzes qualia in terms of chord spacing.

Returning to *Cathédrale engloutie*, the opening sonority is identical in PC-space to a perfect eleventh, but sounds very different and has a dissimilar P-DFT. In contrast, one can find a hexachord with different PC-interval content but similar spacing and P-DFT, illustrating the P-DFT’s intervallic fuzziness. In characterizing qualia, an approach involving the P-DFT may more closely resemble our perceptual experience. In taking up Hasegawa’s (2019) call to “bring concepts from the world of timbre to the study of harmony,” this example shows that even basic tonal sonorities can be productively analyzed with methodologies used most often in other domains. By fusing music theory’s PCset analysis and timbre research’s cepstral methods, the P-DFT succeeds in examining chord spacing, which lies between pitch-class and timbre.

Computer-Assisted Orchestration, Format Theory, and the Social Construction of Timbre”

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In a multi-authored paper unveiling Jonathan Harvey’s *Speakings* (2008), Nouno et al. document the results of a collaborative IRCAM project driven by the “artistic aim of making an orchestra *speak* through computer music processes” (2009). The ensuing music dramatizes this aim, depicting an audible program where the orchestra progresses through stages of baby-like “babbling,” adult “chatter,” and finally, “ritual language” in the form of a Tibetan mantra. Turning this narrative on its head, my paper takes *Speakings* as a point of departure for a genealogical analysis of computer-assisted orchestration techniques, showing how, in order to *make an orchestra speak*, it was first necessary to *make software listen*.

Through a close examination of archival documents and “e-sketches,” I follow Harvey’s transition from a hybrid software setup (Melodyne and a custom partial-tracking program) to the newly-developed Orchidée application (Carpentier and Bresson 2010), which notably used music information retrieval (MIR) methods. I frame this shift in relation to *format theory* (Sterne 2012), showing how categories used to encode sound files with audio descriptors of low-level attributes (spectral, temporal, and perceptual) are themselves contingent on a number of factors, including: sedimented layers of psychoacoustics research grounded in the metrics of timbre space (Wessel 1979); a delegation of this knowledge to software tools at IRCAM, which one finds already with the implementation of Terhardt’s algorithm for pitch salience in the IANA program (Terhardt 1982); and the wider network of institutional negotiations surrounding the establishment of standardized file formats like the MPEG-7 protocol (Peeters 2004).