This book builds on and in many ways completes the project of Fred Lerdahl and Ray Jackendoff's influential A Generative Theory of Tonal Music. Like the earlier volume, this book is both a music-theoretic treatise and a contribution to the cognitive science of music. After presenting some modifications to Lerdahl and Jackendoff's original framework, the book develops a quantitative model of listeners' intuitions of the relative distances of pitches, chords, and regions from a given tonic. The model is used to derive prolongational structure, trace paths through pitch space at multiple prolongational levels, and compute patterns of tonal tension and attraction as musical events unfold. The consideration of pitch-space paths illuminates issues of musical narrative, and the treatment of tonal tension and attraction provides a technical basis for studies of musical expectation and expression. These investigations lead to a fresh theory of tonal function and reveal an underlying parallel between tonal and metrical structures. Later portions of the book apply these ideas to highly chromatic tonal as well as atonal music. In response to stylistic differences, the shape of pitch space changes and psychoacoustic features become increasingly important, while underlying features of the theory remain constant, reflecting unvarying features of the musical mind. The theory is illustrated throughout by analyses of music from Bach to Schoenberg, and frequent connections are made to the music-theoretic and psychological literature.
In this work, the author applies the conceptual framework developed in Generalized Musical Intervals and Transformations to the varied repertoire of the 20th century. Analyzing the diverse compositions of four canonical composers—Simbolo from Dallapiccola's Quaderno musicale di Annalibera; Stockhausen's Klavierstück III; Webern's Op. 10, No. 4; and Debussy's Feux d'artifice—the author brings forth structures which he calls “transformational networks” to reveal interesting and suggestive aspects of the music. In this complementary work, the author stimulates thought about the general methodology of musical analysis and issues of large-scale form as they relate to transformational analytic structuring.

Generalized Musical Intervals and Transformations
David Lewin

This book is recognized as the seminal work paving the way for current studies in mathematical and systematic approaches to music analysis. The author, one of the 20th century's most prominent figures in music theory, pushes the boundaries of the study of pitch-structure beyond its conception as a static system for classifying and inter-relating chords and sets. Known by most music theorists as “GMIT”, the book is by far the most significant contribution to the field of systematic music theory in the last half-century, generating the framework for the “transformational theory” movement. Appearing almost twenty years after GMIT’s initial publication, this Oxford University Press edition features a previously unpublished preface by the author, as well as a foreword by Edward Gollin contextualizing the work’s significance for the current field of music theory.

Theoretical Foundations
Fred Lerdahl

in Tonal Pitch Space

This chapter summarizes the goals, idealizations, and rule system of the predecessor volume, A Generative Theory of Tonal Music, whose overall goal is to model and explain the musical intuitions of an experienced listener. The theory assumes the musical surface and idealizes to final-
state listening. Features of well-formedness and preference rules are reviewed. The components of grouping structure, metrical structure, time-span segmentation, time-span reduction, and prolongational reduction are presented through an analysis of a Bach chorale. Particular attention is paid to the derivation of prolongational structure. On this foundation, ideas within the framework of the prolongational theory are advanced, including prolongational good form, the strict-branching constraint, polyphonic groupings, and abstractions and transformations of underlying events.

INTRODUCTION

Lawrence M. Zbikowski

in Conceptualizing Music: Cognitive Structure, Theory, and Analysis

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This introductory chapter begins with a discussion of two theories from Greek antiquity, the music theories of Pythagoras and Aristoxenus. These theories, and the music to which they refer, are unfamiliar even to those who make music theory the focus of their research. However, the disorienting effect of this unfamiliarity also serves to loosen our notions about what a theory of music, or a theoretical construct, should be. It is argued that the music theories of Pythagoras and Aristoxenus belong to a world remote from our own. Not only did these theorists have to grapple with the most basic of principles, but also the music they would describe is microtonal, one that is primarily concerned with the successive notes of melody rather than the simultaneous notes of harmony. Despite this, Pythagorean and Aristoxenian accounts of musical organization provide us with a glimpse into how theories are formed and, more important, the cognitive processes that are basic to these theories. In particular, three cognitive processes can be seen at work: categorization, cross-domain mapping, and the use of conceptual models. An overview of the succeeding chapters is presented.

CONCEPTUAL MODELS AND THEORIES

Lawrence M. Zbikowski

in Conceptualizing Music: Cognitive Structure, Theory, and Analysis

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This chapter focuses on conceptual models and theories. Jeanne Bamberger's research on children's representations of musical structure are analyzed, in particular her study of one specific eight-year-old boy. The part played by categorization and cross-domain mapping in the conceptual models involving this boy used to come to terms with a musical environment is shown. How these models are combined to form a theory of music and how this theory changes in response to changes in the task at hand are also discussed. This close-up glimpse of the structure and role of conceptual models and theories leads to a more generalized characterization of these knowledge structures, which is linked to work on similar structures in artificial intelligence, cognitive anthropology, ethnomusicology, and developmental psychology. The chapter then returns to music theory and explores the role of conceptual models and theories (that is, theories framed relative to a cognitive perspective) in analyses by Jean-Philippe Rameau and Heinrich Schenker, two of the best-known music theorists of the last three hundred years.

CONCLUSION

Lawrence M. Zbikowski

in Conceptualizing Music: Cognitive Structure, Theory, and Analysis

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This concluding chapter returns to M. Swann and to his final encounter with Vinteuil's sonata after a year in which it became thoroughly intertwined with his love affair with Odette, the courtesan with whom he had become acquainted around the same time he first encountered the andante. This provides a frame for a review of the points made in the preceding chapters and an instrumentality for drawing conclusions from the whole.

Mozart

William Benjamin


Published in print: 2006 Published Online: January 2010
Item type: chapter
This chapter covers approaches to the analysis of a classical European piano concerto, with: Choosing the Work at Hand: An Account; The Concerto Genre and its First-movement Form; Aspects of Rhythmic Structure in Selected Passages; Harmonic Design: Visionary Transformations of Vernacular and Conventional Sources; and Mozart's Legacy and the Naturalization of Tonality.

Serial Transformation Networks in Dallapiccola’s “Simbolo”

David Lewin

in Musical Form and Transformation: Four Analytic Essays

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This chapter discusses the issue of transformational form. Measures 17-36, set off by their own tempo and textures, involve a formal variation on aspects of transformational structure over mm 1-16. The end of that variation permits a very sharp return to opening material at m 37 by way of closing off the piece. The abruptness of the gesture at m. 37 mirrors a certain crisis reached just before that, a crisis which can be posed and discussed by transformational vocabulary.

A Transformational Basis for Form and Prolongation in Debussy’s “Feux d’artifice”

David Lewin

in Musical Form and Transformation: Four Analytic Essays

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This chapter considers aspects of large-scale form as they interrelate with transformational structuring. Among such formal matters are the “polytonal” ending, the double reprise of the theme, and the progressive melodic modifications in the variations that follow the first statement of the theme. A rich complex of transformational motifs is generated over the first twenty-four measures, motifs that provide characteristic gestures for the formal profiles of various later sections. The generative process culminates at the registral climax of m 25, preparing the entrance of the theme. A characteristic pitch-class set named APEX is attained there; characteristic transformational gestures involving various forms of APEX shape much of the “middleground” in the ensuing music.
This book presents a theory of temporal structure for music, making two main arguments. The first is that a single model of temporal structure, expressible in the form of a certain type of mathematical network, is common to all modalities, particularly rhythm, tonality, and form. As a result, we can develop tools to talk about the experience of musical time in abstraction from any particular modality, and make analogies from structural phenomena in one modality to another (e.g., formal counterpoint). The second argument is that each of these modalities is in principle independent: it has its own set of structuring criteria, and it may lead to structures that agree or disagree with each other. The resulting coordination or disjunction between modalities is of more direct aesthetic importance, typically, than anything that can be said about one isolated parameter alone. These claims have deep ramifications for theories of rhythm, tonality, and form: for instance, that it is possible to discuss formal structure without necessary reference to tonal features. Theories of harmony, key, formal function, hypermeter, and closure are developed in conjunction with analysis of a wide range of eighteenth- and nineteenth-century composers, surveys of classical repertoire, and observations about the history of musical styles. A number of mathematical tools for temporal structure are also proposed.

A theory of the structure of rock music is presented, addressing aspects such as tonality/key, harmony, rhythm/meter, melody, phrase structure, timbre/instrumentation, form, and emotional expression. The book brings together ideas from the author’s previous articles but also contains substantial new material. Rock is defined broadly (as it often is) to include a wide range of late twentieth-century Anglo-American popular styles, including 1950s rock & roll, Motown, soul, “British invasion” rock, soft rock, heavy metal, disco, new wave, and alternative rock. The study largely employs the informal, intuitive methods of conventional music theory and analysis, but it is also informed by corpus data. An important
component of the theory is a representation of pitches—the “line of fifths”—that sheds light on issues such as stylistic distinctions within rock, effects of surprise, and emotion. The theory also entails a model of expression with three dimensions, representing valence, energy, and tension; this proves to be a powerful tool for tracing shifts in expressive effect within songs. The theory features novel approaches to issues such as cadences, melodic-harmonic coordination, the handling of sectional boundaries, and the classification of formal types. The final two chapters present analyses of six songs and a broader consideration of rock in its historical and stylistic context.

Some Problems and Resources of Music Theory
David Lewin

in Studies in Music with Text

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This chapter explores music theory as a source for analytic metaphors. Overworked terms create problems for us in describing conceptual sound-structures, and the pursuit of these problems can be enlightening. When we describe the ways in which musical sound seems conceptually structured, categorically prior to any one specific piece, we nevertheless intend our conceptual sound-worlds to be rich in potential metaphors for analyzing specific pieces. Marion Guck and others have been drawing our attention for some time now to metaphorical discourse for music analysis. But it is not generally appreciated how deeply and necessarily metaphorical a music theory becomes when it is used as the basis for an analysis. It is not a question of our intending metaphorical discourse or not when we bring a theory to an analysis. A spectacular example is afforded by the opening of Milton Babbitt's Philomel. John Hollander's text for Babbitt's piece depicts only Philomel's transformation, but he writes that he had earlier had a particular interest in the weaving scenes for a possible opera.

Sonata Form as a Whole
James Hepokoski and Warren Darcy

in Elements of Sonata Theory: Norms, Types, and Deformations in the Late-Eighteenth-Century Sonata

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Item type: chapter
Sonata form is the most important large structure of individual movements from the “common-practice” tonal era, but the term “sonata form” was almost surely unknown to Haydn, Mozart, and early Beethoven because it seems to have surfaced only in the 1820s and 1830s. Sonata form seems to have been a familiar term by the mid-1820s, at least in A. B. Marx's Berliner allgemeine musikalische Zeitung circle, where it referred both to the multimovement cycle as a whole and to the form of individual movement. In 1838 and 1845, Marx put the stamp of approval on the term “Sonaten-form” with regard to the individual-movement structure. Haydn's conception of what was customary within sonata form in 1770 differed somewhat from Beethoven's conception in 1805, but they shared certain crucial genre-defining features.

S-Complications
James Hepokoski and Warren Darcy

in Elements of Sonata Theory: Norms, Types, and Deformations in the Late-Eighteenth-Century Sonata

Becoming aware of the structural potential of EEC deferral produces various questions, and even if we assume the presence of a clear PAC, not all potential instances of EEC deferral are as unambiguous as that of mere S-repetition. One normally considers the first satisfactory PAC that goes on to new material to be the EEC, unless there is clear and compelling evidence to suggest otherwise. Sometimes the risk of considering EEC deferral to be superficial is that one will be tempted to invoke it too loosely, even though at certain levels of expertise analysts may come to differing conclusions about the EEC location within certain problematic pieces. Unless the deferral can be understood to mean something within the ongoing logic of the piece, there is no purpose in claiming it to exist.

Bridges to Free Composition
Kofi Agawu

in Music as Discourse: Semiotic Adventures in Romantic Music
This chapter discusses the idea of bridges to free composition through several stylistic contexts. The chapter looks at Corelli, J.S. Bach, Schubert, Chopin, Mahler, and Richard Strauss. It shows that these bridges connect the structures of an actual composition with a set of models or proto-structures. It also attempts to give some indication of how “speaking” music fluently might work, in order for people to be able to understand its production processes.

Auf dem Flusse: Image and Background in a Schubert Song
David Lewin
in Studies in Music with Text
Published in print: 2006 Published Online: October 2011

This chapter explores the relation of musical structure to textual imagery in Franz Schubert's song Auf dem Flusse, from Die Winterreise. First, it develops a general critical stance toward the relation of music and text in Schubert's songs. The chapter then offers a reading of the text for this specific song. According to this reading, the text is in a sense “about” the creation and evaluation of a poetic image. From a theoretical view, the aspects touched on are of a traditional sort: the length of musical sections vis-à-vis text sections, tonality, modality, the relations of the vocal line to the soprano and bass lines of its accompaniment, and motivic rhythms.

Sonata Form in Minor Keys
James Hepokoski and Warren Darcy
in Elements of Sonata Theory: Norms, Types, and Deformations in the Late-Eighteenth-Century Sonata
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Some minor-mode sonatas are dominated by the minor throughout, or sternly reaffirm the minor mode at the ESC and beyond. Since many minor-mode structures do attain a major-mode ESC in the recapitulation and do sustain that major mode for the rest of the composition, the sonata process can function as a strategy capable of transforming tonic minor to tonic major. The possibility of a tonic-minor to tonic-major
trajectory is rich in metaphorical implication, but most composers turn to the minor-mode sonata to project an either successful or unsuccessful modal action, even though all the other criteria for the sonata process are to be satisfactorily met. Within the eighteenth-century style the minor mode is typically a special negative condition operating as a conventionalized exception to the more normatively prevailing major mode.

The Type 5 Sonata
James Hepokoski and Warren Darcy

in Elements of Sonata Theory: Norms, Types, and Deformations in the Late-Eighteenth-Century Sonata

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The type 5 sonata is a defining feature of many concertos because it combines ritornello formats and procedures passed down from earlier eighteenth century concerto and aria traditions with aspects of sonata form. Tonic-centered is an important extra in the Type 5 sonata that cannot be found in other sonata types. It sets up and then gives way to a solo entry that normally launches a sonata-form-oriented structure. If sonatas in general present us with challenges of understanding, the concerto-sonata combinations typical of later eighteenth-century concerto first movements redouble those challenges by seeding the field of analysis with conceptual and terminological landmines. The first movements of later eighteenth-century concertos are almost invariably built around the Type 5 idea and it also shows up in two of Mozart's concerto finales.

Beyond Structural Listening?
Andrew Dell'Antonio (ed.)

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In a highly influential essay, Rose Rosengard Subotnik critiques “structural listening” as an attempt to situate musical meaning solely within the unfolding of the musical structure itself. The authors of this volume, prominent young music historians and theorists writing on repertories ranging from Beethoven to MTV, take up Subotnik’s challenge. The chapters here explore not only the implications of the
“structural listening” model but also the alternative listening strategies that have developed in specific communities, often in response to twentieth-century Western music.