mention the lack of attention to particular social and historical conditions during the 1970s, when the shift in theorizing about melodic guidance took place. The rather brief chapter on the social and historical context of Javanese music theory cites some of the ways in which colonial and postcolonial forces influenced the circulation of knowledge, including musical knowledge. But it does not provide much social and historical context for the 1970s, when several highly respected Javanese musicians began theorizing concepts about unplayed melodies. Changes in thinking about melodic guidance are described largely in terms of the contributions by three brilliant men (chapters 6 and 7). "Historical context" in this case comes down to a comparison of the three theorists, but even the explanation about why they developed their theories in different ways deserves closer analysis (pp. 168–70). Perlman describes the work of Sumarsam in terms of culture (Javanese mysticism becomes translated as "inner" melody) and anticolonialism (the development of an indigenous gamelan theory serves to correct the imposition of Western musicological ideas). What was it about the 1970s that may have stimulated changes in thinking about Javanese music? Surely an analysis of the specific political and economic forces that shaped culture during this era—the New Order—might help to account for this surge in musical thinking. A thicker description of this important period in Indonesian history might help to specify the ways in which music theory developed in certain ways and not others.

Based on a case study of music theorizing in central Java, *Unplayed Melodies* marks a profound intervention in the way ethnomusicologists think about Javanese music. Marc Perlman has written a new chapter in ethnomusicology for the study of musical thinking that acknowledges disjunctures between thought and action, as well as "intracultural variability, historical change, and individual intellectual creativity" (p. 5). But the book is about much more than Javanese music, and it addresses a much wider audience than ethnomusicologists. The book demonstrates the value of research on the development of music theories in postcolonial societies throughout the world, and closer studies of the many brilliant theorists who helped to create them. *Unplayed Melodies* is also a fascinating study of musical cognition. It suggests that creative thinking about music uses similar cognitive processes across cultures and historical periods. It will surely become a classic in the field of ethnomusicology and should be required reading for anyone interested in creative thinking about music.

ANDREW N. WEINTRAUB
University of Pittsburgh

Explaining Tonality: Schenkerian Theory and Beyond. By Matthew Brown. (Eastman Studies in Music.) Rochester, NY: University of Rochester Press, 2005. [xix, 293 p. ISBN 1-58046-160-3. $99.] Music examples, figures, bibliography, index.

The title of Matthew Brown's *Explaining Music: Schenkerian Theory and Beyond* may mislead some readers who might be expecting a work that considers in some detail the significant corpus of music theory that has followed from Schenker's ground-breaking work of the early twentieth century. In fact, while this book does at times engage with some of the more significant scholars and theories of post-Schenker studies, its focus is solidly on explaining, and justifying, Schenker's own work.

Brown sets himself the task of answering three major questions: "[W]hat sorts of [pitch] relationships did Schenker count as tonal?; Why do these relationships work in some ways and not others?; Why should we prefer Schenker's theory of functional monotonality to its competitors?" (p. xiii) The heart of the book is Brown's answer to the last of these questions, which evaluates Schenkerian theory according to six criteria that theorists of any discipline use to evaluate competing theories: accuracy, scope, consistency, simplicity, fruitfulness, and coherence. By using the lens of these six elements, Brown attempts to bring his evaluation of Schenker's work into a somewhat elevated realm of logic and theory. In a field where the scholarly discourse can be heated and emotional, Brown's book is noteworthy for its dispassionate examination of the merits and shortcomings of Schenker's work.

After an introduction that lays the theoretical groundwork in terms of definitions of laws and explanations, discusses various problems inherent in testing theories, and explains in detail what is meant by each of the six criteria, Brown proceeds to devote a chapter to each criterion. The first of these, and probably the most important, is accuracy. In order to discuss the accuracy of Schenker's theories, Brown takes a step back and examines what came before them, namely the principles of Fuxian counterpoint and functional harmony. Brown demonstrates how the laws of voice leading changed, even within Fux's own writings, depending on context and especially whether they describe a two-voice setting or a three- or four-voice texture. Brown explains that in re-crafting the principles of voice leading for functional tonal harmony, Schenker's theory has a greater degree of accuracy—that is, it can explain instances where great composers "break the rules" without having to resort to the non-explanatory cliché of the composer's "genius."

The second chapter addresses the issue of scope, by which Brown means the ability of a particular theory to explain a whole work, not just a single phrase or short section. Where chapter 1 explains pre-Schenkerian theory in capsule form, chapter 2 does the same for Schenkerian theory itself. Notable here is Brown's explanation (in the context of discussing the difference between the *Ursatz* and Fuxian species counterpoint) that Schenker's theoretical system of "prototypes, transformations, and levels" is both recursive and "rule-preserving" (p. 70). Brown's use of these terms suggests they would be extremely useful in teaching Schenkerian theory, especially to students having a difficult time understanding the interactions of the different levels.

Whereas the first two chapters were primarily theoretical and dependent on logic and the language of laws for their arguments, chapter 3, on consistency, gets into some actual musical analyses. It focuses on sequences, and Brown concludes that Schenker's treatment of parallel fifths and octaves is highly inconsistent: when they occur at the foreground, Schenker eliminates them by appealing to the middleground where they are absent. When they occur in the middleground, he refers to their absence in the foreground. Brown's explanation of sequences as being derived from the upper voices corresponds well with Schenker's discussions of specific passages in *Der freie Satz*.

Chapter 4 uses Schenker's writing on the subject of scales to demonstrate his theory's substantial simplification of the topic, as compared with previous theories. Scales constitute a chicken-and-egg problem for music theorists: does functional tonality emerge from the characteristics of scales, or do scales result from functional tonality? Schenker believed the latter, and his predecessors believed the former. Brown demonstrates that Schenker's view is "a dramatic step forward in theoretical simplification" (p. 141). Also in this chapter, Brown provides Schenkerian interpretations of music commonly understood (even by the composers themselves) as originating in modal or octatonic scales, including passages from *Petrushka* and *Prélude à l'après-midi d'un faune*.

The fifth chapter, on fruitfulness, attempts to answer the question, "how far beyond the music of the common practice tonal period can we take Schenker's theory," which is by no means a new question. Brown attempts an answer by offering readings of two Debussy songs, "C'est l'extase langoureuse" (1887) and "La mort des amants" (1887–89). His readings of these two songs demonstrate two different avenues for extending Schenkerian theory: first, by testing music outside Schenker's self-imposed gamut of Western art music from Bach to Brahms; and second, by using a traditional Schenkerian analysis to illuminate additional aspects of a work such as rhythm, thematic structure, or form.

Finally, in chapter 6, Brown reaches out beyond the field of music theory to examine Schenkerian theory's coherence, or how well it corresponds with other accepted theories in related disciplines. Music theory generally looks in two different directions for justification of its premises: on the naturalistic side, towards acoustics; and on the human side, toward psychology. Schenker attempted (not entirely successfully) to ground his theory in acoustics, but Brown relates it to psychology, examining "the relationship between listening and composing, and . . . the ways in which we acquire

our knowledge of tonal relationships" (p. 210).

Explaining Music is clearly an important addition to post-Schenker studies, and its value as a work of scholarship far exceeds any minor issues that may arise in the course of the book. There are several minor issues, however, which bear mentioning here. The first of these is something of an overabundance of figures throughout the text. Certainly any book on music will need a certain number of figures to accommodate musical examples, excerpts, and so forth, but their use here for textual material can at times be excessive. Figure 1.8 ("The Hypothetico-Deductive Method," p. 13), for example, simply reiterates four declarative statements previously given in the text. Brown's tendency to define his concepts using abstract terms such as "The Heinrich Maneuver," "The Consonance Constraint," or "The Top-Down/Bottom-Up Problem" (always in quotation marks, always capitalized, and always including the definite article) can also be distracting. The convention may simply be imported from the discipline of logic or philosophy, in which case it is somewhat understandable given Brown's methodological approach, but it can be difficult to remember which abstract name refers to which theoretical principle.

Throughout the first two chapters, Brown is careful to explain the theoretical background behind each of his claims, never leaving a theoretical concept, such as Fuxian species counterpoint or the three functions of tonal harmony, unexplained. Space constraints being what they are, this can lead to some radically condensed explanations, like his overview of species counterpoint that leaps from first to fifth species with nary a glance at the three intervening species (pp. 31–33). These condensed explanations can be doubly frustrating: both for the novice music theory student, who may not instantaneously grasp how one gets from first to fifth species, but also for the professional theorist, who knows precisely what is being invoked by a reference to "inversional equivalence" or "functional equivalence" and doesn't need it explained (pp. 57–61). The capsule summaries seem to miss the mark for both types of scholar, aiming at a nebulous middle ground, where the scholar may need a reminder but not a full-blown treatise.

In one of the few instances where Brown allows a logical inconsistency to disrupt his arguments, he dismisses David Neumeyer's extensions of Schenkerian theory through a curious bit of circular reasoning (p. 75). Brown introduces some of Neumeyer's alternative prototypes, including one in which the *Urlinie* rises from the fifth scale degree to the tonic, but then dismisses them on the basis that they do not conform to Schenker's prototypes, which descend to the tonic. If they conformed to Schenker's prototypes, it would hardly be necessary to propose them as extensions of Schenker's theory, would it? Oddly enough, Brown accomplishes this logical feat just before dismissing another critic's charges that Schenker's own theories involve circular reasoning.

These criticisms having been made, however, it is important to note the strengths and value of Brown's book. It seeks to incorporate a wide range of sources and disciplines, ranging from Schenker's own work, to post-Schenker studies, to music cognition, to logic and philosophy. Simply on that basis alone, it deserves praise for the scope of its undertaking. In addition, there is a section of the sixth chapter that provides some remarkable insights on both the development of Schenker's work and its relationship to music cognition and the teaching of music theory. The section centers around Figure 6.4, "Learning curve for expert monotonal composition" (pp. 219–21). This figure, and the discussion surrounding it, attempts to distill Schenkerian theory down to four basic principles, each of which builds on one another, and which provides an explanation for how people progress from being novice listeners, through expert listeners, and eventually become expert composers. It's an eye-opening and thought-provoking discussion, and one that deserves more extensive treatment than it gets here. I hope that Brown (who also cites work that he has done with Panayotis Mavromatis in regard to this chapter [p. xviii]) will expand on these ideas in future work.

We are still left with the question of the audience and potential uses for *Explaining Tonality*. It should be noted that this is not in any way an introductory book, neither to Schenkerian theory nor to post-Schenker studies. It could possibly be considered as a text for an advanced graduate seminar on

Schenkerian theory and/or later work in related fields, after the students have had formal instruction in the principles of Schenker's theory and are ready to consider his work and the work of those who came after him critically; it certainly provides rich material for discussion and criticism. Schenker scholars will undoubtedly want to read and consider it carefully, and many have probably already resigned themselves to the University of Rochester Press's $99 price tag and acquired a personal copy. Brown's ideas, analyses, and conclusions are compelling and thought-provoking, and are likely to spawn a good deal of discussion in the theoretical and analytical literature in the future.

Catherine Pellegrino
North Carolina State University

Empirical Musicology: Aims, Methods, Prospects. Edited by Eric Clarke and Nicholas Cook. Oxford: Oxford University Press, 2004. [viii, 229 p., ISBN 0-19-516749-X. $99.] Music examples, illustrations, index, bibliographies.

Statistics in Musicology. By Jan Beran. Boca Raton: Chapman & Hall/CRC, 2004. [viii, 299 p. ISBN 1-58488-219-0. $71.94.] Music examples, illustrations, index, bibliography.

Recent decades have witnessed a significant rise in scientifically-inspired music research. This expansion is apparent, for example, in the founding of several journals, including *Psychomusicology* (founded 1981), *Empirical Studies in the Arts* (1982), *Music Perception* (1983), *Musicae Scientiae* (1997), S*ystematic Musicology* (1998), and the recently founded *Empirical Musicology Review.*

The dictionary definition of "empirical" is surprisingly innocuous for those of us arts students who were taught to use it as a term of derision. Empirical knowledge simply means knowledge gained through observation. Science is only one example of an empirical approach to knowledge. In fact, many of the things traditional musicologists do are empirical: deciphering manuscripts, studying letters, and listening to performances.

Historically, empiricism began as a uniquely British enthusiasm, so it is entirely proper that seven of the nine contributors to *Empirical Musicology: Aims, Methods, Prospects* are British. The book adopts a notably broad perspective in describing empirical research in music.

After an introductory chapter, the book begins with a contribution by ethnomusicologist Jonathan Stock, who describes the "participant-observer method" that has been the cornerstone of anthropological field research for the past half century. The chapter provides some concrete advice related to keeping a field notebook, interviewing, and video documenting. Echoing the views of most ethnomusicologists, Stock notes that the participant-observation method has considerable potential value in music research beyond its usual application in studying non-Western musics.

Jane Davidson's "Music as Social Behavior" emphasizes survey methods, distinguishing two broad approaches. The first is the cross-sectional survey which aims to provide a generalized snapshot using quantitative information gathered from a large sample of people. The second is the longitudinal case study that focuses on individual experiences over time. In the first approach, the survey might be based on a formal questionnaire distributed to some group of people. In the second approach, researchers might make use of existing information, such as diaries (e.g., Berlioz) or correspondence (e.g., between Clara and Robert Schumann).

Nicholas Cook contributes a chapter on computational and comparative methods in music scholarship. Since the late 1950s, successive generations of enthusiasts have predicted that computers would revolutionize music research. Cook suggests that recent developments in computational musicology are finally beginning to fulfill the promise glimpsed by earlier scholars. He describes a number of studies carried out over the past decade and concludes that there is significant opportunity for what he calls "disciplinary renewal." Given the availability of large amounts of musical data (often from a wide variety of cultures) Cook recommends that music scholars reconsider the long-standing antipathy toward comparative studies. Throughout his presentation, Cook takes special pains to distance his empirical enthusiasms from past positivist presumptions. "[W]hat I am suggesting," he notes, "is that musicology in