

Paul Théberge. *Any Sound You Can Imagine: Making Music/Consuming Technology*. Hanover & London: Wesleyan University Press, 1997. xx, 293 pp.

Reviewed by Kai Fikentscher

In 1904 Erich M. von Hornbostel and Otto Abraham published an article entitled "On the Significance of the Phonograph for Comparative Musicology" in the *Zeitschrift für Ethnologie*, thereby formally establishing the connection between technologies of sound recording and reproduction, and their field of academic inquiry, then known as comparative musicology. Since then, both domains have developed significantly. In the United States comparative musicology became ethnomusicology in the 1950s, while in the realm of musical technologies, the primary function of the phonograph shifted from recording to playback and, more recently, to performance. A second important technological shift for musicians and musicologists alike was the spread of audiomagnetic tape recorders in the 1950s and 1960s, a development that has more recently led to the mass marketing of technologies such as digital audio tape (DAT) and recordable compact disc (CD-R).

In many corners of the world at the end of the twentieth century, digital audio technologies have become the media of choice for purposes of composing, recording, archiving, analyzing, and teaching music. Histories of audio technologies and studies of the relationships between musical practice and technologies (especially those associated with post-World War II developments in popular music) are, however, small in number, and most of them have not kept up with the impact and significance of this technological evolution. In sum, at a time when digital audio technology has extensively altered the ways in which both the musical layman and specialist interact with music on a daily basis, systematic and comprehensive research into audio technologies has at best been marginal to both musicological and ethnomusicological studies.¹ This lamentable situation is not, however, the only reason why the publication of Paul Théberge's *Any Sound You Can Imagine* is a welcome and timely affair: combining diachronic and synchronic approaches, this book offers more than just a comprehensive look at the history of musical technologies, beginning with the first inventions about a century ago; more importantly, the book traces a parallel history of shifting meanings attached to musical technologies and their uses.

The author describes the book, a reworking of his Ph.D. dissertation, as "[a study of] the role of recent digital technologies in the production of

popular music" (5). As such, he frames the discussion in the context of cultural studies theory, taking as a point of departure the concepts and terminology of sociologist Raymond Williams (1982). As a formal device, Théberge adopts a tripartite scheme of presentation from an essay by Dick Hebdige (1981), in which the topic under scrutiny, the motor scooter, is treated in the context of a "cultural biography" that traces its constantly shifting significance along a series of three distinct historical "moments" (labeled "design/production," "mediation," and "consumption"). Correspondingly, *Any Sound You Can Imagine* comprises three separate sections which are entitled "Design/Production: The Musical Instrument Industry" (part 1); "Mediation: Musicians' Magazines, Networks, and User Groups" (part 2); and "Consumption/Use: Technology and Musical Practice" (part 3). "Each section," Théberge explains, "begins with a chapter that is primarily historical or theoretical in nature and sets up some of the important background issues to be addressed in subsequent material" (11). As a result, each of these sections can be treated as an autonomous, self-contained unit. There is no need to read this book cover-to-cover or to follow the numerical order of its subdivisions. By combining Hebdige's analytical framework with a historically informed theory, Théberge achieves a reasonable and readable balance between the synchronic and diachronic modes of presentation.

Part 1 of *Any Sound You Can Imagine* analyzes the emergence of the synthesizer industry in the larger context of the history and organization of the musical instrument industry in North America since the nineteenth century. Above all, Théberge focuses on keyboard instruments, thereby offering an insightful chronology that ranges from the early days of piano and player piano manufacturing to the later production of the Hammond organ, and from the first generation of performance-oriented analog synthesizers to the contemporary scenario. This prepares the reader for the subsequent in-depth look at digital synthesis, the sound- and "songware"-selling cottage industry (which serves a small and volatile market), and the impact of an industry-wide communications protocol named MIDI (Musical Instrument Digital Interface).

Working historically allows Théberge first to introduce the reader to the market-specific forces that have driven and continue to drive this industry, then to critically revisit and question a number of concepts that often remain unchallenged in the general discourse of musical industries and of music as practice. For example, chapter 3 deals with the complex process of the invention and innovation of electronic musical instruments, and pairs it with an account of the economically driven strategies for survival of certain technology companies (primarily computer and consumer audio industries), which led to "transectorial" innovation (e.g., the

incorporation of microprocessors into early polyphonic keyboards and sequencers), migration (e.g., the story of the Ensoniq Corporation, whose founders were ex-Commodore International employees), and marketing (e.g., the product strategy Ensoniq used to successfully market its Mirage sampler). In this fascinating and instructive discussion the author repeatedly underscores the relevance of the points of intersection, feedback, and exchange between producers and consumers of musical technologies.

Théberge elaborates the latter point in chapter 4, in a discussion of the so-called "democratizing" effect of musical technology in the 1980s, when sound synthesis went wholly digital after several Japanese and U.S. manufacturers agreed to develop a shared communications protocol for their product lines: MIDI. He defines the democratization of synthesizer technology as "a phenomenon based on at least three separate, though inter-related, trends in the electronic musical instrument industry" (89). First of all, microprocessor technology became faster and cheaper, which had a trickle-down effect on synthesizer manufacturers. Secondly (and as a result of this trend), the synthesizer became not only a sound-producing, but also a sound-reproducing instrument that provided the basis for the emergence of a new "subindustry." As the instruments became more and more complex to program, ready-made sounds or patches became increasingly available through what Théberge calls "the entrepreneurial spirit of third-party [sound] developers," who developed a small cottage industry to meet the needs of a new market that viewed musicians as consumers (89). Finally, the establishment of MIDI as an industry standard helped to stabilize the market overall, and strengthened consumer confidence to the extent that any attempt to replace MIDI with more recent and more efficient interfacing systems has met with strong industry resistance. Here, Théberge offers a provocative analysis of the political, economic, and ideological links between music and "democratic" values, a theme he returns to in chapter 6.

In part 2 the ideas of exchange mechanisms between agents of musical production and consumption are elaborated in the context of technologies of communication-about-music. Théberge devotes one chapter each to the discussion of music periodicals and on-line communication networks/user groups.

The increasing emphasis on technology in music production has spawned new forms of association and communication that bear as much resemblance to groups such as the early ham operators and computer 'hackers' as to any form of affiliation previously connected with music-making. What is particularly striking in all these examples is the predominantly male, hobbyist orientation of these activities;

the fascination with technology itself; and, perhaps most important, the idealistic, democratic, and utopian rhetorics that are often mobilized in support of such activities (152).

While Théberge is somewhat speculative about the future effects of rapid technological development in the current marketplace, he is not remiss to point out the tensions among "technical excellence," marketability, innovation, consumption, and capital flow.

The final four chapters—contained in part 3 (the strongest portion of the book)—address the implications of the performance and use of the technologies discussed earlier. This section in particular makes for stimulating reading by itself; in fact, it might be a good idea for readers with a stronger musical than socioeconomic orientation to begin the book here.

In chapter 7 ("Musical Knowledge in Action") three modes of interacting with music—practice/performance, notation, and theory—are discussed as conceptually distinct. Théberge reiterates a point he has made earlier: musical instruments are not forever conceptually defined after the stages of design, manufacture, and marketing are completed. "[R]ather, they are 'made-over' by musicians in the process of making music" (160). In a sufficiently thorough examination of musical practice and of the role of technology in it, Théberge draws primarily on ethnomusicological theory, especially the work of John Blacking (1977) and Alan Merriam (1964).²

In chapter 8, after an assessment of the role of notation in Western musical practice, the author returns to the concept of musical sound. In doing so, he not only refers to Merriam's tripartite analytical model of concept-behavior-sound (Merriam 1964) but also to his own groundbreaking essay on the topic (Théberge 1989). Nine years after the latter's publication its conclusion is even more noteworthy than it was, since Théberge's voice is still one of only a few that have proclaimed sound/timbre as one of the most central, yet underexamined aspects in twentieth-century music and musicological inquiry. Théberge reiterates the special relevance of the concept of sound in the age of digital technology, and defines an aesthetics of sound as one that no longer distinguishes between musical production and consumption, but instead "demands that all sounds . . . be made available for musical purposes" (213). At this point, Théberge eloquently and persuasively articulates the quite radical notion contained in the book's title: every imaginable sound is available (and to a larger number of people than ever before) for the purposes of musical production and consumption.

Chapter 9, entitled "'Live' and Recorded: MIDI Sequencing, the Home Studio, and Copyright," examines recent modes of rationalization in contemporary music-making, particularly with regard to the spread of MIDI

and the growth of the home recording industry, and discusses the implications for copyright. The expansion of multitrack recording technology from an exclusively professional arena into a vast amateur/semi-professional playground after the advent of inexpensive 4-track cassette recorders and MIDI-compatible computer software is discussed in the context of the "democratization" process, as presented earlier. Théberge reveals how current musical discourses have at times been rendered glaringly inadequate by technology-induced changes in music-making, singling out copyright laws and the "live" concept (which has been expanded so as to be applicable to the world of MIDI sequencing in addition to that of stage performance) as examples. He concludes that a century of continuous change in technologies of sound production and their use by consumers and musicians call for an overdue re-evaluation of music as concept, form, and performance practice. In the final chapter, he begins to outline a model for that purpose, again drawing on ethnomusicological literature (e.g., Keil 1984) and on comments and works by musicians and performers (e.g., David Bowie, Brian Eno, Peter Gabriel, Glenn Gould, and Todd Rundgren) whose careers exemplify these processes.

To add Théberge's book to the already impressive catalogue of its *Music/Culture* publication series was a deft decision by Wesleyan University Press, since the musical academy now has the outline of a platform on which to engage in a constructive debate on the roles of musical technologies: as *objects of* and, to a somewhat lesser degree, as *tools for* musicological research (as well as for everyday musical pedagogy involving teachers and students, most of whom are either making music and/or consuming one sort of musical technology or another on a regular basis). The stimulating insights provided by *Any Sound You Can Imagine* more than make up for the regrettably small number of illustrations (eleven in all). Notwithstanding this minor quibble, *Any Sound You Can Imagine* should be part of the library of anyone who is concerned with the state of music and music-making at the end of this century.

Notes

1. One slightly earlier work is Chanan (1995).

2. Although not without reservations, Théberge believes that "Merriam's formulation of music-making as an integrated process has distinct advantages over the way in which music is dealt with in traditional music theory and in musicology" (163). From Blacking he borrows the distinction between "technology as a 'means' of production versus technology as 'mode' of production" (158).

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