

Hennion Antoine and Levaux Christophe (2023) Rethinking Music through Science and Technology Studies. Abingdon & New York: Routledge. 304 pages. ISBN: 9780367767723

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In their edited volume, Antoine Hennion and Christophe Levaux have gathered a collection of scholarship that aims to help scholars understand the world of music by examining the intersections of its enterprises, objects, devices, techniques, theories, and practices. With their interdisciplinary entry points into STS, the contributors to the volume share their commitment to breaking free from the oppositions of objectivity and subjectivity, as well as machine and human, moving towards an approach to the study of music that focuses on the interaction of disparate socio-technical elements in production, consumption, and experience of music (p. 3). Together, the collection presents a comprehensive effort of rethinking approaches to the study of music towards frameworks that do not separate the human, the nonhuman, and the political. STS, here, is an analytical entry point, a departure into analyzing the different societal, political, structural, normative, material, and historical elements that make up the world of music.

The editors divide the book into four parts, combining scholarship on histories, instruments, technologies, and practices. In the largest part that focuses on histories, Fanny Gribenski explores how the note A became known as 'natural' pitch, while François Ribac traces DIY practices in recording technologies, positing them as continuous cultural phenomena rather than radical revolutions. Patrick Valiquet extends ANT to explore how the development of 'universal grammar' in

music is enmeshed in political and epistemological imperatives of discourses around human rights. In the instruments section, researchers explore tools from early Moog instruments to the Eurorack synthesizer. The employment of STS-specific analytical frameworks to explore technological aesthetics (by Eliot Bates) and boundary work of instruments (by Paul Harkins) allows the authors to capture how the world of music arises from the interplay of technologies with historically contextual human practices in very specific environments.

Moving to discussing technologies and practices, the book takes a more conceptual turn. David Trippett and Nick Prior's contributions explore the relationship of humans and machines through a refreshingly, though not explicitly, co-productional lens that does not prioritize the logic of humans nor of machines. Basile Zimmermann develops a theory of materiality in the STS frameworks of SCOT and ANT in an ontological argument for studying music in the digital age. The final part of the volume takes seriously the materiality of human practices. François Debruyne grounds online exchanges, pushing the actor-network framework to trace how communities are made through, rather than because of, their communication. The focus on the reconstruction of publics through practices culminates in Jean-Paul Fourmentraux's theorization of the relationship between human and technical objects as one of continuous acquaintanceship. The volume

thus ends with an example of the kind of socio-technical analytical framework the editors strive to develop - one that studies music practices as shapers of the world through interactions between humans, objects, and networks.

While the organization of the volume into the four parts is effective in thematically grouping the constructivist STS approaches, such a structure prevents the book from fully achieving its aim of presenting a sociotechnical research framework. Constructing its sections not by the empirical focus of the researchers (be it instruments, practices, histories or technologies) but by the methodological and theoretical approach of the chapters might have served this goal better. After all, as the editors point out, the unique contribution of STS lies precisely in the breaking of oppositions of objects of study and in the focus on the intersections between them. The sonic imaginaries that Mooney and Pinch develop, from this perspective, might have fruitful points of dialogue with Prior's negotiation of assemblage as the political stakes of imagined worlds are at stake in both chapters. Ribac's historical discussion of cultural practices and Trippett's cultural account of digital voices are both concerned with how music practices contribute to the articulation of the concept of the modern human. What might we learn not only about music but about the dissemination of information if we read Debruynne's attention to digital structures in conversation with Leech-Wilkinson's exploration of religious networks in classical music? Placing the articles in relationship to each other based on the conceptual and epistemic stakes of their scholarship would show how the sociotechnical analytical framework the editors propose can not only improve music research but place music studies in a more direct relationship to the broader questions of the role of various artistic practices in the making of the modern world.

Some scholars criticize certain STS approaches for being too empirically oriented, arguing that social reality cannot be understood through empirical case studies alone (Collin, 2011). Appeals to the importance of non-STS theory have been made, including to political theory (Thorpe, 2008), dialectic approaches (Söderberg, 2021), and a return to structural concepts in understanding technology that already exist in organi-

zational sociology and political economy (Klein and Kleinman, 2002). While the calls for conversations with non-STS theory are important, another part of the answer to this concern might be in the way that we as scholars engage with existing empirical work together. More than being about rearranging the typeset of a book, my emphasis on the structure within it would give STS scholarship the potential to produce rigorous analytical worlds - just like the different musical elements produce, rather than reflect, the world of music. Then, this book might be able to contribute more deeply to the further development of STS not only as an orientation but as a rigorous and replicable approach to studying the sociotechnical world.

Moreover, the editors of this volume chart the development of their sociotechnical approach as stemming largely from sociological and STS-related fields (p. 1-3). However, engagement with similar efforts from music studies might help contextualize this feat more accurately. While the book might be the first concerted effort to present the sociotechnical approach as applicable to a range of research topics within music, multiple scholars have previously come together in search of similar frameworks. Significant historical (Zagorski-Thomas et al., 2012) and socio-cultural (Mazierska et al., 2018) perspectives have provided productive, albeit limited, efforts of capturing a similar research program. Similarly, the special issue "Music knowledge and science studies" of the journal *Revue d'Anthropologie des Connaissances* (2019), co-edited by one of the authors of this book, served a similar goal of sculpting a body of work for the reflexive study of worlds of music. The need for the study of "the larger enterprise that constitutes the world of music" by entering into the many elements that inhabit them, as Howard Becker phrases it in his foreword (p. xvi), stems not only from the recent development of STS as a theoretical and analytical tradition, but also from the existing analytical connections between communities of interdisciplinary researchers who have been working in similar ways before this book. Greater engagement with such literature could help root the useful breadth of this volume within the existing archive of inquiries into the worlds of and around music.

While applying sociotechnical approaches to the study of musical phenomena is not entirely new, the extensively broad collection of scholarship in this volume presents an illustratively cohesive sociotechnical research approach to studying the co-constitution of the world of music through intersections of the human, the technical, and the societal. Although a more theoretically forward curation of this research program and greater engagement with existing

scholarship might have helped the book develop this framework even further, the authors and editors do succeed at illustrating a comprehensive research approach that helps rethink the silos of music. A call for this effort in turn reflects the need for reflexive sociotechnical scholarship in social sciences that engages in the complexity of the modern more-than-human world and is at the same time deeply committed to developing analytically useful theory.

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