Fink, Robert, Melinda Latour, and Zachary Wallmark (eds). 2018. *The Relentless Pursuit of Tone*. New York: Oxford University Press.

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It's almost a platitude to mention that timbre is the most important musical dimension in popular music; the statement is so often repeated. Take one example from Mark Spicer, writing in 2005: "for the experienced listener and analyst, it is often the particular timbres featured on a pop or rock record that allow us to position that track historically and which, in turn, render the track most meaningful for us." Spicer also wrote in the same article that "unlike pitch and rhythm, timbre remains the one musical parameter that popular music scholars have found almost impossible to convey" (Spicer 2005, 14). But now, thirteen years later, dozens of musicologists have risen to meet this challenge. The Relentless Pursuit of Tone: Timbre in Popular Music, edited by Robert Fink, Melinda Latour, and Zachary Wallmark, presents an expertly curated series of essays that analyze the role of timbre in a wealth of different genres, using a great diversity of approaches. This book demonstrates that timbre is a subfield that is positively booming with activity, as it collects fifteen different authors providing many paths that an aspiring timbre analyst might follow.

Timbre studies have flourished remarkably within the past five years. As evidence of this momentum, consider the programming of timbre talks in national conferences. Surveying the programs of the past 10 years of annual meetings, I found only one timbre panel before 2018. And in the 2018 joint meeting of the American Musicological Society and the Society for Music Theory, *three* panels were explicitly dedicated to timbre. Also in 2018, McGill University hosted an entirely timbre-themed interdisciplinary conference, titled *Timbre Is a Many-Splendored Thing*, and another compendium of approaches to timbre analysis, *The Oxford Handbook of Timbre*, edited by Emily Dolan and Alexander Rehding, is also in the process of being published. All of this evidence shows an enormous uptick in musicologists' interest in timbre.

The 2018 release of *The Relentless Pursuit of Tone*, then, is timely indeed. It distinguishes itself from the *Oxford Handbook* by focusing purely on popular musics—a sensible narrowing of scope, considering the sentiment articulated by Spicer quoted at the beginning of this essay. Each author in this volume addresses timbre as an aspect of sound from a variety of analytical perspectives, often bridging the gap between considerations

of material aspects of timbre (acoustics, equipment used by musicians or "gear," production) and the social implications and results of these timbral constructions in terms of race, class, gender, and sexuality. Throughout my review, I intend to highlight each chapter's new contributions to our field, as well as the nuances present in each author's treatment of timbre. My hope is that the seamless integration of timbre-as-acoustics and timbre-as-social-phenomenon, as represented in this book, will serve as a primer and a model for all musicologists wishing to turn their attention toward timbre.

Fifteen chapters from senior and junior scholars of timbre comprise this book. Immediately evident is the diversity of the genres considered. While scholarship of pop/rock music can revolve around a few canonical figures (The Beatles, The Beach Boys, and Beyoncé might be the pop music version of Bach, Beethoven, and Brahms), this book discusses electronic dance music (EDM), country, death metal, reggae, jazz, fusion, and rap in addition to "Top 40" pop and rock genres. Not every chapter focuses on a particular genre; chapters focused on specific production techniques (e.g., Autotune, reverb, and synthesizers) survey artists from various backgrounds. What holds this essay collection together, beyond the topics in the title, is the attention each author pays to social context in addition to concrete aspects like gear and acoustics. The resulting discussions all have sympathetic resonances with one another, as discussions of aesthetics and value continually arise as themes throughout the essays. These coeval issues are exactly why the editors place such emphasis on the word tone in their title and foreword—while ostensibly a synonym for "timbre," "tone" conveys a sense of personhood and value that "timbre" often sidesteps. Each author's essay makes clear, however, that these issues of tone are often the most interesting component of an essay on timbre, providing the "so what" factor (to paraphrase Allan Moore [2012, 285-7]). Because space restricts me from devoting as many words as I'd like to each chapter, I will group my discussion of several chapters together. In the book itself, the chapters are grouped into four parts: genre, voice, instrument, and production. For this review, however, I prefer to group the chapters according to genre and production, but also according to a theme that permeates the entire volume: the significance of perception and reality in the issue of source bonding.

The book opens with a chapter by ethnomusicologist Cornelia Fales, which was an appropriate acknowledgment by the editors of Fales's crucial and fundamental work in the field of timbre analysis. In her chapter "Hearing Timbre: Perceptual Learning among Early Bay Area Ravers," Fales presents an ethnography of an EDM listserv "SFRaves" that evidences EDM fans' ability to obtain special attenuation to timbre as a structurally salient parameter, which subverts the typical tendency to understand timbre in

music as an emergent property of pitch. She argues EDM is particularly fruitful music for this heightened attenuation, because the sounds of EDM are often perceived as sourceless sounds, thanks to their electronic genesis.

Fales's earlier article, "The Paradox of Timbre" (2002), set the scene for all timbre research that came after it, thanks to its critique of spectrogram study and other acoustics-based timbre perspectives. In this article, Fales described the issue of source bonding, where a listener pairs a timbre with its presumed physical source. The "paradox" of the title is that this process is highly instinctual and yet also quite unreliable in its accuracy; listeners can effectively attribute a sound to its source in a fraction of a second, but listeners can and do mis-identify sound sources and remain unaffected by the mistake unless directly conflicting information is given. Fales's critique of source bonding in analysis of timbre obviously influences the other contributors to this volume, whether explicitly or implicitly. One such chapter is Steve Waksman's. His discussion of guitar synthesizers (NB: not keytars), in addition to providing a fascinating history of the development of this technology, also discussed the tension between a clearly guitar-like sound and the exponentially more timbrally diverse sound-world of the synthesizer. Waksman posits that the guitar synthesizer was most popular in fusion music because of fusion's desire to push new sounds into a jazz-like context, but simultaneously points out that the sounds themselves ended up not being particularly new—they "were in many regards most unique not in how they sounded but in how they were created" (271). Waksman goes on to suggest that the failure of these timbres to bond to their sources as guitars, combined with the failure of the synthesizers to be able to truly duplicate the mechanics of playing a guitar, led to the guitar synthesizer falling flat in the markets.

Another chapter that builds on concepts of source bonding, albeit more obliquely, is Mark C. Samples's "Timbre and Legal Likeness: The Case of Tom Waits." This article reviews a legal case in which Waits successfully litigated against the use of his voice in a commercial—only the voice was not Waits's, but a mimic's. Samples's essay argues that this position essentializes Waits's diverse vocal timbres into a singular unified voice, a concept he seems to be critiquing as overly simplistic, as he writes that "it would be more accurate to talk about Waits's *voices*" (124). However, I see this as another instance of analysis of source bonding. The issue is not really the unity or disunity of the vocal timbre, but rather the issue of the perceived source of the timbre, who is a person with legal rights in the USA. This would also potentially provide one answer to Samples's question about why instrumental timbres are not currently protected in the same way as vocal timbres: while the source of a voice is a particular person,

the source of a trumpet sound is probably perceived to be, generically, a trumpet, rather than a person playing a trumpet. Perhaps this is an issue that Samples could investigate in future work.

Simon Zagorski-Thomas also takes up the issue of source bonding in his chapter, "The Spectromorphology of Recorded Popular Music: The Shaping of Sonic Cartoons through Record Production." Zagorski-Thomas's idea of the sonic cartoon in part says that the mere *implication* of a source bonding is enough to conjure up an image of the source, even when the source is patently unrealistic—like a cartoon can conjure up an image of a real object. More than that, Zagorski-Thomas shows how it is not only objects, but gestures or actions that are associated in the brain with sounds. He then goes on to a close analysis of both acoustic and electronic tracks and identifies synthesized and electronically-manipulated sounds' creation of realistic spaces, gestures, and sources. In this way, the fact that humans incorrectly identify sound sources can be exploited by producers.

Many chapters in the book closely considered aspects of music production as manifestations of cultural values and socially-constructed ideas. Production, like timbre, is a domain that can tend to get shortchanged in musicological analysis. Paul Théberge's chapter, like Zagorski-Thomas's, investigated the creation of implied spaces through the manipulation of sounds, but with a particular focus on reverb. "The Sound of Nowhere: Reverb and the Construction of Sonic Space" is both a history of reverb as a technology as well as an analysis of the aesthetic implications of various approaches to adding reverb. One of Théberge's many perceptive points is that while reverb originated as a physical, acoustic phenomenon—a signature of the space in which sound occurs—music production and engineering practices transformed reverb into a simple sound effect that is not meant to evoke space. The effects of reverb, alongside mic placement and track length, is also central to Jan Butler's "Clash of the Timbres: Recording Authenticity in the California Rock Scene." This chapter focuses on the music of Jefferson Airplane as a case study for the turn in popular music culture toward valuing the studio album over valuing the live concert as a site of authentic performance. Butler focuses on the particular production techniques for a sound that seems to recreate a live experience, versus a sound that seems more studio-engineered. She also traces the difficulties that Jefferson Airplane, a band most well-known for their live concert experience, experienced in trying to maintain their identity on the recording.

This issue of identity and production resonates with Catherine Provenzano's chapter, "Auto-Tune, Labor, and the Pop-Music Voice." Provenzano demonstrates that Auto-Tune redistributes skill, rather than replaces it. Auto-Tune also challenges common conceptions of the auton-

omy of the singer and the role of the producer. She compares the reception of Taylor Swift, an artist who is recognized as having a relatively weak voice that is reliant on Auto-Tune, to T-Pain, who uses Auto-Tune to create a deliberately engineered and produced effect. T-Pain's Tiny Desk Concert, which he performed acoustically, resulted in listener surprise at hearing his skilled voice. She contrasts this with Taylor Swift, who is granted notions of value and skill despite also relying on Auto-Tune. Provenzano chose these two artists explicitly for the purpose of addressing the role of race in the process of determining skill within an Auto-Tuned production. Where precisely Provenzano locates race in the process was somewhat unclear to me due to the contrast in the discussion around Taylor Swift, which focused on emotionality of the singer, versus the discussion around T-Pain, which revolved around the binary of humans and machines. The contrast, of course, is ultimately the implied point—I believe Provenzano is communicating that T-Pain was perceived as an unskilled machine partially because of using Auto-Tune while black, whereas Taylor Swift can use Auto-Tune without being perceived as unskilled thanks to her explicit performance of whiteness.

Production is also intertwined with cultural value systems in Albin J. Zak III's chapter, "The Death Rattle of a Laughing Hyena: The Sound of Musical Democracy," which blends the discussion of production techniques and gear with the discussion of implicit value systems in music of the 1950s. Zak argues that the rise of indie label records of amateur musicians in the 1950s subverted notions of "good" or "bad" records, as lo-fi records of amateur musicians sold as well as more professional productions. He speculates that the reason for its success was the "virtually guaranteed originality" of the sound of amateur music-making. Thus, insofar as popularity (i.e., the will of the people) represents what is a good or bad record, it seems that production value does not correlate.

A completely different take on production and cultural significance can be found in "Santana and the Metaphysics of Tone: Feedback Loops, Volume Knobs, and the Quest for Transcendence," by Melinda Latour. The chapter is in some ways a discussion of Santana's gear setup, including his use of amplifiers and innovations of playing while manipulating the volume knob, the main goal of which was to increase the sustain of the guitar tone. Latour mentions that many fans wish to discuss Santana's groundbreaking technique without making reference to his New Age religious philosophy, which he often discussed; however, she points out that for Santana, the two halves of his self were inseparable. Latour convincingly connects Santana's obsession with sustain in his guitar tone with his spiritual goal of achieving transcendence and connection with the world, demonstrating that a full

understanding of Santana's method must include his spirituality.

The discussion of indivisible aspects of a person's identity is a central issue in Nina Sun Eidsheim's chapter, "The Triumph of Jimmy Scott': A Voice beyond Category." Jimmy Scott was a jazz singer born with a hormonal condition that essentially stopped the process of puberty from occuring. Because of his high voice, Scott challenged notions of masculinity that demand either a deeper voice or a falsetto timbre, neither of which were present in Scott's singing. Eidsheim reveals the power of audience perception in evaluating timbre by proposing that Scott's frequent pigeonholed status as a marker of otherworldliness was the result of audiences' inability to reconcile his vocal timbre with his identity as a black man.

A distinct but related phenomenon is the use of explicitly synthesized timbres as a signifier of protest in funk music, which is discussed in Griffin Woodworth's chapter, "Synthesizers As Social Protest in Early-1970s Funk." In music by Parliament-Funkadelic and Stevie Wonder, Woodworth notes the pairings of lyrical depictions of racial inequality with the deployment of synthesizers playing timbres from clearly electronic sources. Woodworth briefly surveys the history of the synthesizer and how synthesizers, like other technology, raise anxiety in the public about issues of humans versus machines. Woodsworth ultimately argues, then, that Wonder and Bernie Worrell (Parliament Funkadelic's keyboardist) are deliberately capitalizing on these anxieties to underscore the racial tension present in their lyrics.

Identity is also at stake in John Howland's "Hearing Luxe Pop: Jay-Z, Isaac Hayes, and the Six Degrees of Symphonic Soul." Luxe pop is not quite a genre in the traditional sense, but is Howland's term for pop music performed with an orchestra, and Howland investigates the aesthetic implications of this type of collaboration through webs of topical association. While Howland acknowledges that "there is important class-based aura transference in ... production indulgence and extravagance, as well as access to capital" (199), his essay complicates the notion that a pop artist performing with an orchestra is intended to upgrade a low art form by enlisting a high art form. He achieves this by both using Jay-Z as an example of an artist who seemed to employ the medium ironically, and also by showing consistent use of symphonic accompaniments in popular black music styles dating back to the 1920s.

A similar debunking of popular myth occurs in Robert Fink's "Below 100 Hz: Toward a Musicology of Bass Culture," which addresses Jamacain reggae. Fink, using Jamaican reggae sound systems as a case study, dispels the popular notion that bass, more than other ranges of hearing, affects primarily the body; his analysis of the acoustics and technology of bass frequency projection shows that bass is in many ways like other ranges of

hearing with respect to felt vs. heard quotients. One exception Fink notes is that loud bass is less likely to damage ears than mid- or high-range sounds, due to the attenuation of human perception to speaking-range frequencies. After thoroughly surveying acoustics, perception, human anatomy, and speaker technology, Fink concludes that "the 'power' of deep bass appears to be our intuitive perception of how difficult it is to hear these frequencies at all" (112).

Few genres have as widely-recognized timbral markers as heavy metal and country music, and the chapters by Jocelyn Neal and Zachary Wallmark, titled "The Twang Factor in Country Music" and "The Sound of Evil: Timbre, Body, and Sacred Violence in Death Metal" respectively, each take care to define their genre's identity markers thoroughly by combining cultural study with acoustics. Like Fink, Wallmark documents the use of noise both acoustically and through technology. Following the trope of death metal as catharsis, he argues that acoustic noise in death metal serves as an analogue for a sacrificial victim in a ritual: fans pour their negative energy into the noise. This lets Wallmark understand noise as a timbre from the perspective of physical sound production and the complexities of human interpretation of that sound. Jocelyn Neal's chapter on country gives an extremely thorough overview of possible definitions of twang, all the aspects of which I do not have room to summarize; essentially, like Wallmark's discussion of noise, Neal's analysis of twang defines its object as both a timbral phenomenon and a cultural value. Toward the former point, Neal summarizes several sources that define twang as essentially marked by changes in acoustic elements, and she further underscores this point by comparing the spectrograms of a twangy banjo with an un-twangy guitar. To the latter point, Neal first reveals that "twang" is a word that, shockingly, often goes undiscussed in existing academic literature on country music, which she suggests is reflective of the word's heavily negative connotations. Neal discusses the reduction of twang in country music of the 1960s, when country music was marketed for cross-chart appeal and artists likewise were encouraged to try on country music to rejuvenate their acts, and then contrasts that with the more recent turn back toward an embrace of twang in country music as a symbol of individualism. Twang and noise are defined in Neal's and Wallmark's writings as complex phenomenona that cannot be fully explored through acoustics or ethnography alone.

Recorded sound is very important to timbre studies, as timbre itself cannot be notated with the same accuracy and clarity as pitch or rhythm. *The Relentless Pursuit of Tone* deals with this issue by having a companion website where complex visual and audio examples are readily available for the reader, but I found myself wishing the publishers had utilized the web-

site more fully. Occasionally I found a musical example that really would have been better displayed online—Figure 15.2, an annotated spectrogram, was one such example, as I could not make out the annotations at all. The website could also be more responsive for users browsing on their phones (there is no mobile version) and embed audio rather than having listeners actually download the files to their hard drives. Despite these technological shortcomings, the best way to enjoy this book is to read with access to the companion website's audio examples by your side throughout. I suggest that the publisher consider redoing the website to be responsive and use embedded media, and if the book releases a new edition, the editors and publishers might consider a fully online format, which would more easily accommodate the multimedia experience demanded by a book on timbre studies.

The entire book proves to be highly interdisciplinary. Musicologists interested in timbre, of course, will appreciate this book, but scholars in popular culture studies, sound studies, music cognition and perception, and music technology will also find these essays insightful and provocative. One issue that plagues all of timbre studies is the individuation necessary in our methodologies of timbre study. Even with this book full of exemplary timbre analyses, fledgling timbre analysts may still feel somewhat at a loss for how to embark upon their own analyses—the approaches used by the authors, while united in their emphasis on social and acoustic properties of timbre, are as heterogenous and idiosyncratic as their musical objects of study. I believe it's safe to say that the field of musicology may never establish a unified, primary methodology for the analysis of timbre. But an enterprising reader of this book could hopefully extract many broadlyapplicable approaches from the essays in this book: like Butler, one could survey a band's studio output and trace the subtle changes in mixing and sound-box visualization to support conclusions about that band's aesthetic goals; like Neal, one could combine spectrogram analysis with a historical overview of a genre to define the genre's sound from these dual perspectives; like Fales, one could conduct an ethnographic study of a body of discussion about timbre and draw conclusions about the role and perception of timbre among a particular group of people; and the list goes on. As I teach seminars in timbre analysis, I will certainly draw from this volume as I show students how they might go about tackling the analysis of what might be the most perceptually salient element of popular music.

Notes

1. The *Handbook* is not yet published in its entirety, but Oxford is publishing the chapters online as they are finished.

References

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