The Master of Mystery
Technology, Legitimacy and Status in Audio Mastering

ABSTRACT  Over the past twenty years, the field of popular music studies has significantly enhanced our understanding of pop music production. Studies have drawn from a range of industry discussions to explore, for example, the ways in which emergent technologies have led to distinctive production techniques and the important role that recording technologies play in shaping the sound of pop music. Whereas many industry discussions have provided productive sites of analysis, they can also obstruct research in some respects. This article focuses on an area of music production where such industrial discussions tend to hinder, rather than enhance, an understanding of its practices. It examines the ways in which industry discussions position the process of mastering as “mysterious.” This article argues representations of mastering as “mysterious” work to reinforce the importance of this practice and also safeguard it from new technologies that might challenge its dominance. These representations can function to reproduce and secure social hierarchies within the field.

KEYWORDS: recording technologies, cultural production, music production, mastering, analogue technologies

INTRODUCTION

Mastering is typically considered the final process within pop music production, prior to its distribution. It follows the song writing, recording and mixing stages. It also typically takes place in a specialized space and with specialized technologies. During the mastering process, mastering engineers are known to use audio technologies, such as compressors, limiters, and equalizers, within specifically designed studios to prepare a recording for consumption across various formats and listening environments. For example, the volume or bass frequencies may have to be adjusted so that the recording is optimized for listening across a range of distinct listening contexts, such as a hi-fi system, car radio, ear-buds or headphones. The use of these technologies typically influences the dynamics, frequencies and spatial positioning of instruments within a sound recording. As a lot of audio processing occurs before mastering in the “mixing” stage of production, it is often suggested that the mastering process shapes the sound of a finished song. Despite its frequent practice, audiences—and in many cases songwriters, musicians and engineers—are often told that the processes that take place during this production stage are mysterious. In 2009, before attending a mastering session for a project I was working on, a colleague told me that the mastering engineer kept a black box underneath the mastering console. While the box was...
probably a customized signal processor, the engineer would not disclose what it was or how it affected the sound produced. The black box ostensibly played a significant role in the alleged distinct sound of the work produced. Although the contents of the black box intrigued me—and still does—what intrigues me more is the political value of the mysteries that the mastering engineer constructed around both this box and, in turn, the mastering process more broadly.

The above experience suggests that mastering practice discussions are shrouded in secrecy. It also brings into question how such attitudes work politically within the field. Put differently, who are the beneficiaries of this so-called mystery? This article draws from numerous industrial texts, such as blogs, mastering studio websites and articles to highlight the degree to which mastering is represented as a “mysterious” practice within pop music production. As technologies used in mastering are crucial to constructing this mystery, I examine the role of attitudes toward expensive and largely exclusive analogue recording technology has played in maintaining the “mystery” of mastering. In the past few years, new internet-based automated mastering technologies have come to market that potentially challenge the dominance of mastering. I examine how discussions about the so-called mysteriousness of mastering with analogue recording technologies are mobilized to safeguard the practice from new and cheaper and automated technologies, such as Landr. Mastering discourse also helps understand the cultural and technological conditions under which mastering developed in the 1980s. Drawing from its early development, I argue that representations about the so-called mysterious processes of mastering structures the field and reproduces broader gender and class divides within pop music production. Drawing from Pierre Bourdieu’s notion of symbolic capital, I argue that the mystery of mastering not only highlights a common music production process about which little is publicly known, but also—and perhaps more crucially—that it demonstrates taste can masquerade as knowledge to function as a productive political tool and maintain the practice within a deeply contested field.

UNDERSTANDINGS OF PROCESS IN MUSIC PRODUCTION

Over the past two decades, work in the field of popular music studies has significantly enhanced our understanding of the processes associated with pop music production. The increasingly significant role that recording processes have played in shaping the sound of pop music is a key idea examined within this scholarship. Before the 1960s, music producers valued approaches to sound that reproduced live performance contexts, which Lee Brown describes as “documentary.” They add: “The recording industry has lived mainly by what might be called the transparency perspective according to which a sound recording is understood on the model of a transparent windowpane through which we can see things undistorted.” Here, approaches to recording individual instruments, alongside the overall sound of an ensemble, are said ostensibly to provide a “true” phonetic documentation of a performance. Since the 1960s, however, attitudes toward sound changed as

new technologies ensured that recordings became not only easier to produce, but also more accessible to followers. Theodore Gracyk argues that, as a “recording style,” rock exemplifies this shift. For Gracyk, musicians within the tradition of rock “can support careers in virtual absence of live performance, so that audiences know their work only through recordings.” For example, they note that the Beatles ceased touring in 1966 to focus on recording. This process reinforced the important role of recording technologies in the sound of their music. Simon Frith and Brown argue that no clear distinctions exist between documentary and studio-constructed approaches to recording. As Frith states, “Even if people want the concert hall experience in their homes, the living room is a different acoustic setting, the acoustic organization of sounds must therefore change, even if only to have the same effect, to give the ‘illusion of a concert hall illusion’ as RCA’s Richard Mohr calls it.” Work in this area reveals two elements of popular music studies and music production methodologies. In the first instance, the recorded music—such as that by the Beatles—itself provides an important point of comparison for such claims. In the second instance, industrial discussions help define the nuances of dominant attitudes toward recording.

Music industry texts such as trade magazines, television documentaries and blogs also provide a window into the processes associated with pop music production. They play a significant role in constructing the value of specific recording practices. For example, music television documentaries are crucial to discussions of processes. For example, album and genre-specific series, such as Classic Albums, Sound Breaking and more artist-specific ones such as Brian Wilson: Songwriter 1962–1969, draw on interviews with journalists, musicians and producers to recount the recording process of a particular album or song. The Classic Albums series, for instance, employs both original and historical footage that features people associated with particular albums. In addition, multi-tracks of the original tape recordings are run through a mixing console in a recording studio to isolate particular tracks and provide the audience with an in-depth insight into the instruments that comprise the recording. These formats work politically within the field. This series shaped “heritage rock” discourse. For example, this format draws on personal accounts and narratives to position these albums as “artistic” and construct value around specific practices. As a result, television documentaries can also reorient the social order of a field.

Despite this research and discussion, a degree of “mystery” surrounds parts of music production processes. While digital technologies have led to new ways of writing, performing and recording music in domestic spaces and on digital devices, large-scale production involves complex and expensive equipment. This process is largely invisible to the public. For Alan Williams, the crucial work of producers and engineers in the recording process is often left out of narratives about the production process. He argues that

the *Classic Albums* series attempts to challenge this narrative as it provides audiences with an in-depth—and often previously unheard—insight into the role recording technologies have come to play in pop music. “Mystery” also surrounds the spaces associated with music production. In her work, Samantha Bennett states, “Indeed the marketing of these once-concealed elements has resulted in a demythologisation of Abbey Road Studios, as “insider” revelations slowly reveal the technology, recording processes and experiential accounts once hidden from public view.”

Mastering provides an interesting case study through which we can explore the relationships between mystery and production process in pop music. Discussions about mastering in blogs and mastering studio websites tend to reproduce the term “mystery,” or variations on the term. The mobilization of the term is also important to the justification and continuation of the practice, particularly against the backdrop of challenges brought about due to new technologies.

Before any analysis of the practice as a mystery, mastering must be contextualized within its longer history. Throughout the twentieth century, mastering developed alongside the introduction of new media and, as such, these developments inform the ways in which we might interpret contemporary mastering discussions. Vinyl records provide one such example. For much of the twentieth century, recorded popular music was consumed on vinyl records. But the format has a complicated history within pop music. In recent years, for example, numerous niche markets have come to favor vinyl records. Vinyl records dominated recorded music consumption formats between at least the seminal advent of rock and roll in the 1950s until the introduction of digital technologies in the 1980s. During this period, mastering was distinct from the aforementioned representations of the practice. The process played a crucial logistic function in the production, or “pressing” as it is industrially known, of vinyl records. Here, audio from a two-inch tape is typically transferred to a “master” vinyl record. This process is particularly important as, in contrast to other forms of media, vinyl records are delicate. They can “scratch” and “skip” during everyday use on record players. To minimize this outcome, the mastering process involved the attenuation of specific low frequencies from the audio.

The introduction of digital formats—such as the compact disc—led to the development of contemporary mastering. During the 1980s, the introduction of digital technologies prompted the most significant changes to music production since the invention of the phonograph. The distinct characteristics and capabilities of the compact disc led to the expansion of the role of mastering in music production. The dynamic range of audio became considerably larger with this new format. Put differently, the range between the softest and loudest parts of a song could potentially be wider. Here, mastering ostensibly provides a means to enhance the sound of music on CDs. As a result, mastering developed from a largely technical process to a

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9. Vinyl records have a range of 60–80 dB. CDs have a dynamic 90–96 dB.
process that was driven by aesthetics. Attitudes toward volume in sound are closely tied to these emergent approaches. Such attitudes led to the “loudness wars,” where mastering engineers reduce the dynamic range of a recording to boost its overall volume. As Kyle Devine argues, however, 1980s mastering approaches were not the origin of these ideas. Rather, they demonstrate a continuation of longstanding culturally constructed ideas about volume. Consequently, these emergent practices are perhaps more productively contextualized within ideas about analogue aesthetics. Terms such as “sweeten” and “warmth,” nonetheless, demonstrate a value system around audio, which is also particularly important to mastering discussions. Here, the role of mastering shifts from the transfer of media for consumption to the reproduction of aesthetic ideologies about sound.

Despite its framing as a mystery, some excellent work has emerged recently within academia on the topic of mastering. This work challenges some of the dominant narratives that exist within this curious practice. In his thesis, Matt Shelvock argues the extensive work undertaken by mastering engineers position them as a “collaborative auteur” with the rest of the production team. Mastering has also been examined within the context of its effect on sound aesthetics. Further, in electroacoustic contexts, mastering reveals the close relationships between the aesthetic and technical uses of technology in music production. Scholars have also challenged the notion that mastering forms the “final stage” of the production process. As Jonathan Shakhosvkoy argues, the uptake of online downloading in the past decade has challenged the dominance of mastering as the “final stage” of a recording process. For Shakhosvkoy, many consumers have access to technologies that can easily adapt the recording post-release. Further, Carlo Nardi argues that sampling practices by DJs also challenge finality of mastering. For Nardi, DJs working within electronic dance music demonstrate performative and technologically mediated uses of “mastered” audio recordings.

A THEORETICAL FRAMEWORK FOR UNDERSTANDING MASTERING

Although this research into mastering helps understand the practice, studies have yet to investigate why industry discussions about the processes involved frame it as a mystery. Mastering still is considered a mysterious process within the industry to those who do not practice it. Bourdieu’s notion of symbolic capital offers an excellent framework for how we might understand, in the first instance, why mastering practice is framed as a mystery and, in the second instance, what role technology discourse plays in this. His work helps

11. Matt Shelvock, “Audio Mastering as Musical Practice” (The University of Western Ontario, 2012)
interpret the complex relationships between one's cultural status, symbolic goods, and practice. Originally designed to interpret French culture in the 1970s, Bourdieu's framework has been productive within the field of popular music studies and explorations of music production. Bourdieu's framework provides a range of concepts that can be used to understand fields. For Bourdieu, a field is a site of cultural practice. Within this field, social agents—or participants within fields—compete for various kinds of capital—not just economic—that place them differentially in a hierarchy. Cultural capital, for example, is one form of capital that agents attempt to acquire in order to position themselves within the field. Randal Johnson describes cultural capital as “a form of knowledge, an internalized code or a cognitive acquisition which equips the social agent with empathy towards, appreciation for or competence in deciphering cultural relations and cultural artefacts.”

While the concept of cultural capital can be used to account for the objects that agents associate with (some objects will accrue more capital than others), it does not account for the way we might understand other forms of non-economic capital. For example, it does not explain the construction of a social hierarchy predicated on ostensibly mysterious cultural objects and associated practices, as I argue is the case within mastering. Symbolic capital perhaps works better. For Johnson, symbolic capital is the “degree of accumulated prestige, celebrity, consecration or honour . . . founded on a dialectic of knowledge . . . and recognition.” John Thompson agrees, writing that symbolic capital is “accumulated prestige or honour.”

Symbolic capital provides social agents with significant cultural currency. For example, social agents can use prestige to legitimatize specific knowledge. In his use of symbolic capital, Hibbett draws from the work of Michel Foucault to emphasize the role of knowledge and power within fields. Foucault argues that “power and knowledge directly imply one another,” and that “there is no power relation without the correlative constitution of a field of knowledge, nor any knowledge that does not presuppose and constitute at the same time power relations.” Using Hibbett’s synthesis of Bourdieu with elements of Foucault, one can argue that taste can masquerade as knowledge. In this context, knowledge is put to work as a discourse that maintains and sustains a social order, as agents with more capital may invoke their “knowledge” to justify stylistic choices. This schema—and definition of symbolic capital—is useful for exploring the ways in which we might understand the so-called mystery surrounding mastering. It demonstrates that seemingly neutral discussions about the mastering process are productive, as they have the potential to shape its relevance within the field. Further, it demonstrates the ways in which the field of mastering is constructed around knowledge and power.

19. Ibid., 7.
22. Ibid., 27.
To highlight the way in which mastering is framed as a mystery—and, more importantly, how this structures the field—I analyze numerous music industry texts, including blogs, magazines and mastering studio websites. As demonstrated in the work of Williams and Bennett, texts within the music industry are politically coded and sites in which capital is contested. These texts provide a site to unpack the so-called mystery of mastering and the way in which these texts structure the field.

CONSTRUCTING THE “MYSTERY” OF MASTERING

Several industry texts point to the use of terms such as “mystery” and “mysterious” as part of a discourse around mastering. These terms can be understood as metaphors that work politically within the field. Metaphors are significant within the cultural industries. For instance, in their work, Campbell et al. examine the ways in which religious metaphors are applied to new technologies. They argue that these metaphors are put to work as a discourse to both negatively and positively represent new technology. In the field of mastering, the term mysterious is used alongside “mystery,” “dark art,” “secret society” and “secret art,” to describe the practice. Many describe it as such because of the limited cultural knowledge among musicians and consumers about the practice. In their blog article “Mastering Audio: A Mysterious Dark Art,” for example, mastering studio Carriage House Music states that the use of the term “mysterious dark art” is often used “because so few people understand what’s really involved in this complex process.” In their article for Disc Makers Blog, Izotope also points to this trend. They state, “Audio mastering is often thought of as a mysterious art form.” Further, in their article “Everything about Mastering” for the blog Delicious Audio, mastering is described as a “secret art that not many emerging musicians fully understand.” Moreover, Chris Graham describes mastering as “perhaps the most mysterious part of the recording process.” Some offer insights into why this trend is the case but tend also to reinforce the mystery of the practice. Mastering engineer Barry Gardner argues, for example, that mastering is seen as a “dark art” or “mysterious” process. They argue that this is due to the following factors. First: “The use of esoteric and rather expensive audio equipment”; second: “The techniques used are very specialized”; third, “The techniques used are an accumulation of decades of training and professional experience.”

23. Williams, “‘Pay Some Attention to the Man Behind the Curtain,’” Bennett and Baker, “Classic Albums.”
because mastering engineers do not wish to share their practices. In their article, “What Are The Secrets of the Audio Mastering Mystics?” Ken Theriot says that mastering engineers “guard their mastering tips and techniques like gold.”30 They compare it to a secret society.

Within these contexts, terms like mystery not only describe knowledge about mastering, they work productively as a tool for political negotiation. As it is typically a separate part of the production process and is practiced within a separate space, mastering can be easily positioned as mysterious. “Mysterious” ensures the continuation of a dichotomy; those who know what mastering is and those who do not. This discourse also functions as a gate-keeper to maintain the social order of the field. To enter a field, Johnson argues that agents require a certain threshold of knowledge to practice within that field.31 The use of the term “mysterious” safeguards the status associated with agents who already comprise the field. Further, the emphasis on mysterious instead of specific discussions of what the process is, positions mastering as highly complex. These approaches work as symbolic capital. As the specific instructions of the process are eschewed in favor of a discussion about its ostensible complexities, mastering engineers are conferred “prestige” and “honour,” akin to symbolic capital.

Although discussions about mastering tend to frame it as a mystery, they also stress that it is an important part of the production process that must be undertaken by highly trained professionals. For example, Barry Gardner states that “the techniques used are an accumulation of decades of training and professional experience.”32 This suggests that the amalgamation of roles that have occurred in other parts of the production process are not applicable to mastering. Here, the skills learned to provide a second perspective is task-specific and, more importantly, is learned over numerous years. In their blog, Dark Room Mastering states, “With experience, reaching sonic accuracy is just knowing what needs to be done to produce the best results.”33 This view on mastering dovetails with the idea that mastering ensures a recording work across a variety of listening contexts. Gardner states, for example, that mastering can “correct tonal problems that hinder good translation of the music to all systems.”34 These ideas about mastering work productively for the practice for numerous reasons. Paired with the aforementioned framing of the practice as mysterious, mastering is constructed as such due to its so-called complexity and required skills. Moreover, symbolic capital consecrates a class divide within music production. The notion that mastering requires specific yet undisclosed knowledge and technologies works to delegitimize emergent small-scale production contexts. These approaches work to position music producers who practice within home studios—or on their phones—as illegitimate. Here, these music producers are not considered to possess the knowledge or the technologies to undertake this ostensibly important part of the recording process.

Discussions about analogue technology aesthetics within mastering are crucial to its position-
ing—and continuation—as a mysterious yet important process in music production. The ways
in which mastering improves the sound of a recording demonstrates this trend. Many argue it
can improve the sound of a “mix.” The blogger izotope, for example, says mastering “can involve
adjusting levels and general “sweetening” of the mix. Think of it as the difference between
a good-sounding mix and a professional-sounding, finished master.”35 The use of the term
“sweetening” does not merely describe a particular timbral sound quality. It is also politically
charged. It can be situated within a broader discourse of analogue technologies within music
production. As highlighted by Bennett, analogue technologies have become popular again
in recent years.36 They now possess considerable currency within music production. Before
these developments, Louise Meintjes argued that analogue technologies such as recording con-
soles are “fetishized.”37 Cultural constructions of value toward analogue technology arose in
response to the introduction of digital technologies in the 1980s. As demonstrated in the work
of Paul Théberge38 and Tim Taylor,39 digital technologies were implicated in debates about
authenticity and musicianship. Yet, in a timely reminder of the political dimensions within
these discussions, Denis Crowdy argues that such distinctions have become so nuanced that
they are often inaudible.40 Here, the idea that mastering is a mysterious yet crucial process,
works within a broader and complex political field. In this field, debates about aesthetics and
production contexts are put to work to negotiate field positions.

Comparisons between analogue and digital mastering highlight the ways in which ana-
logue aesthetics help frame mastering as a mysterious yet crucial part of music production.
Since the 1980s, digital technologies have been subjected to ongoing debates on legiti-
macy.41 Historically, expensive analogue technologies are associated with large recording
studios, and smaller studio setups typically comprise cheaper setups. As such, digital tech-
nologies are often necessary in these spaces. As a result, analogue technologies provide
a producive site of social distinction. This divide is present in mastering discussions. In
their discussion of the differences between analogue and digital mastering, for example,
Barry Gardner states, “Analog equipment excels at certain types of signal processing, and
without it purely digital mastering is leaving something to be desired.”42 He adds:

  06/what-is-mastering.html.
36. Samantha Bennett, “Endless Analogue: Situating Vintage Technologies in the Contemporary Recording
  & Production Workplace,” Journal of the Art of Record Production, no. 7 (2012). http://arpjournal.com/endless-
  analogue-situating-vintage-technologies-in-the-contemporary-recording-production-workplace/.
40. Denis Crowdy, “Chasing an Aesthetic Tail: Latent Technological Imperialism in Mainstream Production” in
42. Barry Gardner, “Analog vs digital in mastering” Music Think Tank (20 April 2013) http://www.musicthinkta
High end analog equipment has electrical energy passing through it, this energy is influenced by the components within, the components cause necessary fluctuations to that energy that are possible to calculate using maths. They also have secondary side effects. The circuits have lots of small traits that end up creating a small but distinguished character. This is very desirable in the world of static, sterile and perfect digital creations.43

Another mastering studio, Black Ghost Audio, states, “Analog mastering typically provides this unparalleled warmth that digital mastering has a very difficult time emulating.”44 An article in Sound on Sound argues that the use of analogue compression “helps everything gel together.”45 These ideas are also present in discussions about mastering. Gardner states that “Expensive analog equipment can subjectively improve on digital counterparts, analog equipment has circuitry which is almost alive and very difficult to emulate to perfection.” They add that analogue technologies “bring[s] something euphonic and unique to the processing which is very difficult to find elsewhere.”46

Recurring references to analogue technologies within discussions about mastering not only highlight the dominant tools used in the practice. More crucially, they further inscribe class divides within music production. It shapes distinctions that determine access to, and acceptable practices of, mastering. In particular, the qualification offered by the term “hi-end” technologies further constructs an economy of symbolic capital within the field. It produces an unattainable value system for producers who work outside of large-scale production contexts, and without access to these technologies. Moreover, the use of the terms “comes alive” and “euphonic” also reproduces a fetishized yet nebulous value system around specific approaches to mastering. Such discussions mobilize a wider value system within the field around analogue technologies for the benefit of large-scale production mastering engineers. Against the backdrop of overly nuanced analogue sound descriptors, analogue equipment further contextualizes the ways in which mastering is framed as a mysterious yet crucial part of the production process. Here, highly skilled professionals with access to exclusive technologies possess the necessary hearing skills required to master audio. Further, an appreciation for the nuances of analogue technologies is required in order to access the knowledge threshold to practice mastering. Producers with these skills acquire prestige and honor within the field.

NEW TECHNOLOGY AND ADAPTING THE “MYSTERY” OF MASTERING

In the past few years, discussions about the importance of analogue technologies in mastering have become even more crucial to the continuation of the practice. During this time, new technologies emerged that challenged large-scale mastering.47 In light of these

43. Ibid.
47. At this point, it is important to segment mastering that is undertaken in a specially designed space with analogue technologies to that which is an automated digital process. Therefore, ‘Large-scale mastering’ will denote the former type of mastering.
developments, the positioning of mastering as a mysterious yet crucial part of the music production process has become even more politically valuable. Landr is an online mastering service that provides an algorithm-driven automated process to prepare songs for consumption. It offers a cheaper and faster alternative to traditional mastering services. On its website, Landr displays an image of a single room, computer-based recording setup. It is similar to home studio setups and clearly distinct from large studios. This suggests Landr is marketed to small-scale production contexts. Landr can be situated within a longer history of technological developments aimed at small-scale production, which have posed a risk to large-scale production mastering. Although large-scale production style mastering has remained an important part of the music production process, several mastering plugins have emerged in the past ten years that are designed to help prepare recordings for consumption. Landr is distinct, however, because its computer algorithm automates these processes and skills for the user.

Reactions to Landr reproduce ideas that mastering is a mysterious and crucial part of music production. More specifically, these reactions emphasize the value of analogue technologies in mastering. In his blog, mastering engineer Brian Hazard argues that audio “mastered” by Landr does not have the “low end” one might expect to hear on a traditionally mastered recording. He argues the resultant sound is “thin” and “narrow.” In his analysis of another song, he adds that the Landr version was “ridiculously bright, edgy. And essentially unlistenable.” These terms reproduce value systems associated with analogue recording technologies. Terms such as “thin,” “narrow” and “too bright” are commonly associated with negative attitudes toward digital technologies. These ideas are put to work to argue that large-scale mastering remains crucial to achieving dominant social expectations about recorded pop music. Further, audio mastering studio SoundLAB states:

In plain English: LANDR listens to your music and applies general adjustments based on what genre it sounds like. That can lead to an overly processed sound, which may not live up to your quality standards. Our combination of trained ears and top-level hardware and software allows us to customize and optimize each track, providing you with a professionally finished product that suits your tastes.49

Similarly, Carriage House Music states:

A professional mastering engineer can also supply better equipment and unparalleled knowledge and skill. While today’s computers can help you perform basic mixing and mastering tasks, there’s no real substitute for the skills of a professional.50

One might read such discussions as merely an expression of ideas about mastering practice; however, such readings overlook a crucial point. The producers of this commentary are also among the largest beneficiaries of the continuation of large-scale mastering and, in

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turn, the market failure of Landr. As Sound lab suggests, they want producers to use their mastering services instead of Landr. Here, knowledge associated with mastering is put to work to delegitimize technologies that challenge the continuation of the practice. These arguments bring into focus the symbolic capital associated with mastering; however, such capital is further nuanced in response to Landr. Mastering itself is no longer merely mysterious and important. It is qualified that the practice also involves the use of analogue technologies.

THE MYSTERY OF MASTERING AND THE CONSTRUCTION OF SOCIAL DISTINCTION

When contextualized with the early history of mastering covered earlier in the article, approaches to contemporary mastering are distinct in numerous ways. In the first instance, contemporary mastering discussions tend to position analogue technologies as an intermediary between two digital files; one of which is associated with its production. The other prepares a song for distribution. The process is predicated on the idea that it enhances the sound quality—or aesthetics—of a song. In contrast, early approaches to mastering handled the transfer of audio from one medium to another. In the second instance, these approaches highlight the distinct political contexts of mastering before the 1980s. Unlike contemporary releases, for example, liner notes of 1960s- and 1970s-albums typically did not credit a mastering engineer. This trend demonstrates the symbolic capital associated with contemporary mastering is perhaps a relatively new concept. Therefore, the so-called mystery of mastering suggests that sound aesthetics and discourses created by attitudes toward analogue technologies are crucial for the continuation of mastering in digital contexts. With the introduction of digital technologies, mastering developed from a process in which audio is transferred between different analogue media, to one in which digital files are edited. The spread of digital technologies into home contexts posed a threat to the pre-digital principles of mastering. During the 1990s, many musicians had access to tools that both produce music and distribute it, either via a “CD burner” for duplication, or its upload to the internet. Put differently, they had the tools to transfer audio from the medium on which it was recorded to one on which it could be consumed. As a result, the aesthetics associated with mastering became more important for its continuation in large-scale contexts. The aforementioned discussions about who can master audio and where they can master audio, demonstrate the development of this approach. As a result, mastering has continued as another point of cultural distinction within the production process. Here, mastering practice requires specific and guarded knowledge. This knowledge ostensibly produces crucial outcomes for a recording.

The development of mastering as it is currently practiced prompts the question: who are its beneficiaries? The answer to this question lies in the social imbalances within the field and particularly the role mastering has played in continuing these imbalances. Systemic gender imbalances within the cultural industries have shaped the emergence and

continuation of mastering. Within pop music practice, women are poorly represented, even in ostensibly transgressive styles. Further, women who participate tend to be relegated to a narrow set of roles. These roles tend to align with both heteronormative representations and socially constructed ideas around authenticity. Styles and pop music scenes tend to be masculinized in both their gender representation and performances. These dynamics also inform how we might understand music production and mastering practice in particular. For Emma Mayhew, gender imbalances within music production are closely linked to patriarchal associations with producers. Across the articles, blogs and websites I collected during this study, none were authored by, or referred to the work of, women. While there are many professional female mastering engineers, men tend to dominate the field. This is also noted in industrial texts about recording more broadly.

As such, representations of mastering as a mysterious yet crucial part of the production process are, in many respects, gendered. In the 1980s, the development of contemporary mastering followed a period of social change concerning the role of women in music production. Women began to challenge and assume numerous roles in music that men had historically dominated. Carol Kaye, bass player of the Wrecking Crew, and Carole King, staff song writer, provide a few excellent examples. While the practical elements of digital technologies informed the emergence of mastering, the practice has also functioned as a means to maintain the masculinized social order of the industry. This is demonstrated in the construction of mastering as a “mysterious” part of music production. On the one hand, such representations do not exclusively exclude women. Rather, it has wider implications for musicians and producers outside of large-scale production contexts. On the other, this gendered discourse offers a productive gatekeeper within an industry that has traditionally resisted female participation. The work of Judith Butler is useful in how we might understand the role of gender in mastering. Butler argues that sex is separate from gender. Here, sex is a biological element, whereas gender is a social construct; a performance. These ideas interlock with representations of mastering as a mysterious yet important part of the production process. They suggest mastering, or more specifically its discussions, is a masculinized performance within music production. As such, symbolic

capital that frames mastering as a mysterious yet crucial part of the recording process is masculinized. Such ideas discourage moves toward more balanced gender representations.

MASTERING AS A CONTESTED CULTURAL FIELD

This article provides a critique of some of the dominant narratives that exist within the field of mastering. Although many processes associated with music production are unknown to much of the public as well as some involved in the production process, mastering is a distinct case as the reproduction of the term “mystery” structures the field. Previous work in both industry and the academy on mastering suggests that mastering is not a mystery, nor is it crucial, at least in the past ten years. The work of Shakhovskoy and Nardi shows that mastering is not the crucial link between musicians and audiences that it is often believed to be. Moreover, the broader body of work brings into focus many of the processes associated with the practice. This article builds on this important work to highlight the degree to which the framing of mastering as a crucial link is nonetheless significant to its continued existence. For example, this ostensibly mysterious and crucial practice contains tightly guarded knowledge about the use of expensive and exclusive technologies. These technologies work to obstruct anyone outside of this field from gaining knowledge about what the practice actually is. This article has also shown that as new technologies have challenged mastering, social constructions about the practice as a mysterious yet crucial part of production, work to maintain the social order of the field. The emergence of digital technologies and trends toward small-scale production that have disrupted music production more broadly, now also significantly challenge mastering. In the face of these challenges, long-standing ideas about the practice are put to work in political contexts. Mastering as a mysterious yet crucial part of music production has become more politically useful and more crucial to its continuation than ever. In order to adapt to these changing circumstances, discussions about mastering have also become further nuanced. They qualify that mastering must involve the use of analogue technologies. These technologies are distinct cultural objects associated with large-scale mastering, which new technologies do not reproduce.

This article demonstrates that Bourdieu’s idea of symbolic capital forms a productive framework for understanding the social construction of mystery of mastering. Against the backdrop of cultural capital as a key application of Bourdieu’s work within popular music inquiry, symbolic capital also works as an important form of currency within the field of mastering. The reproduction of terms “mystery” and “dark art” positions the practice as complex with a seemingly impregnable knowledge threshold. As such, this discourse produces “accumulated prestige” and the “consecration or honour” for those who practice and appreciate mastering. From here, agents have enough status within the field to further position mastering as a crucial part of the production process. Yet, cultural capital is also at work in the politics of mastering. Exclusive cultural goods are useful in maintaining the structure of the field. As cultural goods, analogue technologies are expensive to access

and require specific and extensive training. These cultural goods are used to convert, as Hibbett notes, cultural capital into symbolic capital.\footnote{Ryan Hibbett, “What Is Indie Rock?”} In this context, the cultural capital associated with technologies is put to work to construct ideas around mastering practice. Here, mastering practice is aligned with prestige and honor; however, such status is only acquired through access to privileged knowledge and exclusive analogue technologies. Against the backdrop of class and gender imbalances within the field, the social construction of mastering as a mystery brings further into focus the importance of a Foucaultian notion of knowledge—one based on power and discourse—within symbolic capital. The reproduction of mastering as a mystery works as a power play. It is a form of knowledge that guards crucial knowledge about practice. The limited circulation of knowledge about mastering practice maintains the social order of the field.

This article also offers a way to understand the role of the so-called mystery in mastering in political negotiations and tensions within the field of pop music production. In the first instance, it highlights the ways in which gender and class imbalances that are prevalent across many areas of the cultural industries also shape the field of mastering. Although further research might offer some quantitative data on female representation within mastering, the discussions of mastering—such as those that frame it as a mystery—are a masculinized performance. As a result, these performances largely prohibit diversity within the field, across both class and gender. In the second instance, mastering further continues the politics involved with sound aesthetics, which also shape consumption and production more broadly. Post-digital mastering approaches prescribe the use of particular cultural objects in order to align the practice with particular aesthetic values. A perceived necessity surrounding the use of large-scale production technologies in mastering shapes these ideas. As new technologies emerge that challenge large-scale mastering, the ostensibly large role of these technologies in constructing sounds has become more important to the continuation of the practice. These technologies can be contextualized within analogue sound discourse. Criticisms of Landr argue that “warmth” is a crucial component of sound aesthetics. They argue that such characteristics are not compatible with digitally automated mastering techniques. Symbolic capital within mastering practice also helps orient longstanding ideas toward digital technologies. More specifically, the ways in which mastering knowledge plays out in discursive spaces can be contextualized within a longer history of anxieties associated with digital technologies.\footnote{Paul Théberge, \textit{Any Sound You Can Imagine: Making Music/Consuming Technology}.} But earlier concerns about the inability of digital instruments to reproduce musicianship have been adapted to suit the emergent technological conditions. Criticism of Landr demonstrates that concerns now focus on the inability of digital technologies to produce analogue aesthetics. Here, cultural objects, values with cultural capital in music production are repurposed and deployed to maintain the so-called mystery of mastering and the structure of its political field. \[\blacksquare\]
REFERENCES


SoundLAB. “The SoundLAB at Disc Makers vs. LANDR.” (n.d.), Available at: https://www.discmakers.com/soundlab/soundlab-vs-landr/


