What is “Heavy” in Metal? A Netnographic Analysis of Online Forums for Metal Musicians and Producers

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ABSTRACT

Metal music studies defines “heaviness” as the genre’s sonic signature but has rarely explored the sonics or the related discourse. This study analyzes message boards to determine how music producers and musicians use the “heavy” metaphor in their discussions. Practitioners’ strategies employed to achieve heaviness are scrutinized to learn about what considerations influence their decisions. The findings suggest that while heaviness is based on a core set of musical features, it is open to appropriation, modification, and development. Heaviness has become a suitable impetus for the genre’s evolution and iconically represents what metal music stands for to its community.

KEYWORDS

Heaviness; home recording; metal music; music production; sonic metaphors

Introduction

Although “heavy” is one of metal music’s defining sonic characteristics (Berger and Fales; Herbst, “Heaviness”; Mynett, “Heaviness”), a comprehensive definition of heaviness does not exist yet. In academic and fan discussion, “heaviness” is generally referred to intuitively and subjectively, but, regardless, there is a consensus that it is a sought-after quality:

Metal history is most often summed up by metalheads as a progressive quest for ever-heavier music. A rich and complex concept differentially interpreted across scenes, “heavy” refers to a variety of textural, structural, and affective aspects of musical sound and is crucial for any understanding of metal. (Berger 58)

However, despite its fundamental relevance, a detailed understanding of heaviness in metal music is still missing more than twenty years after Berger’s writing (see Thomas 166).

This study is part of a larger funded research project that investigates how heaviness is created and controlled in metal music production. Although the project focuses on the technical aspects and challenges of shaping heaviness in recorded form, it must consider conceptual, discursive, and cognitive processes to mediate between the technical and the subjective. Given the relative lack of comprehensive theoretical and empirical inquiry into musical heaviness, with Mynett’s (Metal) metal production manual being a notable...
exception, this article fills a gap by examining the intersection of language use and musical practice, aiming to develop a more comprehensive understanding of musical “heaviness” in metal. Using a netnographic approach (Kozinets), fourteen online message boards for musicians and music producers are analyzed, determining: (1) how practitioners use the term “heavy” in their discussions, in which contexts it is relevant, and what the discourse reveals about the significance of heaviness in the genre; and (2) what strategies these practitioners apply to achieve heaviness and what considerations influence their decisions. The overarching research interest is to gain a systematic understanding of “heaviness” as a discursive term and musical concept used by practitioners in their “community of practice” (Wenger). We wish to better understand how the practitioners’ implicit conception of heaviness, latent in their discussions and based on “tacit knowledge” (Schmidt Horning), reflects their cognitive concept of metal’s important quality.

To establish a theoretical framework, the article begins with a discussion of musical features of heaviness in recorded metal music and of heaviness as a conceptual sonic metaphor. After outlining the research design, the systematic netnographic analysis of the heaviness discourse follows. The findings suggest that while heaviness is based on a core set of musical features created through the interplay of structural, performative, and production characteristics, there is openness to appropriation, modification, and development. That is why heaviness has become a suitable impetus for the genre’s evolution and iconically represents much of what metal music stands for to its community (Wenger): originality, authenticity, artistry and craftsmanship, rebellion, empowerment, agency, emotional support, community, and shared values. The appreciation of heaviness is tied to aesthetic value and to personal emotional attachments for the makers and audiences of the music.

Musical Heaviness

Heaviness is a term that defies simple definitions. Berger states that “any element of the musical sound can be heavy if it evokes power or any of the grimmer emotions” (59), linking the perception of heaviness to emotional and associative qualities. Other authors concur that there are different qualities outside the music that contribute to perceived heaviness. Music operates in a broader discursive field incorporating genre values and conventions that shape its perception. Kahn-Harris points to the fundamental importance of “transgression” in the (extreme) metal genre, and Hannan argues that a music’s difficulty and “seriousness” contribute to heaviness. For Mynett (“Heaviness” 66), heaviness is a discursive category that implies performance and structural approaches on the one hand and sonic characteristics on the other. These arguments suggest that discourses of meaning in the metal genre also affect perception and language use and that aspects other than musical or sonic features must therefore be considered when defining heaviness. Furthermore, understandings of heaviness seem to vary between subgenres of metal and between metal and other genres (Herbst, “Heaviness”), and they change over time (Berger and Fales; Herbst, “Historical”).

In addition to the associative complexity ascribed to heaviness, there are some considerations of musical characteristics of a “heavy” aesthetic. Berger and Fales argue that “while the term ‘heavy’ functions in a variety of ways, it is most commonly used to
describe guitar timbres and all of the other uses of the term are metaphoric extensions of this primary use” (181–82). There is broad support for the prominent role of the guitar (Herbst, “Historical”; Mynett, “Distortion”; Wallmark; Williams), whose distorted sound is considered the key signifier of metal (Kahn-Harris; Walser). Downtuning the instrument has been crucial to metal’s pursuit of greater heaviness (Berger and Fales; Herbst, “Historical”; Williams). Nevertheless, metal music’s impact and heaviness aesthetic also rely on the bass guitar and drums (Mynett, Metal), as well as on vocals with their noisy, nonharmonic, and distorted timbres (Kennedy; Mynett, “Distortion”; Smialek; Wallmark). Heaviness thus seems to derive from the balanced interplay of all instruments and vocals (Berger 58–59), though their functions and relative importance vary between metal subgenres, artists, albums, and songs (Mynett, Metal).

Most of the literature discussing heaviness examines it in the context of music production (Herbst, “Historical”; Mynett, Metal; Thomas; Wallmark; Williams). Mynett (Metal) declares heaviness the primary aesthetic of most metal productions, characterized by its core parameters of weight, size, density, loudness, power, aggression, energy, emotion, and intensity. As he points out, the production of heaviness cannot be reduced to a more-is-more approach, as it must balance competing qualities, most notably sonic weight and clarity (Metal 20–21).

Sonic weight is generally acknowledged as the primary production component because heaviness semantically suggests weight and implies great size or volume (Mynett, Metal 14; Thomas and King 512). Contributing factors are the double kick drum (Berger 58; Wallach, Berger, and Greene 10) and bass guitar (Mynett, “Distortion” 84; Weinstein 24), besides the emphasis on low pitches for all instruments (Wallmark; Williams). The spatial attribute of size is similarly linked to weight, evident in statements like “[b]ass guitar timbres are heavy when they give the aural impression of great size” (Berger 58). Both sonic weight and size need to be balanced with clarity, definition, and intelligibility. The performativic gestures of all instruments and vocals therefore need to be articulated clearly and audible in the context of the arrangement (Mynett, Metal).

Another set of perceptual and acoustic features concerns perceived proximity, density, and loudness. Realized via a combination of capturing sound close to the source and emphasizing attack transients through compression and equalization (Mynett, “Distortion” 74; Reyes 68–69), metal music must sound “in your face.” Sonic density is achieved by double-tracking guitars and occasionally vocals and is highlighted with compression and equalization, which enrich the sonic spectrum, sculpt transient information, and reduce dynamic range (Mynett, Metal; Zagorski-Thomas 214). As a result of coloration or more overt harmonic distortion, such audio processing also has the potential to increase perceptual loudness (Wallmark 67; Williams 56–57).

Production can only enhance the source material: the composition and its performance. As Berger notes, if they evoke “morose or aggressive emotions” (58), both can be considered heavy in and of themselves. Gestures and phrasing of instruments and vocals are essential to a heavy sound. It is easy to see how screaming, growling, grunting, or other extreme articulations change the effect compared to “normal,” clean singing (Wallmark 72–75). The same is true for instrumental performances; a drum kit or electric guitar sounds different when played “hard” or “heavy,” which is physically evident in the altered frequency spectrum and temporal envelope (see Mynett, “Heaviness” 68). Moreover, tight ensemble rhythmic synchronization creates shared note onsets that
increase rhythmic punch and sonic weight (Fenton and Lee; Mynett, Metal 20). Berger’s ethnographic work also suggests that a “stiff rhythmic feel is heavy and aggressive, whereas a looser feel is lighter and more “happy”” (59) (see also Thomas 189).

Compositionally, it has been argued that minor modes, tritone intervals, atonal riffs, and harmonic complexity contribute to heaviness (Berger 63; Hannan; Kahn-Harris 31; Walser 46). Opinions differ regarding the tempo and speed of rhythmic subdivisions. In line with metal’s tendency to become faster over time, some authors see fastness as a contributing factor to heaviness (Berger 59), while others argue that slow breakdown parts increase heaviness, especially when they emphasize low frequencies by palming-muting guitar performances and accentuating kick drums and toms (Kennedy; Smialek).

**Sonic Metaphors and Heaviness**

In recent years, music research has increasingly focused on the cognitive processes involved in the perception of sound. Cognitive linguistics is drawn upon to explain perception through image schemata and cross-domain mapping (Zbikowski) as a way to conceptualize and process the experiential domains of music and sound, for which there are few tangible representations in the mind. Embodied and ecological perceptions (Clarke; J.J. Gibson; Lakoff and Johnson) are fundamental to music, which is interpreted through the subconscious experience of bodily perception (Johnson) and the natural environment (Zagorski-Thom). Only through conceptual, metaphoric mapping is it possible to use language for phenomena for which there are no dedicated linguistic concepts.

Two different camps exist in semantic audio research. The first group strives for objectivity by linking semantic terms such as “warm” or “heavy” with acoustic signal properties (Holm Pedersen) and developing methods for analyzing sound as objectively as possible (Corey; Moylan). The second group rejects this approach because it does not explain why some listeners perceive a specific spectral composition as “warm” (Walther-Hansen). Proponents of the “objective” approach argue that sound descriptions correlate strongly with signal properties and the audio processing employed (De Man and Reiss). Such correlation allows audio professionals to mediate between metaphoric language and acoustic reality (Porcello). Still, by avoiding metaphors, “objective” approaches “lose the essence of the auditory experience” because the “cognitive basis of the words and their learned meanings are largely erased” (Walther-Hansen 6–7). Metaphorical descriptions thus reflect cognitive processes. Ontological metaphors are valuable for a meaningful analysis of sound perception because they provide valid judgments about sound and reveal insights into the cognitive functioning of sound perception (Walther-Hansen). They exist at the base level of our cognitive system and are unconsciously expressed through language. Analyzing language use hence allows conclusions to be drawn about subjective, culturally learned, and universal processes of sonic perception that are far less arbitrary than the term “metaphor” suggests (Walther-Hansen 15).

The literature on the conceptual metaphor of heaviness is relatively sparse. In practical audio engineering manuals, De Man and Reiss find only one source explicitly addressing heaviness, which reduces it to a simple technical parameter: the frequency area between 40 and 200 Hz (D. Gibson 119). Linguists Ryzhova, Rakhilina, and Kholkina analyze “heavy” in eleven languages and conclude that defining “heavy” is challenging because it
has no direct reference to any of the five perceptual senses. Meanings and associations of “heavy” differ between languages. In English, it associates with tactile weight, making it a metaphorical “object.” This assessment is consistent with Walther-Hansen, who regards “heavy” as a cognitively processed ontological metaphor of a physical object. As such an object, heavy items exhibit “force” tendencies; they are difficult to move, and when they “hit” something, they cause a profound impact (106). Acoustically, heavy sounds are best explained by their sonic spectrum. The emphasis on low frequencies is likely to cause a sound to be perceived as “heavy.” Also contributing to the sense of heaviness are a lack of reverberation, flattened dynamic envelope, great loudness, and distortion, which create a powerful and energetic sound (Walther-Hansen 106–07). Moreover, the perception of heaviness is dependent on the source. Regardless of the sonic spectrum, a distorted guitar is likely to be perceived as heavier than an oboe (Walther-Hansen 107). Finally, “heavy” is generally regarded as a relatively distinct semantic descriptor, yet it overlaps and correlates with other sonic metaphors such as “big,” “fat,” “thick,” and “full” (Walther-Hansen).

Method

This study used Kozinets’s approach to netnography as a form of qualitative research suitable for understanding the “cultural experiences that encompass and are reflected within the traces, practices, networks, and systems of social media” (14). Rather than a mere digital adaptation of conventional ethnographic methods, netnography is specifically tailored to the analysis of online traces through structured data observations (136).

Netnographic research chooses its data selectively to deal with the vast amount of information available online. Full capture is not required because a fraction of the data enables theoretical saturation (Kozinets 193). We chose fourteen message boards for music producers and musicians (see Appendix). These forums were scanned for statements about “heavy” at the level of individual posts. We included short statements like “full, heavy guitar sound,” trying to determine from the surrounding discourse what the semantic description stood for and what meaning it had for the discusants. We analyzed 520 threads. As to the characteristics of the sample, we considered that the experience of the musicians and producers ranged from relatively inexperienced to professional, with the majority being advanced and committed artists and technicians, on average.

Like much qualitative research, netnography benefits from data analysis software when working with large data sets (Kozinets 321–25). Using MAXQDA, we iteratively created and refined our category system in the process of open coding (Strauss). Coding continued until theoretical saturation (Strauss 263) was reached.

Heaviness in Online Message Boards

The data analysis led to four broad coding categories. The first includes statements that provided valuable insights into the discourse, concept, and ideological value of heaviness. The remaining three correlate with the tripartite division of the previous overview of musical heaviness: composition, performance, production. In the discussion of the following statements, reference is made to the academic literature to link our observations to scholarly considerations, some of which are theoretical and still require empirical
support. The analysis ultimately aims to provide a coherent overview of overlapping and interacting elements of heaviness and related concepts, as evidenced in practitioner discussions – the “community of practice” (Wenger). This investigation therefore connects the scattered reflections on heaviness in the academic literature and adds the perspective of metal musicians and producers to the only comprehensive audio engineering manual on metal music production, Mynett’s Metal Music Manual.

**Discourse and Language Use**

We found only a few threads explicitly discussing the term “heaviness.” The word “heavy” is instead primarily used subjectively, possibly with little thought. This observation is consistent with research claiming that “heavy” is an intuitively used ontological metaphor (Walter-Hansen). But statements are nonetheless questioned if a person’s understanding does not match their own definition, suggesting that attention is paid to the use of the word “heavy.”

In forums for music producers, “heavy” is commonly used as a denominator to qualify audio processing applications, which is the case with expressions such as “heavy EQ treatment,” “heavy limiting,” “heavy compression,” and “heavy distortion.” These idioms specify the degree of audio processing, “heavy” describing extreme processing considered characteristic of metal music (Thomas and King; Turner). A representative quote illustrates that a metal aesthetic can tolerate considerable sonic extremity afforded through drastic processing (see Turner): “Funny that people have asked me what triggers I used, and it’s really just not being afraid of EQ’ing the heck out of the kick drum, or anything for that matter. This is not jazz, nor is this a ‘purist’ situation we are talking about here. Why be afraid of EQ? It’s like saying, I want it to be SUPER heavy.” Any form of extreme processing, including audio editing and quantizing, is labeled “heavy.” Interestingly, the expressions mainly refer to modifications of dynamic range (compression, limiting) and frequency spectrum (equalization, distortion), which are among the primary tools for manipulating heaviness in record production (Mynett, Metal).

In line with the research literature, another observation was that “heavy” is generally used as a synonym for metal music (Mynett, “Heaviness” 66; Walther-Hansen 105). Even in threads not particularly referring to any genre, “heavy music” or “heavy bands” stands for metal. This notion is rarely challenged; only in some specifically themed threads about the “heaviness” of metal bands does a debate occasionally arise. Some describe traditional bands like Iron Maiden as “very metal” but not “heavy,” reflecting the genre’s pursuit of heaviness (Berger and Fales), where classic heavy metal bands have lost ground to more modern, extreme forms of metal. Indeed, most threads discussing the heaviness of metal explicitly highlight that perceptions have changed over time, as discussants realized when reflecting on their listening biographies or comparing their perceptions and tastes with those of younger generations of metal fans. Other threads discuss that different concepts and aesthetics of heaviness exist between metal subgenres, requiring distinct production approaches (Vento). In these threads, the superficial use of the word “heavy” is sometimes criticized:

“heavy” is just a word, and as such it has many meanings. I hate it when people start arguing over words, it’s the meaning that’s important, so when somebody says “Sevendust is heavy”
then instead of thinking “Sevendust aren’t heavy” it would be better to first try and see what their definition of “heavy” is. It’s similar to saying “Apples are round” and then getting a reply “No apples are NOT square.” In this case the word just happens to be the same (“heavy”). “Heavy” is like the words “metal” or “punk,” people have such different meanings for these words that any disagreement over “Slipknot aren’t metal,” “Sevendust are heavy” or similar shouldn’t be bothered with, because the arguments that follow usually result from different understandings of words.

Other discussants similarly highlight the subjective understanding of the term “heavy,” making these selected discussions more complex than most of the others, where the adjective is intuitively used. The complex meaning of “heavy” attributions is also why some discussants reject debating it, contending that certain sounds cannot be adequately described.

In threads explicitly and implicitly referring to heaviness, different concepts for the individual shine through. Even though the term “aggression” is often used in conjunction with “heavy,” it is not clear whether aggressiveness is a part of heaviness or whether the two terms just frequently come together because they mix well or benefit from each other. Indications for the first interpretation were found in statements such as “[t]o me heavy is about a mix between aggression and rage in music,” “[t]he guitars to me don’t sound heavy enough (aggressive),” and, for the second reason, “[i]n my mind it’s hard to top post-CFH [Cowboys from Hell] Pantera for sheer heaviness and aggression.” What exactly aggression contributes to the overall perception of heaviness remains unclear. Compositional and performative parameters such as speed and playing style may play a role musically, while frequency spectrum or proximity could be pivotal production-wise (Herbst, “Historical”; Mynett, “Distortion”; Thomas 190), or else, aggression could merely be an emotional attribution.

Another term occasionally used together with heaviness is “intensity” (see Mynett, “Distortion”; Walser 42). In the relevant statements, intensity rarely describes the music’s acoustic quality but instead the difficulty of listening to or “enduring” the music. Such an interpretation accords with research suggesting that both performative and structural difficulty are related to heaviness through associative seriousness and artistry (Hannan). Furthermore, extreme metal listeners pride themselves on learning to appreciate transgressive music (Kahn-Harris; Smialek). Other statements refer to “emotion” (see Berger 58), but these references are vague and rarely go beyond expressions like “[t]here’s an emotional component to heaviness too.” While some statements indicate that playing styles and expressive qualities like musical articulation are meant, others emphasize the importance of song lyrics (see Hannan). “Heavy” lyrical content is not limited to metal-specific themes of gore and occultism (Smialek; Weinstein) but also includes feelings of unanswered love. Another term that may be associated with emotion is “chaos.” As Wallmark argues, death metal is characterized by the dialectic between chaos and control, whereby the listener feels cathexis and catharsis, an emotional experience.

Most discussions about heaviness revolve around its relation to “brutality.” While some discussants see these terms as connected or even synonymous, as does Wallmark, most consider each distinct. The main reason for the confusion is that both “heavy” and “brutal” are associated with metal subgenres: “heavy” metal and “brutal” death metal, the latter being regarded by its fans as a particularly “heavy” form of metal (see Smialek). Furthermore, there is considerable disagreement about whether death metal bands
genuinely sound brutal. Some argue that “technical” playing does not necessarily sound “brutal” because brutality requires a “constant barrage of ‘noise’ to form a wall of sound,” for which they emphasize production’s relevance over performative and compositional features. Some discussants therefore suggest that different qualities call for more nuanced use of the terms “heaviness,” “brutality” (Wallmark), and “extremity” (Thomas and King; Turner). However, the explanations remain vague and are usually limited to comparing bands—for example, how a mainstream metal band with “weighty and forceful” riffs can be heavier than an extreme metal band. Weight and force accordingly do not necessarily correlate with technical playing or other extreme performative features.

We have previously pointed to metal research’s prevalent view that the distorted guitar tone is the essence of a heavy metal aesthetic (Berger and Fales). The online discussions are consistent with the academic literature; when “heavy” sounds are described, the statements usually imply the guitar. Discussions about what delivers the heaviest sound revolve around guitar models, pickup configurations, and amplifier choice. Besides, a heavy sound is always distorted; “clean” tones are not considered heavy (see Herbst, “Heaviness”). These discussions are balanced by many statements highlighting that “guitars aren’t the only element that dictate the ‘heaviness’ of a song” and arguing for the essential contributions of drums, bass, and vocals to a heavy impression: “Drums and bass have a huge impact on what sounds heavy. Mix that with an aggressive vocalist and it’s a recipe for an aggressive song.” This quote is another example of the overlap between heaviness and other descriptors like “aggression.” Notwithstanding the apparent individual differences in views and perceptions, the discussions show unambiguous agreement that “heavy” is a positive quality in metal music with an ideological value that encompasses not only musical but also emotional components (Berger 58), consistent with the scholarly literature (Berger and Fales; Herbst, “Heaviness”; Mynett, Metal; Thomas).

**Composition**

In line with the musicological view that heaviness results from a combination of structural, performative, and production aspects, a few statements emphasize the relevance of composition. The discussants concede that production quality is the overarching criterion but note that “production is somewhat overrated if the songwriting isn’t there.” While “brutality” can be achieved by fast tempi, technical playing, and extreme sounds, heaviness depends on “songwriting cleverness and some thought to really organically tap into that beastial headbang mode in the listener.” Quotes of this kind support the notion that heaviness is linked to emotion (Berger 58), which in this case motivates gestural responses to the music like headbanging. Another point is that production-based heaviness may be a relatively static attribute over the entire length of a song or album, whereas composition-based heaviness is specific to sections or riffs. For some discussants, a riff could indeed be heavy regardless of production quality or distorted tone: “For me, it depends on the riffs. A heavy riff will sound heavy even on an acoustic [guitar], and therefore even more so with some gain.”

Other statements point to the influence of comparative effects by suggesting that heaviness comes from the contrast between sections: “If you’re heavy all the time, you’re not heavy at all.” Breakdowns are occasionally highlighted as heavy parts compared to other sections due to their reduced tempo and groove qualities (Kennedy; Smialek).
Besides, breakdowns in metal seem to bear similarity to the buildup and drop in electronic dance music (see Turner). In EDM, the listener’s emotional experience is typically manipulated and intensified through production (e.g. filters) and changes to the arrangement, creating contrasts between the buildup and drop (Solberg). Metal music typically features no buildup to the breakdown; the breakdown shows merely through the contrast of the slower passage to the faster sections. The effect yet is presumably comparable to the drop in EDM. A sudden emphasis on the slower rhythm or groove (Kennedy; Smialek), accented by all instruments and played in a low register, releases tension from the fast rhythmic subdivisions and allows larger physical gestures by the listener. Changing tempo and feel, in conjunction with shifting production from clarity to sonic weight and vice versa, is therefore an effective way to maintain heaviness throughout the song’s length by alternating between different forms of heaviness. The observed discussions are in line with these considerations. Dynamic variation, achieved by manipulating loudness and density of the arrangement besides changes in tempo and level of rhythmic subdivision, is seen as essential to creating and maintaining heaviness. All these parameters are central to the emotional experience of music (Gomez and Danuser). Linguistically, structural contrasts are described as changes of “intensity,” which is further evidence of the relevance of emotional processes in the perception of heaviness.

Performance and Gesture

Another musical area associated with heaviness is performance. Several statements highlight the importance of playing gestures in creating the impression of heaviness. As one discussant emphasizes, “[i]t’s really all in the band’s “sound” to begin with. Sure, you can add some ‘colouration’ with different mics/pres/etc . . . .but it is mostly the band’s instruments and delivery that have the biggest determining factor in the end-result, no matter what style.” In line with music production research (Mynett, “Defining”; Thomas), a “heavy” metal production depends on a good performance, characterized by tight ensemble rhythmic synchronization and “hard” playing. These two criteria are repeatedly emphasized in the discussions.

Performance precision is reflected in statements such as “[r]hythmic tightness is actually more important for a heavy sound than a lot of low end” and “I sometimes have to edit guitars and bass pretty heavily if the band is not rhythmically tight enough to sound properly ‘heavy.’” The instruments must rhythmically lock together to create the impact needed for a heavy aesthetic (Mynett, “Defining” 300). Highlighted for all instruments are “hard” and “heavy” playing gestures. Bassists frequently speak of a “heavy hand” and guitarists of “heavy picking,” usually in connection with palm-muting the strings to emphasize the low end for a “chuggy heavy” impression or “heavy chunk” (see also Mynett, “Defining” 306–07). Drummers refer to several heavy gestures, sometimes linked to playing styles or types of equipment. A “heavy hitter” is a drummer who produces a good tone for metal because hard hits create more energy (see Mynett, “Heaviness” 68). As some discussants argue, drummers who do not hit sufficiently hard commonly require sample reinforcement, which could be avoided by good performance: “You can get that drum sound out of real drums as long as the drummer is good. A lot of the drums that sound like samples
are actually real drums, Shadows Fall for example. But the drummer has to hit the drums. It’s just EQ and compression after that.” The level of musicianship has generally gone up (Thomas 204–07), so disproportionately increased complexity or tempo may explain why many drummers do not hit hard enough to produce the desired tone.

A “heavy backbeat” is sometimes mentioned, usually in conjunction with the snare drum’s specific sound. Heavy playing gestures include the use of double kick drums because of extremity and a more solid low-end floor that can be physically felt (Mynett, “Defining”). Blast beats (Mynett, “Defining”) are among the most extreme drum styles and are described as “heavy” and “brutal.” As for equipment, there are frequent references to “heavy cymbals” and “heavy sticks.” While sometimes the physical weight is meant for cymbals, some statements also suggest the existence of a “heavy cymbal sound,” but it is rarely defined apart from a clear attack “ping” instead of sustained “wash” on a ride cymbal. With drumsticks, “heavy” also corresponds to a physical weight that facilitates more forceful playing. It might be that heavy playing gestures are valued only for their acoustic qualities. However, we observed that the importance of emotional qualities related to heaviness likely extends to gestures. Playing an instrument “hard” and “heavy” is associated with expressive articulation (Gomez and Danuser), thus transferring the player’s emotional state to the music. It has been claimed that the playing enhanced by metal’s powerful production aesthetic empowers its listeners by sheer loudness (Wallach, Berger, and Greene; Weinstein 23). Hence it stands to reason that metal fans understand and appreciate the emotional qualities inscribed in the music through performance. Walser regards distorsion as a “sign of extreme power and intense expression” (42). Since distorsion is created by extreme physical exertion and emotional arousal at the level of sound production from both instruments and vocal voice (Wallmark, Iacoboni, Deblieck, and Kendall), and by overloading an audio system with a loud signal, playing gestures may function similarly to distortion, with “heavy” playing enhancing the emotional impact of a heavy aesthetic.

Another area perceived as important for heaviness revolves around tempo and groove. The statements support various theories in metal research about how tempo relates to heaviness. Advocacies are found for both fast (Berger) and slow (Kennedy; Smialek) performance qualities, yet significantly more for slowness, with explanations like these: “Heavy is different from fast . . . heavy usually comes from a slower tempo”; “‘Heaviness’ is basically a function of pitch, distortion and tempo. Low pitched, thickly distorted riffs played at slower tempos are going to produce the effect of heaviness”; and “slow is heavier than fast . . . . The physical presence of a wall of bassy sound leaning on you. Fast and heavy is more like an earthquake shaking you, but it just doesn’t seem as ’weighty.’” These three quotes support the notion that sonic weight (Mynett, Metal 14–16) is the main determinant of perceptual heaviness as a metaphorical physical object (Ryzhova, Rakhilina, and Kholkina; Walther-Hansen 9). Historical and genre-specific reasons (Berger and Fales; Herbst, “Heaviness”) seem to play a role in this context. Several statements indicate that music journalism has used “heavy” primarily for slow, doom-type metal in the tradition of Black Sabbath and that the associations had already been formed before punk-influenced thrash metal bands such as Metallica and Slayer emerged. Expressions like “heavy doom” are common, and bands that have become faster and thus less heavy over time are cited as examples.
Although not as common, there are statements connecting groove with heaviness—for instance, “I believe heaviness is groove-based. i.e.: the more you feel like banging your head, the more heavy something is.” What groove is in a metal context is difficult to determine because deviations from the metrically correct rhythmic position as in soul music (Danielsen) may be less appropriate in a metal aesthetic valuing ensemble rhythmic precision (Mynett, "Defining”; Thomas 194–96). Some statements mention a “heavy groove,” suggesting compositional rather than performative qualities in the way the rhythms of the individual instruments complement each other. In any case, the various perceptions contradict Berger’s finding that, for metal fans, rhythmic rigidity contributes to heaviness (59). Other expressions suggest a combination of structural and performative qualities: “I still think Pantera are up there with some of the most brutal, aggressive and heavy tones. That super tight high gain tone mixed with bouncy riffs and the right amount of space between the notes/drums . . . it just works. It’s almost got a groove to it and that is what makes it so heavy.” The quoted explanation remains vague, but it may be that the “tight” force qualities (Walther-Hansen 117–19) of power mixed with slower rhythmic subdivisions (“space between the notes”) allows for more sonic weight. From an engineering perspective, the slower the subdivisions, the more production can prioritize weight over clarity (Mynett, Metal 14–20).

Production

In purely quantitative terms, references to production significantly outweigh those to composition and performance, and many of the interpreted statements about performance and composition reveal connections to production requirements or aesthetics. Production thus seems to be a crucial musical parameter for the generation of heaviness, which accords with the metal research literature, where heaviness is most explicitly discussed from a music-technology perspective (Herbst, “Historical”; Mynett, Metal; Thomas; Wallmark; Williams).

Creating heaviness in metal production is a balancing act, especially between sonic weight and clarity (Mynett, Metal 14–20), a challenge confirmed by the analyzed discussions. Whether for the sounds of individual instruments or the entire mix, practitioners discuss and ask for help in achieving a heavy yet “tight,” “defined,” or “clear” sound. Frequent examples are guitar distortion level and low-end boosts and balancing kickdrum low-end “thump” with the high-end “click.” Sometimes “tightness” is contrasted with “looseness,” which, as interpreted from the context, is less a performative attribution than a matter of spectral size and density created by layering multiple similar sound sources, especially guitars, to create a heavy “wall of sound” or “wall of distortion” (see Zagorski-Thomas 214). Acoustically, distortion reduces clear note onsets (Herbst, “Shredding”), implying that spectral size lacking dynamic nuance is the opposite of tightness, defined by clear rhythmic articulation and restricted frequency spectrum. Mynett’s (Metal 14–20) claim that sonic weight is favored by distortion and spectral density and must be balanced with clarity and tightness finds broad agreement in the discussions.

Another set of criteria for heaviness discussed in metal research is that of loudness and proximity, essential for creating the “in your face” sound desired in metal (Mynett, “Distortion” 74; Reyes 68–69; Wallmark 67). Discussions stress the importance of
capturing sound close to the source to obtain a direct sound and to avoid excessive reverberation for all instruments. To give examples for drums: “I also usually go with a heavy reliance on close mics, low balance of overheads, and very little room mic level . . . Sometimes a short reverb, sometimes not” and “It sounds like you are going for a modern death metal sound so you will need to close mic each individual drum . . . a tight, dry, compressed and close [sound] is something they are going for.” Furthermore, close-miking emphasizes low frequencies due to the proximity effect, which not only adds sonic weight but also produces a more “scooped” sound with a pronounced high end and low end that create the impression of great loudness regardless of the signal’s actual volume (Mynett, “Distortion” 73–76; Wallmark 67). The resulting direct and loud sound concurs with Walther-Hansen’s (104–07) criteria for heaviness.

Directness can also be increased by compressing the dynamic range in audio signals that do not contain pronounced ambiance, as the compression would otherwise amplify the ambient impression. It is therefore not surprising that compression is often discussed for individual instruments and the entire mix. Compressing the mix “glues” the sounds together, creating a homogeneous and spectrally dense sound with more consistent volume (Mynett, Metal 335–42). As discussants point out, more compression yet does not equate to greater heaviness because “over-compression” reduces the metaphorical force qualities of heaviness (Walther-Hansen 16, 104–07), largely by diminishing it to the metaphorical weight of a physical object without the “punch” attribute (Fenton and Lee). For advocates of this opinion, heaviness requires metaphorical weight and force. The kind of compression applied to individual instruments varies considerably. Compressing guitars seems relatively uncommon, which can be explained by the already reduced dynamic range of the distorted tone (Herbst, “Shredding”). Some discussants state that they compress guitars for coloration to achieve more aggressiveness; others use spectrum-specific multiband compression to “tame” excessive low end on palm-muted notes, adapting audio processing to gestural features (Mynett, Metal 244). Bass signals are commonly “heavily” compressed as part of the instrument’s tone to provide a solid low end crucial for sonic weight (Mynett, Metal 234–36). Vocal compression is applied with similar intentions: to enhance qualities like aggression (“heavy compression and limiting is a large part of the “sound””) and to significantly reduce dynamic range to keep the voice “up front” (Mynett, Metal 245–49). For drums, compression works to reduce dynamic range for loudness, shape the envelope for improved “force qualities,” and glue the various microphone signals together for cohesion (Mynett, Metal 233–34). There is a certain ambiguity between cohesion and separation when it comes to drums. They need to sound cohesive altogether, yet each instrument must be intelligible (Mynett, Metal 191). Intelligibility is achieved by waveform-edited or noise-gated drum tracks that separate the hits from the spill of other components, allowing for independent audio processing of each drum component (Mynett, Metal 192–200). It can be concluded that, for some discussants, precisely this balance between cohesion and separation is a contributing factor to heaviness, exemplified by this quote: “The drums on . . . are f***ing HEAVY, and clear, and you can hear every piece of the kit. Just a great, heavy production.”

In line with heaviness as a metaphor for sonic weight (Ryzhova, Rakhilina, and Kholkina; Walther-Hansen), numerous expressions refer to the pronounced low end of a mix or instrument, not only aurally but also viscerally as a bodily felt experience
(Wallmark 67). Walther-Hansen suggests that heaviness bears similarities to related conceptual metaphors, which is reflected accordingly in the discussions. They frequently mention the “beefy, heavy sound,” the “full, thick, heavy sound,” the “rich, full, heavy sound,” and the “bass” or “deep heavy sound.” “Heavy” is presumably the desired basic sound that facilitates customization by adding further compatible tonal attributes and related associations, even though they may overlap acoustically. Drawing on Walter-Hansen’s lexicon of sonic metaphors, “fat” sounds have a pronounced low end below 250 Hz, “full” sounds are rich in overtones, and “thick” sounds consist of several layers. All these acoustic features are part of the overarching concept of heaviness, and the use of further descriptors may be understood as a strategy to specify different kinds of heaviness—for example, full of low-end (“fat”) or high-end (“rich”). Other modifiers are associative. For example, a “nice heavy dark sound” can be explained by a reduced high-frequency spectrum, but darkness has genre-specific connotations. In metal it has emotive qualities such as sadness, evilness, or mysteriousness (Wallmark; Walther-Hansen 98–100). Modifiers to the heavy basic sound can therefore be employed to specify tonal aesthetics or associative and emotional attributes. Technically, taming low end and balancing weight with tightness are discussed at length.

The high-end frequencies are addressed relatively rarely or only implicitly. High frequencies are important for definition, tightness, and punch (Fenton and Lee; Mynett, Metal 13–21, 218–20; Williams). But it is technically difficult to introduce high-end frequencies without adding harshness or abrasiveness (Mynett, “Distortion” 77), which is a challenge for some discussants. Middle frequencies are discussed in detail. Metal research has emphasized the importance of a mid-scooped (guitar) sound (Berger 58; Herbst, “Historical”; Wallmark 69–70). The discussions deal with “scooping” on the level of individual instruments, not the whole mix. Contrary to the widespread notion of this preferred aesthetic, most statements highlight the need to preserve midrange frequencies to achieve a “heavy” metal sound. Such statements are frequently found in forums for music producers rather than musicians, making scooping more of a technical than an aesthetic or emotive consideration. Producers usually warn against “over-scooping” guitars (see Mynett, Metal 294–302), arguing that a “good heavy metal tone is always very mid-heavy”; “the bite of a tone would actually not be due to its high frequency content, but would rather be achieved by boosting a certain frequency area in the high mids spectrum”; and “you would want enough mid range frequency content in your tone to make it clearly distinguishable, defined and articulated in a mix.” Middle frequencies are considered essential to make a mix work technically and are also thought to contribute to desired qualities such as “bite,” “aggression,” and an “in your face” sound, as well as qualities closely related to heaviness, like “thickness.” Discussants also caution against a scooped bass-guitar sound so as not to lose intelligibility, although scooping is less often discussed for guitar. Interestingly, the drums’ frequency spectrum is rarely discussed, even though it is the instrument in a metal production for which a scooped spectrum is least problematic, sometimes even essential (Mynett, Metal 253–305).

Layering is discussed for vocals and all instruments except drums. It most closely relates to the “thickness” metaphor (Walther-Hansen 100–02), but, acoustically and technically, layering is essential for a “heavy” metal sound (Herbst, “Historical”). Layering guitar tracks is the most common technique and is thus discussed at length.
Historically, the number of guitar layers increased to four by the 2010s (Herbst, “Historical”), though many producers have returned to two guitars (Mynett, Metal 134–37). The decision whether to record two or four guitar performances depends on the intended aesthetic—two guitars for more clarity and tightness, four guitars for sonic weight and size (Herbst, “Historical”; Mynett, Metal 134–37). The observed discussions do not allow a clear conclusion as to whether more tracks are considered heavier. Corresponding threads rather discuss the technical implementation. In the discussions, it is generally agreed that more guitar layers require less-distorted guitars to retain clarity and tightness, even when aiming for “hugeness,” sometimes characterized as a “wall of sound.” Blending slightly different sounds produced by different guitars, amplifiers, or other tone-shaping devices is recommended to increase sonic density and thickness (see Herbst, “Historical”; Mynett, Metal 137–41). Structural considerations, such as arranging different octaves or chord inversions, are rare. However, there are broader arrangement considerations, especially regarding the guitar’s interplay with the bass. As with the decision about two or four guitars, producers must decide whether they want the guitar and bass to be two separate entities or one unified sound like a meta-instrument (see Mynett, Metal 145–46). Both options can yield a “heavy” aesthetic, but most statements indicate a preference for blending because it contributes to the “wall of sound” effect:

The guitars and bass need to work together to create one big sound. Most of the time you are not trying to get separation between these instruments, you are trying to build a wall of sound.

The thing about heavy guitars in a mix, people forget that it’s the bass doing a lot of the work as well, and it’s the combined effort of both that creates the overall heaviness.

The guitars will sound thin by themselves but the heaviness will come when blended with the bass.

I like to have the bass do most of the heavy lifting too, the guitars really just add harmony and harmonic content to the foundation of the bass.

The last quote is particularly interesting because it metaphorically highlights the “heavy lifting” the bass contributes to heaviness. As a primarily physical-object metaphor, “lifting” is the most common of the three lexical markers for “heavy” in English, alongside “shifting” and “weighing” (Ryzhova, Rakhilina, and Kholkina 191–92). While the electric guitar generally receives the most attention in the context of metal music and its desired heavy sound (Berger and Fales), the essential role of the bass is sometimes overlooked (Mynett, “Distortion” 84). As the quote suggests, the bass does the “heavy lifting,” and the guitars merely add harmonics and the iconic distorted tone (Walser 41). Moreover, the guitars contribute to size because their heightened overtone spectrum widens the frequency spectrum laterally and vertically by occupying the sides of the stereo field (Herbst, “Historical”). The bass is difficult to localize in a stereo field, and so the guitars must create the desired width of the wall of sound: “I would never pan a heavy guitar part anywhere other than left, centre or right . . . If you want size, go wide” (see Mynett, Metal 203–08).

In the context of the bass, layering is somewhat different from the guitar. Very few threads discuss blending different performances. Although recordists are generally encouraged to experiment, experienced producers suggest that the result is rarely
convincing because slight timing deviations do not improve thickness, as with the guitar (Herbst, “Historical”), but rather create a sloppy performance impression. Blending different tones created from the same signal is recommended instead to combine different tonal and expressive attributes (see Mynett, Metal 143–53). Motivations range from aesthetic (e.g. “fattening up”) to technical (e.g. sculpting specific frequency areas to make them work with other instruments that occupy the same sonic space) (see Mynett, Metal 253–305).

Layering vocals is a common strategy for increased heaviness. Unlike guitars, discussants recommend avoiding doubling the same performance but blending different articulations or pitch ranges: “[A] popular thing to do is if you double the screams, one high and one low, throw a bunch of reverb on the low one to make it sound huge.” Whereas doubling merely thickens the vocals, blending different articulations creates an otherworldly sound because vocalists naturally cannot sing in multiple voices. Layering whispers, growls, screams, and other articulations can evoke associations of evilness (Wallmark) and metaphorically expand the perception of heaviness. Some discussants recommend using different microphones for different vocal styles to increase tonal difference and extremity (see Mynett, Metal 156–62). Audio effects such as compression, equalization, reverb, and delay can further support the production of extreme tones per the discussions.

In metal literature, it is argued that guitar distortion plays a fundamental role in a “heavy” metal aesthetic (Berger and Fales; Herbst, “Historical”; Mynett, “Distortion”; Wallmark; Williams). It is therefore not surprising that distortion’s effect on heaviness is frequently discussed in a guitar context. Many of the tonal and emotional modifiers discussed previously are present. The most common distortion effect is “thickening” the low end (Williams), often combined with palm-muted phrasing (Mynett, “Defining” 306–07). In line with audio engineering best practice, most discussions acknowledge that too much distortion makes the guitar sound less heavy (Mynett, “Distortion,” Metal 14, 59–61). As one statement explains:

[Y]ou should be careful about adding too much gain, which is a very common mistake when people want to dial in a heavy distortion tone, less gain will actually often work better for this, cause at a certain point more gain will in fact make your distortion sound less heavy, since you gradually loose [sic] the sense of impact and attack the higher you turn up the gain, beside contributing to generally loosing [sic] definition and articulation, really making the character of the distortion more mushy than heavy sounding.

This quote provides further evidence that heaviness cannot rely on the sonic-weight metaphor alone but requires the action metaphor of “force” and thus “clarity” and “tightness” (Mynett, Metal 14–21; Walther-Hansen 104–07).

Distortion in metal music is not limited to the guitar. Bass players use it for “heavy dirt” but must be careful not to lose note definition (Mynett, Metal 145–46). Whether distortion is used for aesthetic or emotional reasons is unclear from the discussions. Producers discuss how they blend layers of “clean” and “distorted” sounds to manufacture a heavy tone that works in a mix (Mynett, Metal 143–53), with explanations mainly pointing to technical challenges in audio processing. Distorting drums is seldom discussed concerning heaviness, which may be surprising given that professional producers commonly saturate room microphones to add perceived size and density while distorting
the snare for perceptual loudness (Mynett, “Distortion” 83). In contrast, vocal distortion is
highlighted in discussions to help the voice stay up front amidst the wall of sound (see
Mynett, Metal 325–29).

Sonic weight is tied to pitch, and therefore the observed discussions often debate
tuning (see Mynett, Metal 50–54; Wallmark 70–71). Historically, guitar and bass
tunings have been lowered (Berger and Fales; Herbst, “Historical”), but observed
opinions about them are more varied than expected. Proponents of downtuning
claim that low pitches are essential to modern metal and, because of weight, funda-
mental to a heavy sound (Williams). Opponents counter that downtuning that lacks
tightness easily leads to a “sludgy mess” and that the common notion that lower notes
equate to greater heaviness is wrong. But, instead of substantiating their claims, they
merely assert it is the riffs and not the tunings that matter. The relevant threads
nevertheless give numerous examples of bands that sound heavy in standard tuning
or minimal downtuning. About drumming, metal production guidance recommends
tuning the drums as low as possible for a weighty aesthetic (Mynett, Metal 43–47). But,
in the observed threads, drum tuning is rarely discussed concerning heaviness. Low-
tuned toms are occasionally mentioned in search of “super heavy poundy toms.” There
is also talk of “big kicks” that most likely result from a combination of low tuning,
wave-shaping, equalization, and sample reinforcement (see Mynett, Metal 35–48, 17–
186, 216–25, 262–69).

In production-oriented metal research, the genre’s aesthetic has been described as
increasingly hyper-real, largely due to drums being performance-improved and sonically
enhanced through sample reinforcement or replacement (Mynett, Metal; Thomas;
Williams). It can therefore be expected that drum samples are an important production
technique used to increase heaviness when other parameters may be reaching their limits.
Surprisingly, drum samples are relatively little discussed in the context of heaviness.
A rare statement says “[m]ost guys I know who do a lot of really heavy stuff are pretty
into using samples with their drums to make everything feel really hyper defined.” This is
not to say that samples are not discussed or used, but the reference to heaviness is seldom
made directly. Discussions instead tend to focus on audio processing strategies, such as
mixing layers of different samples and tones and making the blended sound work in the
wider arrangement (see Mynett, Metal 177–200).

Discussion and Conclusion

Heaviness is generally recognized as the “defining feature” of the metal genre (Berger and
Fales 181), yet much of the existing research has merely considered it in passing, without
defining it based on a theoretical framework grounded in empirical evidence. One
exception is Mynett’s handbook (Metal), which covers all phases of record production
from preproduction to mastering, drawing on his professional experience and interviews
with recognized producers in the genre. The present study fills a gap in that it extends
Mynett’s professional account of producing metal from the varied perspectives of metal
musicians and producers and systematically connects the scattered academic reflections
on heaviness, showing where scholarly debates and practitioners’ experiences meet.
Aside from slight deviations in a few musical criteria such as tempo, rhythmic subdivi-
sions, technical extremity, and groove, our findings suggest that the observed practitioner
discussions agree with multidisciplinary academic considerations and the scholarly metal music production literature on the main musical characteristics of heaviness.

Musical heaviness in the metal genre seems to be based on a nucleus of commonly accepted features: weight, size, density, loudness, power, aggression, energy, emotion, and intensity, conveyed through harmonic distortion, composition, and performance (Mynett, Metal). Besides general academic understanding that heaviness is predominantly defined by sonic weight and slowness (Smialek; Thomas), the observed discussions highlight the relevance of additional “force” qualities (Walter-Hansen). It appears that a one-sided focus on weight for many metal practitioners does not lead to ultimate heaviness unless such weight is conveyed with power and energy (Mynett, Metal; Thomas). In other words, a merely “sluggish” sound does not convey heaviness, because force is required for an impactful effect. “Heavy” playing gestures with clear attack transients produce this force or “punch” (Fenton and Lee), ideally enhanced by audio processing such as wave-shaping and equalization, and structurally supported by other instruments in the arrangement (Mynett, Metal, Mynett, “Defining”). Conversely, a production aesthetic that focuses overly on force qualities by emphasizing transients and high-frequency energy is unlikely to be perceived as heavy, because sonic weight is fundamental to heaviness, about which both practitioner discussions and academic discourse are in agreement.

Besides the described musical core features of heaviness, the concept is sufficiently open to modifications, different foci, and extensions, allowing for appropriation and customization by individuals to accommodate personal tastes, as well as differentiation between subgenres. Metal practitioners unanimously value heaviness but enrich it with concepts or qualities that personally matter, informed by musical preferences and their background as producers or musicians. Countless examples were found, spanning references to aggression, intensity, chaos, and brutality; the varying importance of composition, performance, and production; and the preference for cohesion versus separation or sonic weight versus clarity. This openness makes heaviness meaningful as an expressive and aesthetic tool for individuals who create or consume metal music. Moreover, it facilitates the exploration of new forms of expression that are personally meaningful and aesthetically interesting to their creators and audiences, likely explaining the genre’s historical pursuit of greater heaviness (Berger and Fales).

The importance of emotion regarding heaviness (see Berger 58; Zagorski-Thomas 215) is one of the most interesting observations in this study. Previous metal research has emphasized the emotional functions of the music, especially concerning listener empowerment (Wallach, Berger, and Greene; Weinstein). While empowerment is also a personal function, it is mainly sociological. The observed discussions in the online forums, on the other hand, indicate a strong engagement with the sonic aesthetics of heaviness, which is likely to be motivated less by societal functions than by personal identification and satisfying contemplation, in addition to communal interaction (Wenger). Heaviness is far more than metal’s “defining feature” (Berger and Fales 181) with ideological significance to its audiences; it is deeply linked with the individual. Musicians create and shape their own notions of heaviness on their instruments or voices to mark their artistic personality and to support their expressiveness, and producers consider the crafting of heaviness in the processes of capturing performances and engineering recordings their ultimate goal and sign of the quality of their work (Mynett, Metal). Audiences who value artists’ and
recordists’ craftsmanship appreciate such efforts and likewise the emotional link to the creators established through the carefully forged recorded medium. Heaviness is more than a cherished sound aesthetic. Especially in a recorded medium that lacks interaction and the signifiers of live music, heaviness is an expressive vehicle and a complex, meaningful communicator that iconically represents much of what metal music stands for: originality, authenticity, artistry and craftsmanship, rebellion, empowerment, agency, emotional support, community, and shared values (Kahn-Harris). As an artistic means of ideological significance in the genre, open to modification and development, it will continue to drive progress in metal music and remain meaningful to its creators and listeners.

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Data Access Statement

This study is based on forum threads and posts in the online message boards cited in the Appendix. All data are publicly available in these forums. The data were analyzed with the qualitative content analysis software MAXQDA, and the project file can be accessed at this location: https://doi.org/10.34696/fseq-8w87
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# Appendix

List of Analyzed Online Forums

| No | Forum name     | URL                                                |
|----|----------------|----------------------------------------------------|
| 1  | Audio Fanzine  | https://en.audiofanzine.com/homestudio/forums     |
| 2  | Basschat       | https://www.basschat.co.uk                        |
| 3  | Drumchat       | https://www.drumchat.com/forum.php                |
| 4  | Drummer World  | https://www.drummerworld.com(forums/index.php     |
| 5  | GearsLutz      | https://www.gearsLutz.com/board                   |
| 6  | Homerecording  | https://homerecording.com/bbs                     |
| 7  | Recording      | https://recording.org                             |
| 8  | Sound on Sound | https://www.soundonsound.com/forum                |
| 9  | Talkbass       | https://www.talkbass.com/forums                   |
| 10 | TapeOp         | https://messageboard.tapeop.com                   |
| 11 | The Fretboard  | https://www.thefretboard.co.uk                    |
| 12 | The Gear Page  | https://www.thegearpage.net/board/index.php       |
| 13 | Ultimate Guitar| https://www.ultimate-guitar.com/forum             |
| 14 | Ultimate Metal | https://www.ultimatemetal.com/forum               |