Conclusion

The "Other Music"

"The song," sings Blixa Bargeld, frontman of the German band Einstürzende Neubauten, "sleeps in the machine."[1] It is awoken when you press play. Grooves in vinyl, magnetized particles on tape, or pits in a plastic disc are turned into electrical currents, which are then transduced into sound waves that flow from loudspeakers. In some cases, the resulting music resembles what live musicians play on acoustic instruments before an attentive audience in a concert hall. Their voices and instruments set air into motion, generating sound and noises that form melodies, harmonies, and rhythms, whether simple or complex, consonant or dissonant, uplifting or melancholic. Even if a work of recorded music appears identical to that heard in such a live performance, however, the song sleeping in the machine is different, on account of the different journey that it took from sender/musician to receiver/listener. Just as the size of the concert hall, temperature of the air, size of the audience, fabric of the chairs, and paint on the walls all affect the sound of a live performance, each transmission channel in between source and destination shapes the song in the machine. What is more, most of the music we hear around us these days could never have been produced without these machines and cables—these gates and passageways, these filtering channels—shaping its sounds. The machine, then, is a fundamental part of the song. This book has been an attempt to come to grips with what this means for the sound and significance of music.

"I do not know if talking of filters," Serres writes hesitantly, "will help us understand how thunder, noise, the vibration of sound waves [. . .] subtly become meaning."[2] In response to Serres's uncertainty, I would like to reply

[1] Blixa Bargeld, *Headcleaner: Text für Einstürzende Neubauten/Text for Collapsing New Buildings* (Berlin: Gestalten Verlag, 1997), 126. Bargeld's phrase is clearly a play (or media technological update, if you will) on the famous High Romantic poem *Wünschelrute* (*Wishing Wand*) by Joseph von Eichendorff, published in 1838: *A song sleeps in all things around / Which dream on and on unheard, / And the world begins to resound, / If you hit the magic word.* "Wünschelrute," Wikimedia Foundation, last modified December 14, 2017, 19:42, https://en.wikipedia.org/wiki/W%C3%BCnschelrute. Many thanks to Alexander Rehding for pointing this out.

[2] Serres, *Senses*, 115.

The Logic of Filtering. Melle Jan Kromhout, Oxford University Press (2021). © Oxford University Press.
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emphatically that it does. Over the course of these five chapters, I have explored phonographs and gramophones, magnetic tape recording and analog-to-digital converters, dual-ended noise reduction and dither, sine waves and Dirac impulses. In short, I have considered all the information channels that produce the sound of music in the age of technical media. Having analyzed these channels' primary role in shaping the signals they transmit, I think it is abundantly clear that talking of filters has helped us understand how sound media bring forth what Kittler calls "unforeseeable, unthinkable, unimaginable acoustic events"—singular sound waves that are shaped by the channels through which they travel. And it helped us grasp how these sounds subtly become meaning . . . become music.

Most importantly, this focus on the filters in between resolutely does away with two ideas: first, that sound recordings are incomplete reproductions of some original source and, second, the idea that every output should ideally be indistinguishable from the input. It does away, that is, with the *myth of perfect fidelity* and its underlying rationale, the *conceptual logic of noise reduction*. In sharp contrast to this idealist logic striving toward perfect transmission and analytical clarity, media technological operations are defined by a *logic of filtering.* This more worldly logic acknowledges and often embraces the many ways in which physical transmission channels affect the sounds they produce, as they are cut from their physical flow in time and space and produced anew in ever different circumstances. Just as the conceptual logic of noise reduction supports the myth of perfect fidelity—the idea that the machine itself is ideally fully transparent and of no importance in and of itself—so the conceptual logic of filtering supports the *noise resonance of sound media*. This is the idea that the traces of the physical cuts made by technical channels (the many noisy, random, distorted, transient artifacts that shape technologically reproduced sound) come to resonate with listeners as something called "music," which is how recorded sounds "subtly become meaning."

Any transmission requires some reduction of physical complexity—some choice, focus, or selection—if signals are to pass through a physical channel. Shaped by this process of signal transmission, technologically (re)produced sounds are not symbolic representations created by and for human subjects, such as those that defined pre-technological media such as writing or painting. Rather, they are physically present, complex signals created through physical cuts made by our media technological black boxes. The more advanced these filters become, the more the moment of filtering itself—the very moment of the cut—becomes imperceptible and slips from our control. My concept of the noise resonance of sound media accounts for the importance of this moment of the cut. It designates the effect that all the transient, random,

noisy traces of technical cuts have on the music they produce. It is a name, in short, for the continuous feedback between the filtering operations that shape sounds in ways that exceed our control, and the ways in which human sensory perception makes musical sense of these sounds.[3]

Noisy Traces

The myth of perfect fidelity assumes the ultimate possibility of perfect sound reproduction: a one-to-one correspondence between input and output with the transmission channel exerting no influence on the (re)produced sound. Although its philosophical and music theoretical roots reach back much further, this myth took hold of media technology over the course of the nineteenth century. Inspired by notions of perfect fidelity, inventors and engineers posited a conceptual distinction between periodic musical sound and nonperiodic unmusical noise in acoustics. This subsequently fed into another distinction between internal "sounds" and external "noises" in early discourses on sound reproduction. This separation was further consolidated by changes in the concept of noise. The primarily sonic determination of noise that prevailed in nineteenth-century acoustics gave way to the physical and electroacoustic concept of early twentieth-century communication engineering, which in turn was displaced by the communicational noise of information theory in the 1930s and '40s. This notion cast noise as the antithesis of the pure and clear signal: an unwanted, external, and disruptive force to be removed, eliminated, or reduced. However, this grasp of noise cannot account for the fact that media technological operations always run up against the physical limits of signal transmission, causing unavoidable differences between representation and represented, reproduction and reproduced, original and copy.

In the context of modern acoustics, the ideal of a "world without noise" emerged in the nineteenth century with the development of Fourier analysis, which Ohm and Helmholtz applied to sound.[4] Fourier analysis, and the conceptual figure of the pure sine wave, made it possible to represent entirely periodic sound spectra as series of infinitely oscillating frequencies. In seeming to confirm age-old ideals of musical harmony, going all the way back to the Pythagorean Harmony of the Spheres, such sonic representations belong to

[3] In his historical overview of the importance of Fourier analysis in media history, Martin Donner writes that, because the channel's filtering capacity is a prerequisite for all signal transmission, "it actually makes sense to talk about a media-filtered perception." Donner, "Fouriers Beitrag," 25.

[4] Serres, *Senses*, 126.

the plane of the ideal filter. On this plane, all randomness, ambiguity, and noise have been symbolically removed. Whereas sine waves symbolically represent infinitely periodic frequencies, their opposite, Dirac impulses, are infinitesimally short and completely a-periodic transient events. Taken together, sine waves and Dirac impulses suggest a level of spectral clarity and temporal exactitude that no physical filtering operation in the domain of technical filters can possibly achieve. In this domain, the fundamental limits posed by the uncertainty principle between time and frequency require a trade-off between spectral detail and temporal development in signal processing. Accordingly, physical signals exist in between sine waves' static noiseless purity and Dirac impulses' temporal exactitude.

On the one hand, these symbolic idealizations enabled what Kittler calls the "clarity and sharpness" of mathematical analysis, which in turn enabled the physical operations of technical sound media.[5] On the other hand, however, media technological operations that implement these idealizations in the domain of technical filters are always limited by the need to strike a balance between time and frequency. Whereas the symbolic clean cuts made by ideal filters would leave no traces behind, the physical cuts made by technical filters are subject to the time/frequency uncertainty principle, meaning that they leave behind traces in the form of random alteration, transients, noises, and distortions that shape output signals' sonic contours. As the model never entirely fits whatever it represents, in practice there is always an unrepresentable "remainder." These sonic traces made by the filtering channels in between input and output are not "external" to the signal—they are not intrusions or disruptions. Rather, they belong every bit as much to the reproduced sound as those parts of the signal that pass through the channel unaffected. As information theory would have it, they became part of the system, for they transmit information to the receiver. However, biophysicist Henri Atlan writes that, on a physical level, even if "the effects of noise become events in the history of the system and its process of organization," they "remain [. . .] effects of noise inasmuch as their occurrence was unforeseeable."[6] In other words, although artifacts produced by the filtering channel become an inseparable part of the output signal, they can still be classified as a form of noise.

This irreducible noise, I argue, highlights both the flow of the sound in the present, and the impossibility of complete reproduction. On the one hand, technical media allow for the repetition of sounds, again and again and again.

[5] Kittler, *Sinus*, 53.

[6] Henri Atlan, "Noise as a Principle of Self-Organization," in *Selected Writings: On Self-Organization, Philosophy, Bioethics and Judaism*, ed. Stefanos Geroulanos and Todd Meyers, Second Edition (New York: Fordham University Press, 2011), 112.

By virtue of this repetition, the sheer transience of sounds (which the representational logic of music notation could never capture in full) can be scrutinized, weighed up, and seen as significant. Despite the possibility that these transient sonic traces might be repeated, however, their presence, unfolding anew with each play, also emphasizes that the moment of their production (the instant at which technical filtering operations make the physical cuts that produce sound) always escapes our grasp. Although technical cuts shape the sound through the traces they leave, the moment of the cut itself has always already passed. The noise of sound media, in short, simultaneously evokes a radical sense of sonic presence and impresses on us the impossibility of fully capturing and reproducing the flow of sound.

Hence, while technological sound reproduction allows for countless repetitions of the most intricate sonic singularities, the primary filtering operations that enabled this possibility in the first place remain shrouded in darkness, beyond our reach. And the sonic traces of these filtering operations highlight this fundamental unrepresentability. Indeed, although the advance of technical sound media enabled ever greater control over the sound of music, the cuts made by their physical filters change sounds in ways that cannot be controlled, captured, or represented. As a sonic trace of sound's journey through space and time, the noise of sound media is an inseparable part of the output signal. In this way, the logic of filtering shows that sounds produced by technical media do take shape not despite, but because noise unavoidably affects and changes all output signals.

Through the ages and across cultures, the temporal unfolding of sound has been central to music's appeal: musical temporalities combine the sensation of hearing sounds unfold in the here and now with a perception of their inherent pastness. As such, they balance periodicity and nonperiodicity, change and repetition, redundancy and entropy, stasis and transience.[7] Although music has always been a fundamentally temporal art form, the double-sidedness of its temporality became even more pronounced with the emergence of technological sound reproduction. On the one hand, the noise produced by technical filters resonates with physical signals' temporal irreversibility and finitude. It evokes the ways in which human listeners are always running out of time. On the other hand, this randomness and transience also resonates with the

[7] Kittler cites physicists Richard F. Voss and John Clarke, who measured the "frequency of frequencies" that occur in different types of music, showing that the statistical distribution of different frequencies in almost all types of music adds up to pink noise. "If a signal is to be perceived as music," Kittler writes, "the noise must lie in-between order and chaos, not white but pink." Friedrich Kittler, "Vers Une Musicologie Concrète: Bemerkungen zu Richard Voss," in *Das Rauschen*, ed. Sabine Sanio and Christian Scheib (Hofheim: Wolke Verlag, 1995): 111–112.

continuous flow of time through the present, signifying how we are always in time. Signifying both passed and passing time, such transience emphasizes the multilayered temporality of technological sound.

The logic of filtering acknowledges that mediatic operations in the domain of technical filters always produce signals that extend in space and change over time. This basic facticity encompasses all of the nonperiodic, random, and transient events that the clean cuts that would be made by ideal filters entirely deny. The idea of an "other" music, in turn, is premised on this shift in musical agency: it turns away from symbolic representational acts of human agents and toward physical filtering operations performed by technical media, producing and reproducing streams of real, nonsymbolic signals. Although the very instant of signals' physical production (the moment of the cut) remains fundamentally inaccessible and unrepresentable, the random, noisy, and transient traces it leaves behind resonate meaningfully with human listeners. From first input to final output—from the first sound event in some recording studio to the moment of its playback through speakers or headphones in some living room—the entire chain of technological sound (re)production produces what Kittler calls "a single and positive feedback between sound and the listener's ear."[8] Throughout this feedback chain, the sonic traces of physical filtering processes produce the singularity of the present by repeating the past. This triggers our aesthetic sensibilities, drawing us in and hitting us in the gut.

Listening to "Other Music"

What Kittler called the "other music" is the product of two parallel and interrelated lineages, the first mathematical or analytical, and the second media technological.[9] The analytical achievements of nineteenth-century mathematical physics following Fourier, Ohm, and Helmholtz, first, allowed for the analysis and synthesis of complex waveforms in both time and frequency. This made it possible, in other words, to symbolically represent physical sound itself. Second, these analytical achievements on the plane of the ideal filter were implemented in media technological hardware: machines that apply physical cuts in the domain of technical filters. Together, these two analytical and media technological lineages precipitated the emergence of the "other music": a musical sensibility that has become the mainframe of much of our contemporary

[8] Kittler, "God," 13.
[9] Siegert, *Passage*, 240.

musical culture. The "other music" is the composite product of the analytical clarity and transparency conceived on the plane of the ideal filter, and the material contingency and unrepresentability of events occurring in the domain of technical filters. As the product of these two lineages, the "other music" is subject to a logic of filtering, steering away from the ideal of complete representation and reproduction.

Sonically, this musical sensibility originates in the hardware of sound media, the many transmission channels and filtering circuits that lie in between sender and receiver. In this between, technical cuts shape signals that are stored in the grooves of vinyl records, pits of CDs, and magnetized surfaces of tapes or hard drives, through which they can be repeated over and over and over again. Given its origins in technical media, the sound of the "other music" can be easily recognized by devices that operate using the same filtering principles. The popular smartphone-app Shazam, for instance, "recognizes" songs that are recorded and uploaded by users. During this operation, as I have argued more extensively elsewhere, no traditional musical logic or simple musical parameters come into play: Shazam processes physical sound waves that are recorded by a microphone, turned into digital data, sent to a server, compared with samples in a database, and returned to the user as an artist's name and song title.[10] The microphone does not "hear" or listen to music and the app does not process sound as human brains do. Turned into binary data, the music becomes coded information that can be analyzed, synthesized and resynthesized just like any other set of data, without recourse to meaningful interpretation beyond the logic of binary representations and digital algorithms. Only at the very last step, when the result of Shazam's data processing are fed back to the user through computer hardware and interface software, do the waves (re)gain their cultural meaning as music.

These days, we are surrounded by devices that process and shape our sonic environment, that "listen" to sound waves in ways that our ears cannot. Without such media to record, store, transmit, produce, and manipulate acoustic signals, the types of sound that produce the "other music" would simply not exist, for most of these filtering processes occur well before the signals reach our ears. Although we might analyze and model these operations, and build machines to execute them, the transient moments in which they are executed (the instant of the cut itself) are lost to our ears. We can only hear the acoustic traces they leave. Hence, when it comes to identifying the sonic detail

[10] For this analysis of how Shazam's operations relate to Kittler's concept of the "other music," see Melle Jan Kromhout, "'Antennas Have Long Since Invaded Our Brains': Listening to the 'Other Music' in Friedrich Kittler," in *Thresholds of Listening: Sound, Technics, Space*, ed. Sander van Maas (New York: Fordham University Press, 2015), 89–104.

of the "other music," Shazam is faster, more accurate, and more reliable than any human agent.[11] The idea that digital audio media have surpassed human hearing, therefore, is not only a theoretical observation: millions of users experience the fact firsthand every day. Still, however elusive, contingent, and hard to pin down, the sonic traces that originate in the ungraspable moment of technological filtering trigger an emphatic resonance among sounds and listeners. It is through this noise resonance, that the "other music" enters the cultural sphere of human signification—that the physical sound waves processed by Shazam's algorithms become what human beings call "music."

Kittler identified the contours of the "other music" by pointing to the same set of examples over and over again: "from Wagner to Hendrix," he said in 2008, "from Hendrix to Waters, it is the same music."[12] Having been anticipated in the acoustic effects of Wagner's *Gesamtkunstwerke*, sounds like the ringing feedback of Jimi Hendrix's electric guitar or the cosmic echoes on early Pink Floyd records began to emerge from hi-fi stereo sets and jukeboxes in the 1960s. Shaped by the logic of filtering, these are otherworldly sounds, which, like the feedback loop of Nakamura's *No Input Mixing Board*, can only originate in the electronic circuitry of technical sound media. As the singer on the title track of Joe Meek's 1960 record *I Hear A New World* sings: "I hear a new world calling me, how can I tell them what's in store for me?"[13] The sounds of this new world resonated in Meek's ears as he produced his thirty-three minutes of spaced-out sound effects, excessive reverb, pitched vocals, and heavily treated instrumentation that make up his record, which was not released until several decades later. With this "'outer space music fantasy' about life on the moon," Meek celebrates the emergence of the "other music," using all the technology available to him to put it to tape.[14] In his music, processed sound signals displace the symbolically predetermined musical gesture as the raw material of musical innovation. As such, this music could only have been created by means of that technology, and still sounds as simultaneously real and otherworldly—as thoroughly temporal and weirdly eternal—fifty years after it was recorded.

With the shift from symbolically predetermined musical sounds to technologically processed sound signals, vistas of another sonic world began to

[11] As its co-founder Avery Li-Chun Wang wrote in 2003, Shazam's "algorithm can pick the correct [song] even if they are virtually indistinguishable by the human ear." Avery L. Wang, "An Industrial-Strength Audio Search Algorithm," Paper presented at the *4th Symposium Conference on Music Information Retrieval*, Washington DC, October 2003, accessed November 13, 2012, www.ee.columbia.edu/~dpwe/papers/ Wang03-shazam.pdf, 7.

[12] Kittler, "Preparing," 104.

[13] *I Hear a New World*, by Joe Meek and The Blue Men, RPM Records, 1991, compact disc.

[14] Meek in Barry Cleveland, *Joe Meek's Bold Techniques*, Second Edition, Version 3, (Oakland, CA: ElevenEleven Music, 2015), 74, books.google.com.

shape music. In Karel Goeyvaerts's early electronic compositions, sine waves were considered the telos guiding a musical journey toward purity and clarity. This periodic, orderly, and controllable tone was the very exemplar of perfect sound. Ultimately, however, such clarity is an idealized limit case that can only be infinitesimally approximated, not achieved. Traces of sine waves' material production always disrupts that purity. Given this, the use of sine waves as musical material only further accentuated the impossibility of achieving the dreamed-of eternal stasis and heavenly purity. On the other extreme of the uncertainty principle is the music of noise artists such as Masami Akita, alias Merzbow, whose work is the antithesis of Goeyvaerts's pure tones. For the most part, Merzbow's work consists of series of near infinitesimal impulses. Ever tending toward pure white noise, these impulses create a wall of sonic difference that overloads our senses with acoustic information.[15] As Merzbow's huge and sprawling musical output testifies, in music such as this the noise of sound media becomes an endlessly varied reservoir for musical exploration: a sonic fountain of youth that, always changing, never becomes stale. However, just as Goeyvaerts's ideal of pure sound ultimately brings its own impossibility into ever sharper focus, so Merzbow's pure negation of representational clarity also produces an unexpected excess. Each time loudspeakers bring his transient traces of technical filtering operations to presence, and repeat them over and over again, they accumulate significance. Thus, in becoming more and more meaningful to the listener each time around, this music produced by endless technical filtering comes to shine all the more brightly.[16]

Accordingly, these two examples of Goeyvaerts's striving for purity and Merzbow's immersion in noise are not incompatible opposites. Indeed, they represent two sides of one coin—two faces of the "other music." In between two sonic extremes—one of which reaches for the purity of sine waves, the other striving for the sonic overload of pure white noise—a continuum of noises and distortions cling to all sound signals traveling along the chain of technical media. Whether subtle to the point of inaudibility, or so harsh as to almost overtake the signal itself, the noise of sound media shapes the output in ways that confound our wish to control and predict it. It is in and through this tension—the tension between clarity and diffusion, sharpness and fuzziness, the ideal of perfect reproduction and the cut of technical filters—that the

[15] For an in-depth analysis of Japanese noise, including the work of Merzbow, see David Novak, *Japanoise Music at the Edge of Circulation* (Durham: Duke University Press, 2014).

[16] Discogs, an online archive and marketplace for record collectors, currently lists over three hundred forty Merzbow albums. The *Merzbox* (2000) alone contains fifty CDs of reissued earlier recordings and unreleased material. "Merzbow," *Discogs*, accessed September 25, 2019, https://www.discogs.com/artist/12551-Merzbow.

possibility of the "other music" emerges. On the one hand, this music consists of rich sonorities that shine bright like the moon. On the other hand, just as the moonlight is but a reflection of the light of the sun, the sound of the other music also beams further into the darkness that lies beyond, remaining beyond our grasp. Like the heartbeat on *The Dark Side of the Moon*, these sounds aspire to ring forever—indeed, they presence over and over again in all their spectral clarity every time a record spins. Drawing them back down to earth, though, the contingent traces of their material production also emphasize that these sounds not only belong to the present, but also signify the past. They will not sound forever but die out and cease to be.

The "other music" is based not on the classical Western musical logic of pitches, chords, melodies, and harmonies, but on physical sound waves shaped by the irrepressible logic of filtering. As such, it is awoken every time someone presses "play." This is perhaps best illustrated by certain branches of contemporary electronic music, which, by virtue of digital sound technology, leave any connection with so-called natural or acoustic sound behind. Such music trades in its residual resemblance to nontechnologically mediated sound for the vast reservoir of songs that sleep in the machine. In his famous talk on the "liberation of sound," Edgar Varèse describes how electronic music has introduced a "fourth" dimension. Besides the respectively "horizontal" and "vertical" dimensions of harmony and temporal progression, and the third dimension of "dynamic swelling and decreasing," this fourth dimension enables, as Varèse puts it, "sound projection—that feeling that sound is leaving us with no hope of being reflected back."[17] To me, the music of Venezuelan electronic composer and producer Arca perfectly encapsulates this "fourth" dimension. This music is premised as much on the complete malleability of sound, made possible through mathematical analysis, as on the transient traces of media technological operations, which highlight the fundamental unrepresentability of its material production.

Arca's rhythmically complex and sonically dense music sonically encapsulates the back-and-forth between control and contingency, analytical clarity and temporal transience, that defines the operations of contemporary sound media. Listen for instance to the album *Mutant* (2015).[18] It consists of layers of heavily manipulated sound: chopped, spliced, deconstructed, granulated, and mangled. These sounds are often produced in the black box itself. Although they are sometimes based on instrumental or vocal samples,

[17] Edgard Varèse, "The Liberation of Sound," in *Audio Culture: Readings in Modern Music*, eds. Christoph Cox and Daniel Warner (New York: Continuum Group, 2004), 18.

[18] *Mutant*, by Arca, Mute, 2015, compact disc.

these are often altered beyond recognition in the process of manipulation. Arca spends a great deal of time "embroidering . . . a degree of detail and variations," ensuring that these otherworldly sounds "emulate something that's more organic."[19] Indeed, her work has a keen sense of physicality and liveliness. This liveliness stems from the great attention she devotes to the physical materiality of the machines that produce these sounds, and how they shape their sonic contours. In representing or imitating nothing beyond the material basis of its sounds, Arca's music constitutes a prime example of how the "other music" defies classical ideas and ideals of musical representation. Her songs are, as she puts it "spurts of very dense information, which overcharge your conscious mind."[20] In a manner reminiscent of the absolute overload of Merzbow's noise music, these songs create a sense of sonic urgency. This arises entirely from the noisy traces of the physical cuts of technical filters, from the unrepresentable moment at which sound is technologically produced.

Specifically designed to overcharge the listener, Arca's mostly short and dense sonic statements invite repeated listening. Still, even when one plays them over and over again, taking in every little detail, one can never fully grasp their full sonic intricacy. This is because the transient moment of their production as sound—that is, oscillating air waves that flow from loudspeakers into listeners' ears—will always remain out of reach. As such, Arca's digital ticks and glitches, low basses and whirling clouds of synthesizer chords, underscore that we will never unequivocally grasp what this music has to say. No matter how often we replay the recording, what it means beyond the sheer physical presence of sound itself will remain forever out of reach. True, music is being projected at our ears. At the same, though, it goes through us, escaping our grasp "with no hope of being reflected back" as Varèse would say. The sound never lingers in one place: once we think we have made sense of it, it has gone.

One could say that these sounds "speak," as Kittler writes, "of what is done by sounds."[21] Indeed, they speak of nothing but sound. It might be more accurate, however, to say that they speak of filters. Given the impossibility of grasping either what these sounds are beyond their sheer existence as sound or the moment at which they came to be, they would seem to speak of the logic of filtering. Given the primary importance it accords to the media technological logic of filtering, the "other music" dislodges the idea that the composer

[19] Arca, "Arca Talks Working with Björk, Screaming About Sex, Explosive New LP," interview by Eric Morse, *Rolling Stone*, November 17, 2015, accessed November 13, 2018, https://www.rollingstone.com/music/music-news/arca-talks-working-with-bjork-screaming-about-sex-explosive-new-lp-41272.

[20] Arca, "Arca Talks."

[21] Kittler, "God," 13.

should have full control over musical works of art. Instead, it is ruled by the posthuman logic of a continuous feedback loop among technical media, sonic material, and human beings. Technical media are not simply tools that allow us to control and shape the world as we see fit. In many ways, it is they that control us. Arca's music, as it resonates in the ears of the listener, embodies and accentuates this autonomous agency of the transmission channels of sound media. Indeed, Arca describes the development of her first album, *Xen*, in the following way: "I made this music in states that I didn't really have full control over. It was like first thought, best thought. I didn't even know what I was going to make before I sat down."[22] The sounds that make up her music are constantly morphing, shifting, falling apart, tilting, changing, turning inside out. Their noisy, grainy, and unpredictable texture underscores that this music is, very literally, predicated on the physical cuts made by technical filters. At every instance, one hears the many traces of a long analog and digital transmission chain, from first attack to final decay.[23]

Not coincidentally, Arca describes her own artistic moniker as "an empty space that can become pregnant with whatever music or meaning I give to it."[24] Similarly, the "other music" is an open but resonant sonic space to be filled with meaning. As a result of its fluidity, complexity, and openness, this music allows for a continuous back-and-forth, a resonance, between sound and listener. In so doing, it exposes the practice of listening as open and inherently unfinished as well. With the emergence of this noise resonance of sound media, the act of interpretation—the reading of clear and unambiguous meanings into clear and unambiguous sounds—has disappeared. In its place, the noise resonance of sound media gives rise to acts of exploration, which generate open-ended meanings over which neither artist, composer, audience, nor listener has uncontested agency. The meaning of the "other music" is never fixed, then, for it is not intrinsically related to the musical material, which, after all, is nothing more or less than "just" physical sound. It is a music defined by what Kittler calls the "deeper darkness" of technical media,

[22] Arca in Emilie Friedlander, "Cover Story: Arca Finds Xen," *The Fader*, September 30, 2014, accessed November 13, 2018, https://www.thefader.com/2014/09/30/arca-producer-xen-interview-cover-story. *Xen*, by Arca, Mute, 2014, compact disc.

[23] Although the point lies beyond the scope of this book, it should be noted that Arca's music also allows for a different interpretation of the "otherness" of the "other music." Through its openness, uncontrollability, and liberating potential, the "other music" might also be reinterpreted as "the music of the other" (thanks to Jonathan Thomas for suggesting this). In Arca's case, the sonic fluidity and complexity of the music resonates with the explicitly queer aspects of her work. Indeed, she herself describes her creative process as a "kind of settling into your body sexually. It was a lot about flexibility and elasticity, things wrapping around themselves in a very charged way." Arca in Friedlander, "Cover Story."

[24] Arca, "Dance to Your Own Rhythm: Arca Is Shot and Interviewed," by Wolfgang Tillmans, *i-D,* February 23, 2017, accessed November 13, 2018, https://i-d.vice.com/en_uk/article/wjdqxx/dance-to-your-own-rhythm-arca-is-shot-and-interviewed-by-wolfgang-tillmans.

which always escapes our control and understanding. Fluid, untethered, nonperiodic, and unpredictable, the "other music" holds a liberating, even emancipatory potential. Extending Varèse's famous dictum, it constitutes not only the liberation of sound, but a liberation through sound.

Produced through the logic of filtering, the noise that shapes the "other music" resonates in our ears. At the same time, it moves through us: ever mobile, it always evades our grasp. In allowing a continuous feedback among artist, music, sound, listeners, it generates new and different meanings and interpretations each time a piece of music is played. Torn between the dream of perpetuating the magic and halting time, and the excitement of creating ever new and unpredictable sonic worlds, the noise resonance of sound reproduction is constitutively flexible and open. It encourages us to relinquish control, to take a risk, to explore the unknown. We need only remain open to the possibility that lightning will strike, that something meaningful will protrude from among the continuous, overbearing stream of sound that surrounds us every day. The song sleeps in the machine: just listen for its noise.