

CHAPTER 24

THE MUSIC THAT'S NOT THERE

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Den abstrakteste Idee, der lader sig tænke, er den sandselige Genialitet.
Men igjennem hvilket Medium lader den sig fremstille ene og alene—ved
Musik.¹

Søren Kierkegaard, *Enten-Eller* (Kierkegaard 1975, 55–56)

PERHAPS the most magical thing about music is the fact that strictly speaking it is not there. Whereas almost all other artifacts—aesthetically purposed or not—are at least to a certain extent physically present, in the sense that they can be touched, held, or felt, music is simply not there. Music is transitory. It is an art of time and it is reasonable to claim that its primary domain actually is time and only secondarily sound, thus leaving room for not only rests, pauses, and breaks, which are as important in music as they are in spoken and written language, but also leaving room for and underlining the importance of the actual performance, the articulation, or the embodiment of the music. Music is always passing and is not there to reach out for and hold back. Music is only present in its transition, and the minute it is brought to a stop, it is gone. Furthermore, music is transitory in the sense that its primary resource, its building material, is air, and music's expressive articulation of time is not just carried by the air, it is also molded, structured, and shaped in air. The air is, though, more than just a transmitter of sound or sound information: it is the only physical manifestation of what is heard as sound, the agent that not only transmits but also allows for the sounding of any initiator's movement and resonance. Without air, a musical instrument, which is “just” a typically adjustable medium that is brought into oscillation by the exertion of some sort of action upon it, would make no sound at all (Taylor 1992, 4–5). With sound, the air is the central medium; what other mediums—like the musical instrument—~~do~~ only influences the way the air moves or “sounds.”

Sounds that are recognized as musical are normally referred to as tones, and, in general, music is considered an art of tones. In other words, not all sounds have the quality to be recognized or acknowledged as tones, and it is common to distinguish between harmonic and inharmonic sounds of which only the first—at least until recently—aspire to be accepted as tones. This distinction between harmonic and inharmonic sounds,

which is constantly challenged and negotiated in Western cultures, and has been for at least the last thousand years, implicitly points to a more fundamental element in the transitory nature of music: the distinction between tone and frequency carried out by human perception.

The perception of frequencies as tones is a psychological phenomenon that is probably unique to humans. It is interesting to note that in order to be recognized as a tone there typically have to be more frequencies present. A single sine wave is usually not perceived as a musical tone although it has distinct pitch and certainly cannot be inharmonic. Instead, a tone almost always consists of a bundle of frequencies, of sine waves (and this gives rise to its distinguishing timbre) even though it is perceived as only one particular tone whose pitch can be decided upon.

At the same time, music is not restricted to the use of tones. Even traditional music allows the inclusion of sounding signals that are inharmonic. These sounds, like the ones produced by nonpitched percussion such as snare drums and cymbals, are obviously used widely in many styles and genres; they are, however, typically not referred to as tones but as beats. Even sound events that are entirely without the presence of tones can be processed as musical insofar as they are acknowledged as intentional—organized—musical expressions. This notion of intentionality is generally important, reflecting the premise that “music is sound that is organized into socially accepted patterns” (Blacking [1973] 2000, 25), and it also allows for the inclusion of music that is solely utilizing nonpitched signals—like pieces for rhythm ensemble and, for instance, pieces that lean toward the concepts of modern sound art (see later). Music of this type includes *musique concrète* and even futurist music along with more or less hybrid forms of music of the first half of the twentieth century.

These short introductory notes all point in the same direction. Sound and music are a function of the human perceptual response to pressure shifts in the air caused by outbursts of energy as a result of some kind of physical activity intended to form some kind of sound structure for its own sake. Music as such can be approached—and appreciated—in three forms: as a physical phenomenon, as a perceptual phenomenon, and as an aesthetic artifact or phenomenon (an idea) (Moylan 2007). It is through an understanding of these three forms, in particular the aesthetic form, that one can comprehend music's lack of corporeal presence and thus appreciate the virtuality of music.

MUSICAL SOUND

Approaching musical sound as a physical phenomenon is generally attributed to natural science. Thus, the given preunderstanding is that the phenomenon is quantifiable and can be measured relatively precisely. Natural science understands sound as differences of pressure—vibrations—in plastic matters, first and foremost, as stated, in air. It is primarily measured in frequency, amplitude, and time and can secondarily be described with reference to timbre (composite frequencies) and to space (characteristics and

reverberation of the physical environment in which the sound is sounding). As a physical phenomenon, musical sound is “just sound,” and, as such, is initially not accessible for human hearing, as humans are prone to involuntarily—perceptually—process and—cognitively—interpret any heard sound. Approaching musical sound as a solely physical phenomenon without “analyzing” what the sound is the sound of and why it is sounding implies what Pierre Schaeffer termed “*écoute réduite*,” “a listening mode that focuses on the traits of the sound itself, independent of its cause and meaning” (Chion 1994, 28)—an almost impossible task that only is possible when the sound in question is not known in advance and its source cannot be identified in the environment.

Instead, almost all musical sounds are appreciated as perceptual phenomena and are thus tied to neuropsychological processes that, in the case of music, give rise to the notion of pitch, loudness, duration, timbre (qualitative), space (location environment), and so on. In this sense musical sound—as well as all other sound—acts as an indexical sign referring to cause and context; for example, what vehicle and where or which instrument and what situation. This kind of appreciation of sound is dependent upon human sensing of sounds as objects, sounds of things (Ihde 2007, 60), and in this way expresses a phenomenological understanding that is based on experience, situation, and body.

As an—artistic—idea, musical sound is tied to levels of, and relationships between, pitches, leading to a notion of motives, figures, harmony, and scales, for instance. Dynamic implications include articulation, accentuation, and shaping, just as duration nurtures the sense of movement, tempo, and time, for example. Different sound sources such as instruments and various processors contribute to the palette of expressive means that is specific to the artistic work, while the actual perceived space that is generated and constituted as the interrelations between sound sources leads to the forming of the abstract “soundscape,” the particular artifact, which is understood as the musical piece, the autonomous gestalt, or, as Ferrara puts it, sound in form (1984, 359).

The musical artifact is thus equipped with (navigational) information, direction, and movement inside a perceived yet completely abstract auditory “room,” a sound mirage. Not only that, the room itself is typically experienced as a specific situation with implications of emotion, temperament, and other elements of psychological “sense” and “matter.”

MAKING MUSIC SOUND

Historically, music has been produced by means of the human voice along with a great variety of specially designed musical instruments. These acoustical sources are the main components in generating music’s fundamental virtuality, the abstract auditory room, as described above. However, this situation shifted gradually during the twentieth century.

In the modern world most music is produced and mediated by means of media that are dependent upon electricity. Electricity is essential to all segments of mass media

related to music and sound production. The recording, processing—and very often also the generation—of sound is totally dependent upon electricity, as is its final reproduction by the loudspeakers. Although sound recording started out as a purely mechanical phenomenon, electricity soon became a central element. The invention of the valve in 1906 (Chanan 1995, 38), and its integration into the production process, in particular turned out to be a decisive contribution that eventually allowed the producer to break the conditions of natural acoustics and achieve a reproduced sound image that to a certain extent corresponds to the psychoacoustic experience of sounding music—or other sounds—in natural surroundings.² Placing microphones in a given location, for instance a concert hall or a recording studio, to pick up the sound signals that are emitted by sound sources will—unprocessed—hardly ever produce a sound image that matches what a human would experience when exposed to those signals in the same room. Human hearing takes an active part in the hearing process. This is not just a psychoacoustic fact but also a fundamental precondition, a premise, in Husserlian phenomenology that is taken to be true in the context of any kind of human sensing of the world. This process of hearing alters what is “actually” sounding and is measurable scientifically. The integration of electrical means in the recording process has made it possible to continuously adjust sound levels, filter frequencies, and so on so that the reproduction of the recording more accurately resembles what is “heard” or rather perceived by a human ear, *in situ*: the producer’s ear. What comes out of the entire process is a production of a dynamic sound image that actually is a reorganization of all sound elements that were (per)formed in the recording studio and registered electronically. For many years, sound production was almost entirely aimed at reproducing what was performed in a way that came as close as possible to what was experienced by a listener who was present in the location where the sound was performed or generated. This effort gave rise to the notion of high fidelity (or just hi-fi) especially within the field of consumer audio equipment. However, this struggle to reproduce the sound of performance as accurately and authentically as possible does not exclude the fact that, even in the early days of sound and especially music recording, the sound image that was produced was really a virtual image. Not merely because sound waves are transformed into electric currents that cannot be unaltered by the process that later reintroduces them as sound waves but even more so because the reproduced sound waves are optimized to sound as if they are not altered and manipulated. The produced sound image is intentionally designed to reproduce the experienced sound image “originally” heard, a process that in a way combines the object correlates, the noema of the heard sound, with the subject correlates, the noetic element. However, the actual result is a technology-based construction, the sound image of “analytic clarity and almost tactile proximity” (Chanan 1995, 133). What the consumer hears is not an unmediated reproduction of the performance as it was at that point in time and in that particular space but is, rather, a technological creation of both recorded and new sonic fragments assembled within a virtual acoustic space—an abstract auditory room.

From the middle of the 1930s, more and more of the sounds that went into the recording were themselves generated by means of electricity; electrophones like the electric

guitar and the Hammond organ, and later—although it was among the very first electrophones—the synthesizer gradually began to be used. Although electrophones were included in many music compositions of the classical tradition from around 1920 onward, they never came to dominate the contemporary music genre except within the electroacoustical scene in the latter half of the century. This domination, however, became the case within popular music, where the electric guitar and its cousin the electric bass in many genres gradually came to replace their acoustic counterparts almost entirely. Insofar as these new instruments can be seen as electrified versions of the original acoustic instruments, they could bespeak a sort of low-level virtuality, but strictly speaking this was hardly ever the case. Both instruments were acknowledged as new instruments right from the start and gave rise to the construction of new designs like the solid-body versions of the electric guitar and the electric bass that left out the acoustic resonance case entirely and which both gradually became the dominating variants.

Since the 1950s the music of the recording studio increasingly has been the primary musical reference to the general public—maybe even before because the jukebox accounted for three-quarters of record sales in the 1940s (Cowen 1998, 164) when it, besides radio, was the major distributor of popular music—rapidly leading to a situation where music productions have come to refer to other music productions and only sporadically to live performances. Although music productions initially could be said to correspond to live performances—especially those that were broadcast from concert halls and dancing palaces to radio listeners (although, of course, they were also altered and optimized as described above)—this gradually changed by the end of the 1950s as the music that was produced in recording studios started living a life of its own and “recordings... began to gain a counterfeit perfection that live performances could not match” (Griffiths 1998). The types of production methods that at the same time were introduced by leading producers such as Sam Phillips, Leiber and Stoller, and Phil Spector (Moorefield [2005] 2010, 5–6) quickly led to new concepts of sounding music that distanced itself more and more from live acoustics and reached a state of sound imaging by the mid-1960s that generally did not correspond to real-life performances at all. More importantly, it did not strive to. The reference for music productions was an acoustic abstraction taking the realm of music further into the purely imaginative, adding an overnatural presence and an almost tactile sense of surroundings that cannot exist.

Although the recording studio involves a number of manipulations that lead to the construction of sonorous phantoms whose components may be altered in ways that make them “supernatural,” the relation or reference to real-life sound generation is maintained as long as there is talk of the analog studio. No matter how “unrealistic” and contradictory the actual combination of sound sources, their amplitudes and individual environments, and common otherworldly surroundings are, they can still be understood and perceived as referential to—or anchored in—real-life acoustics that are somehow familiar.

Building composite sound-images, as the result of the intervention of the mixing console, layering, tape editing, and multitrack recording, to organize inputs of analog sound

signals, became a major feature of the era of electronic recordings. With the introduction of the digital recoding studio, however, most if not all of the premises of the analog sources and technologies are altered or overruled. As everywhere where digitalization makes its entrance, the conditions are completely changed once and for all. It matters little that the implementation of digital technology is carried out by mimicking—or remediating— analog technological means and principles; the possibilities, premises, and the constructive reaches have not just been radically changed, they are new. Through digitalization, music production enters a kind of double virtuality. The virtualization through digital means of the analog studio—whose products themselves build a kind of virtuality—implies virtuality is lifted up to another degree.

In order to exemplify the transition, the following section will produce a short analysis approximating an understanding of “what” is thought to be experienced: what sound images are perceptually and noematically formed, so to speak, what horizons sounds and sound images call upon to be acknowledged noetically, how they are conceptualized, and how these mental elements can be processed hermeneutically.

MIRAGES

From her eponymous debut album from 1985, Suzanne Vega stood out as a guitar-playing singer-songwriter with roots in the modern American folk tradition and with a clear tendency to a rock music expression. Not unusual for the singer-songwriter genre, the lyrics are a critical observance, evaluating social and sociopsychological factors often with a sense of the humoristic and grotesque.

At the same time there are features that bring emotion and emotional implications into quiet and meek reflexive psychological illumination, generating a kind of vulnerable nakedness. These features are reinforced by Vega’s ability to convey all her songs with a subcompressed voice, which gives the impression of self-inquiry and reflection. Her expressiveness seems altogether understated and transparent, which—along with a distinctive touch of the pantomimic and novelistic—gives the impression that her musical alter ego stands exposed in a fragile and intimate atmosphere.

In a sense, these characteristics become especially evident in the complex and stylistically relatively broad fourth album *99.9 F°* (1992). Many of the tracks on the album appear musically carefree and cheerful regardless of textual content. This hallmark endows the album with a touch of funfair entertainment and celebration, but at the same time of humiliation and destruction. The impression is counterbalanced by the fact that the cover is decorated with photographs that are mostly black and white, in which Vega appears in different poses alone and with the musicians (presumably) dressed in attire reminiscent of variety shows and carnivals of the past. Something tricky and unpredictable is suggested, with strongmen, prostitutes, and pickpockets. As such, it corresponds to the illustration of the cover of the Doors’ *Strange Days* (1966), which also draws heavily on the circus metaphor, and especially the entertainer as freak, the deviant,

maladjusted, by virtue of or in spite of his social, mental, or physical disabilities—or whatever it may be—who exists in a second, parallel, reality.

The impression of the complex and stylistically branched in Vega's 99.9. *F°* is supported and amplified by an unconventional instrumentation, where concrete and often indefinable sounds and sound sources appear on an equal footing with the common instruments of popular music.

The indeterminacy of certain sounds—are they samples of the sound of machines, sounds recorded in stairwells or streets, or are they synthetic sounds created in the studio or lab, or mixtures or hybrid forms thereof?—contributes to a situation, where the phonogram's acoustic illusion, its reliance upon and reference to sounds outside the control of the technology (i.e., the implicit assertion that the media is anchored in an original), is degraded and threatened from within. The lapse or absence of similarity with sounds from the "real world" of some of the sounds employed in the sound image leads to a questioning of the authenticity of the image in general. What is it the sound image depicts? The presence of acousmatic³ sound seems to reveal that the location, which is folded out in the sonic space of the sound studio, is only original and valid inside the studio, not outside. The stage that Vega seems to appear on thus becomes virtual in another sense than that which characterizes the popular musical standard production and its cult of the concert stage podium. The presence of extraneous sounds—or unprocessed instruments—seems to rebound on the production of the other instruments and sounds and reveals these themselves as constructions.

Already from the beginning of the song "In Liverpool" it is clear that it comprises an ambiguous acoustic environment in the aforementioned sense. And it later turns out that the ambiguity is also reflected on a formal level.

On the vertical plane—in the A section—sounds quite openly belong to different acoustic environments, while the B section, in contrast, unfolds within a standard sound image, a particular aesthetic that is characteristic of the production of popular music. The contrast thus obtained is hardly accidental. The listener is moved from one kind of listening position to another.

A closer examination shows that even the rhythm of the A section, with its smooth, but at the same time somewhat heavy character, introduces an ambiguity: a light, dreamy, "flapping" six-quaver rhythm, which at the same time can be seen as an old-fashioned 4/4 rhythm based on eighth-note triplets. Although it as such seems natural to transcribe the piece in 4/4, 6/8 would be more proper, as several factors promote the time signature's dreamy and scattered feeling. This applies first and foremost to the instrumentation and production.

Traditionally, listeners are accustomed to the sound of the grand piano recorded with the microphones placed relatively close to the instrument, producing a sensation that the listener is almost playing the instrument himself. Here, the recording of the piano is done in such a way that it produces the sound—and image—of an upright piano placed in a gymnasium or similar. The fat, warm sonority, which we know from the standard production of the well-tuned grand piano, is absent. Instead, the sonorous quality is thin, a little sharp and shrill, yielding an almost unattractive sound, which does not

quite sound newly tuned. Where the sound of the piano, both the sound of an upright piano itself and the particular acoustics, seems to signal a specific kind of location—the empty gymnasium, the abandoned village hall—its musical content, the F-minor chord in the corny, old-fashioned triplets, can be seen as a naive element, a collage, that signals a childish universe designating the dreamy amateur or the contemplative, cogitating artist.

The piano is accompanied by a continuously repeated percussion figure, a loop that is made up of percussion sounds that might as well have come from a workshop machine or from hand drums or foot stomps or empty cardboard boxes in a warehouse. The location is indeterminate. The acoustic environment of the percussion loop is different from the piano's environment as well as from the rest of the sound sources in the A section. Thus, the loop gains the character of a documentary recording, a sound recorded on location in its normal environment, or rather as a "paraphrase" on the documentary that uncovers the principle of selection, sampling, as a constructive engagement, an interpretation. The loop induces a monotonous cyclic element, which is supported by the piano's persistent repetition of the high-pitched F-minor chord.

The bass holds a role as interpreter of the F-minor chord leading it from Fm into Dbmaj7 and Dm7b5 and, as such, also plays the part of an outsider. The bass stands out as the only electric instrument of the A section, and it also manages to elude spatial determination and location. The bass seems to belong to the environment of the production in the same manner as credits in a film belong to the filmstrip level. For the bass, this is not an unusual situation partly because of purely acoustical implications, as deep tones are characterized by a ubiquity, an omnipresence. In "In Liverpool," however, this acoustical feature of the bass is exaggerated and retouched; there is a certain dryness and proximity, a deficiency of reverberation, which places the instrument in an imaginary point. The bass does not negotiate an identity or position in the dramatic sound space of the production; instead it acts as a mediator between the acoustic and harmonic space.

Prominently placed in the sound image, but in a position where the shaded tone universe of the piano and the percussion seems embedded in the background and the bass's dry, almost effectless presence is in front, is the sound of Vega's vocal in an intimate, but because of the reverberation, spatially realistic presence. Virtually in the same perspective layer, but less strongly marked, is also an acoustic guitar, and this brings to mind the notion of Suzanne Vega singing and playing her guitar in a specific point in an otherwise indeterminate space.

The listener is caught in this really fantastical universe. The gray background seems to express a point somewhere between a sparse accompaniment and a tone painting. As if the listener, from a position that virtually coincides with the space of the bass (a nowhere), is watching Suzanne Vega in a particular room where the background is generated at the same time, virtually as a film that is rolled up on a screen behind the soloist, as a function and an illustration of her introspective and thoughtful song and play. It almost makes sense to refer to a built-in seating position, to a stage and the live sets, even though the three acoustic spaces cannot exist simultaneously outside the production's virtualization.

Where the abstract, the purely structural, difference between the A and B sections is restricted (strictly speaking, there is a simple and straightforward strophic progression in interrelation between the sections, a balance equivalent to a traditional question-answer relation) the dramatic contrast is significant because of the instrumentation and the production of the piece.

Unlike the A section, there is nothing fantastical to the B section—or chorus—except perhaps that it precisely does not have any similar fantastical implications and, as such, gets an alternative perceptual effect. It appears as a traditional sound image regarding both the instrumentation and its production, a popular musical cliché, the pure sound-box that appears to enjoy wide dissemination in all branches of popular music from the late 1960s onward.

Apart from the technical implications of historical leanings, the B section could just as well have been produced in 1970 as in 1992. The same applies for the structure of the music; the harmony is anchored in repetitive alternation between VI, VII, V, and I, and the extensive use of common note affinity, as well as the affinity of fifths strictly observing the Aeolian scale, speaks its own emblematic language. Neither here nor in the melody does there occur a single tribute to functional harmony; no dominants, no resolution signs. It is only the repetition, the steady flow of a four-bar pattern with only a few accidental deviations, and a melodically profiled motif, that—together with an unambiguous sense of 6/8—characterizes the section. In isolation, the character of the B section comes perilously close to the trivial, but the formal staging, the previous A section, seems to ensure that the B section still gains a dramatic force that overshadows its unmistakable *Schein des Bekannten*.⁴

In addition to this, the B section is profiled—and qualified—by its evident and convincing interaction with the lyrics. The B section—and the instrumental C section—appears sweeping and rotating, almost carousel-like in its evocation of the mad boy who throws himself off the tower's top. Through this tone painting, the cyclic structure obtains relevance and impact seen both in relation to the musical-formal interaction with the A section and with respect to the dramatization of the lyrics. The musical triviality of the B section is, on the one hand, a haven in an otherwise ambiguous audio sequence staged by the A section, but proves, on the other hand, precisely by dint of its triviality to stand out as the alienating postponement of a tragic riot directed against the emptiness of late modernity. With its unadulterated popular musical expressiveness, the B section is produced in a conventional standard that has been around since the 1960s, deprived of any relation to other sites than that of the recording studio and can as such be perceived as Vega's empathy for the boy's fatal protest against his loss.

Many of the same traits are found in "Blood Makes Noise" from the same album. The scenario is certainly another. The text evidently represents one party in a conversation; a patient who speaks with, or rather to, his doctor. As listeners, we seem to be situated in the doctor's office, but there are features of the production that indicate that we really are one with the patient; the voice is recorded in such a way that the sound of the space—the reflections of the room—is cut away. This kind of production technique is normally associated with the seductive crooner, but since Vega's voice is reproduced entirely

without reverb, one gains a sense of density of supernatural proximity that is further supported by undisguised overdubs—producing a notion of double exposure—with two different filtrations and timbres causing it to differ significantly from the crooner voice. Instead, a special effect is achieved in that Vega's voice seems to transcend the boundary between performer and listener.

The impression of being one with or trapped inside a performer who suffers from severe tinnitus allegedly caused by roaring blood in the vessels is reinforced by the heavily filtered voice timbres, as well as by the distorted and filtered perspective the other instruments appear in.

The musical impression is much more homogeneous than that which characterized "In Liverpool." There is a clear and uncompromising polarization of certain musical, relatively homogeneous structures. The song's alternation between A and B sections is not supported by changes in the acoustic scenarios, but is at all times carried by a specific ideal, close to that which characterizes the A section of "In Liverpool." Yet the perceptual difference is significant. Whereas the listener is located in an artificial, virtual, and nondramatized listening position when listening to "In Liverpool," namely the neutral viewing point of the studio from which it can be observed from the outside, the listener is pulled into the very midst of things in "Blood Makes Noise," surrounded by the instrumental—and industrial—sound sources that make up the tonal texture.

Besides the sample-like percussion, a careless bass figure penetrates the setting as an almost manifest paraphrase on entertainment and amusement. It identifies a fresh and lively sound image, which, however, is contrasted by the enclosed and distorted guitar and by the dry vocals establishing a narrow, almost respiring room that inspires a sense of the trapped and squeezed. We neither look at the performer nor above her shoulder; instead we are trapped inside a performer's self-experience.

LATE REFLECTIONS

When listening to these tunes—and interpreting them as exemplified above—it is necessary to keep in mind that none of the characteristics that lead to the interpretation—the perceived artifact—are real. Even if the sound sources were recorded in the different environments, as they appear to be, they are put together to produce the artifact that only can exist as a perceptual phenomenon, a mirage. When evaluated noetically, the components contradict each other, and yet what is experienced is in a psychological sense coherent aesthetic pieces of artistic articulation. They are virtual "nowheres" building virtual "somewheres" as a function of the listener's perception.

The apparent use of concrete sound is of course not tied to the realm of the digital recording. Real-world sound that goes beyond the curious (exotic), as for instance the inclusion of cannons in Tchaikovsky's *1812 Overture*, was integrated in music by Eric Satie and George Antheil in the 1920s, for instance, and it was the primary sonorous material for the *musique concrète* movement of the late 1940s and onward. In the case of

Vega, however, the real-world components work both as dramatic signs giving evidence of extramusical content and as structural elements on a par with traditional musical instruments. At the same time, the sounds of the musical instruments of the artifact are, as demonstrated here, treated very much like semiotic documentary too and not just as structural elements. By means of the digital technology, every element, concrete or, for instance, sung notes, can be processed identically; that is, as digital samples of sound. Thus, every note, played or sung, as well as every beat and every breath, is at hand like Lego bricks that can be put together at will.

Thus the aesthetic object, the artifact, is a result of separate elements brought together on the premises of the production and the electronic equipment, but, at the same time, it is also an object that is brought into existence as a unified gestalt by virtue of the listener's perception, an object whose apparently coherent totality is as impossible as the constructions found in drawings and paintings by the Dutch artist M. C. Escher. Much in the same way as the latter relies on "optical illusions," these objects are acoustical illusions that make up an apparently trustworthy sound image, which, however, just like Escher's artwork, do not stand up to closer examination.

Phonograms that originally aimed at direct analogue reproduction (repetition) of (concert) transmissions or recordings gradually turned into modeled idealizations of the concert situation, leading to a sound imaging that is more or less relieved of any obligation toward real-life acoustics but that is still inseparable from the limits of analogue recording equipment. In the very same process, the sound of recorded music—and recorded musical sound sources—has become the primary reference to the public, overruling the live sound of the acoustic and electric instruments, as the loudspeaker has taken the position as the general distributor of music. To the majority of listeners, the sound of music today is the sound of loudspeakers. And the stage that dominates all stages on which music is performed is that of the electrified sound even when the sounding signals stem from the vibrating bodies of the acoustic instruments of the symphony orchestra.

In the age of digital sound, there are musical trajectories that temporarily exceed the physical phenomena that are the boundaries of sound, leading to a situation where the virtuality, which is produced by means of analogue technology in the sound studio, itself becomes the model for a new form of virtualization. In the digital production, the tools and processes of the traditional nondigital studio are mimicked—typically in the form of remediation—and the virtuality of the product is elevated to the next, or highest, degree, forming a situation where any relation to acoustic sound sources has to be understood as a construction, or reconstruction, not a reproduction. In this way, the artifact to a certain extent draws upon the listener's familiarity with the phonogram as a particular genre that is independent of the performed musical work.

In the digital realm, nothing nonnumerical is reproduced; it is, instead, constructed. As soon as an analog input—insofar as there is talk of input at all—is converted into numeric data, these data obviously have to be converted back into analog form again

in order to be phenomenologically appreciated as sound. Although it can be claimed that the shift from atoms to bits (Negroponte 1995, 11–12) covers a shift from a given materiality—from air, transitory or not—to a representation of this very materiality, the resulting representation, the numeric tables, can be read or rematerialized in completely different ways that have nothing in common with whatever was originally digitized. This implies that what initially was generated as a numeric index of, for instance, the registration of a sound wave can be read out as a drawing or a text on paper, a film, or even a three-dimensional object. What is materialized is entirely dependent on which kind of decoder is chosen.

Thus, music's determination as a transitory sensory phenomenon that generates a notion of a virtual physical form and structure, but which is just a product of our perception, is twisted into a secondary virtuality, as the bits are not anything but bits—which is the same as virtually nothing.

NOTES

1. The most abstract idea conceivable is the sensuous genius. But through which medium is this solely expressible? By music.
2. The so-called cocktail party phenomenon that allows us to understand one talker relatively easily when others are talking at the same time (Bronkhorst 2000, 117).
3. Acousmatic sounds are “sounds one hears without seeing their originating cause” (Schaeffer 1967 quoted in Chion 1992, 71).
4. Famous expression by the German composer J. A. P. Schulz (1747–1800) stating that a piece of music that is meant to appeal to a broader public needs to have a “flavor of the well known” in order to succeed.

REFERENCES

- Blacking, J. (1973) 2000. *How Musical Is Man?* Seattle: University of Washington Press.
- Bronkhorst, A. W. 2000. The Cocktail Party Phenomenon: A Review of Research on Speech Intelligibility in Multiple-Talker Conditions. *Acta Acustica United with Acustica* 86 (2000): 117–128.
- Chanan, M. 1995. *Repeated Takes: A Short History of Recording and Its Effects on Music*. London: Verso.
- Chion, M. 1994. *Audio-Vision: Sound on Screen*. New York: Columbia University Press.
- Cowen, T. 1998. *In Praise of Commercial Culture*. Cambridge, MA: Harvard University Press.
- Ferrara, L. 1984. Phenomenology as a Tool for Musical Analysis. *Musical Quarterly* 70 (3): 355–373.
- Griffiths, P. 1998. Callas Sings Bob Dylan? Could Be. *New York Times*, January 11, <http://www.nytimes.com/1998/01/11/arts/classical-view-callas-sings-bob-dylan-could-be.html>.
- Ihde, D. 2007. *Listening and Voice: Phenomenologies of Sound*. Albany: State University of New York Press.
- Kierkegaard, S. (1843) 1975. *Enten-Eller*. Odense: Gyldendal.

- Moorefield, V. (2005) 2010. *The Producer as Composer. Shaping the Sounds of Popular Music*. Cambridge MA: MIT Press.
- Moylan, W. 2007. *Understanding and Crafting the Mix: The Art of Recording*. Boston, MA: Elsevier.
- Negroponte, N. 1995. *Being Digital*. London: Hodder & Slaughter.
- Taylor, C. 1992. *Exploring Music: The Science and Technology of Tones and Tunes*. Philadelphia: Institute of Physics Publishing.