

Pierre Schaeffer, the Sound Object, and the Acousmatic Reduction

IMPROVISED ONTOLOGY

In 1948, working in the studios of Radiodiffusion Française, Pierre Schaeffer began to keep a set of journals describing his attempt to create a “symphony of noises.”¹ These journals, published in 1952 as *A la recherche d’une musique concrète*, portray Schaeffer’s initial experiments as anything but systematic. Anxious to compose a concrete music yet perpetually dissatisfied, he roves from conventional instruments to unconventional tools, from the recording studio to the booth, percussing and sounding object after object to find a suitable candidate. The list of objects is a veritable *abécédair*e: alarm clocks, bicycle horns, birdcalls, bits of wood, clappers, coconut shells, klaxons, organ pipes, rattles, vibrating metal strips, whirligigs; then recordings of bells, buffer stops, orchestras, piano improvisations, trains, xylophones, and zanzis. Throughout his experiments, Schaeffer remains in the grip of two recurrent desires: a compositional desire to construct music from concrete objects—no matter how unsatisfactory the initial results—and a theoretical desire to find a vocabulary, *sofège*, or method upon which to ground such music. In those early days, Schaeffer’s improvised compositional techniques were indissociable from an improvised ontology, not only in search of a concrete music but a basic theoretical unit upon which to compose such music.

One constant in Schaeffer’s work, from the early days of *A la recherche* to his mature *Traité des objets musicaux* and *Sofège de l’objet sonore*, was his fixation on the word “object.” Although the objects kept shifting, the term “object” persisted like an *idée fixe*. The trajectory of the term over the course of 1948 is revealing. In March, an “object” refers to a physical-material thing—a source for the production of sound: “Back in Paris I have started to collect objects. I have a ‘Symphony of noises’ in mind...”² By April, the object has acquired a modifier. Now a “sound object,” it still refers to the physical-material source and not the effect of the sound: “I am amongst the turn-tables, the mixer, the potentiometers... I operate through intermediaries. I no longer manipulate sound objects myself. I listen to their effect through the microphone.”³

In early May, now working with recordings of trains made at the Batignolles station in addition to stock recordings, the sound object is supplemented with a new

term, the “sound fragment.” Unlike the physical-material sound object, a sound fragment designates a bit of recorded sound, the “effect” emitted from a sound object and engraved into a spiral groove:

I lower the pick-up arm as one rhythmic group starts. I raise it just as it ends, I link it with another and so on. How powerful our imagination is! When in our minds we pick out a certain rhythmic or melodic outline in a sound fragment like this, we think we have its musical element.⁴

A few days later, Schaeffer exploits the infinite repeatability of the fragment to distinguish it from the sound object, the physical-material cause. “Repeat the same sound fragment twice: there is no longer event, but music.”⁵ Repetition musicalizes the sound fragment by removing the dramatic and anecdotal traces of its original causal context.

Identifying the sound fragment was an important step in breaking the grip of the physical-causal source. The recorded fragment, not the physical source, acquired the plasticity of compositional material. By removing the attack from a recording of a bell, Schaeffer noted, “the bell becomes an oboe sound.”⁶ Similarly, “if I compensate for the drop in intensity with the potentiometer, I get a drawn-out sound and can move the continuation at will.”⁷ The transformations of the “cut bell,” or *cloche coupée*, produced unexpected auditory results and revealed the potential of recorded sounds when considered separately from their physical-causal sources.

By May 15th, Schaeffer’s work with both bells and trains led to a generic conclusion about the sound fragment. “For the ‘concrete’ musician there is no difference between the cut bell and the piece of train: they are ‘sound fragments.’”⁸ The sound fragment reduces the specific difference of the physical-material source to the generality of the sample. Yet, in the very same journal entry, the “sound object” returns, albeit transformed, to reassert its priority. Schaeffer writes:

I have coined the term *Musique Concrète* for this commitment to compose with materials taken from “given” experimental sound in order to emphasize our dependence, no longer on preconceived sound abstractions, but on sound fragments that exist in reality, and that are considered as discrete and complete sound objects, even if and above all when they do not fit in with the elementary definitions of music theory.⁹

The sound object can no longer be understood as the material-physical cause of the sound in distinction to the effect captured on disc. In Schaeffer’s improvised ontology, the sound object has leapfrogged over the fragment to assume a new significance. More than simply a sample or bit of recorded sound, the sound object now suggestively appears to designate something “discrete and complete,” the fruit of a mode of “considering” or listening to the fragment torn from the whole. It seems to be the disclosure of a minimal unit of heard sound upon which to ground the project of *musique concrète*, a novel discovery that cannot be assimilated into “music theory.”

Despite the constant drift of Schaeffer’s terminology over the course of 1948, the claim that a sound object is inassimilable into music theory is intriguing. The earliest works of *musique concrète* were made using special phonograph discs with a

locked or closed groove (*sillon fermé*) to create repetitive units. Eventually, these discs were replaced with magnetic tape, where small loops or isolated segments would undergo electronic processing or be repeated without variations. These small pieces of recorded sound, which often underwent elaborate manipulation, filtering, signal processing, and editing, acted as stand-ins for the motive, the smallest musical gestalt deployed to organize the surface of musical works. However, these bits of sound were radically discontinuous with the motive, in that composition with sound objects displaced the note or tone as music's fundamental ontological unit.

By choosing to identify his practice as *musique concrète*, Schaeffer was trying to differentiate his approach from traditional practices of musical composition bound to the note.¹⁰ Abstract music, which Schaeffer contrasted with *musique concrète*, was music that began with the note, organized its musical thinking in terms of the note, and then draped it in the guise of acoustic or electronic sound. Abstract music gave the ideal note a sonorous body through the realization of scores by performers or engineers. It began silently in the head and ended in the vibrating garment of sound. German *elektronische Musik*, a child of serialism, was just such an abstract music. With its "rules . . . formulated like an algebra," Schaeffer disparagingly referred to it as "music *a priori*."¹¹ Concrete music was to be the exact opposite—a music that began with sounds recorded from the world and sought to perceive in them (and abstract from them) musical values. The emphasis was placed on listening; the ear would have to train itself to hear these new musical values unique to the sonic materials deployed.

The "sound object," first conceived in the improvised ontology of Schaeffer's experiments in the spring of 1948, would continue to undergo modification and explication for the next two decades—but it always retained the features of discreteness and completeness that characterized its initial leap ahead of the sound fragment.¹² In explicating and clarifying his theory of the sound object, Schaeffer introduced the concept of the acousmatic. "The sound object," Schaeffer tersely states, "is never revealed clearly except in the acousmatic experience."¹³ In what follows, I try to show why this is indeed the case. To do so, I will explicate Schaeffer's mature theory of acousmatic experience, the sound object, and reduced listening (*écoute réduite*) as presented in the *Traité des objets musicaux*. This theory is cast in explicitly phenomenological terms, and I argue that Schaeffer's phenomenology is much closer to Husserl than it is to Schaeffer's French contemporary, Maurice Merleau-Ponty.¹⁴ For without a good understanding of the Husserlian preoccupations of Schaeffer's work, one cannot adequately characterize the relationship between acousmatic experience, the sound object, and reduced listening. Once those various parts of Schaeffer's mature theory have been distinctly separated, the theory and practice of acousmatic listening—the real focus of interest in this book—can begin to be addressed.

DOING AND KNOWING

In 1966, after 15 years of work, Pierre Schaeffer published the *Traité des objets musicaux*. The first draft, which was stolen along with Schaeffer's luggage in Turin, had been rewritten four times in those 15 years. According to Schaeffer, the text had become a veritable "thinking machine."¹⁵ The *Traité*, which is extraordinarily broad in scope, represents the summation of Schaeffer's research into *musique concrète*,

containing reflections on the aesthetics of music, views on the nature of musical instruments and electronic studio tools, psychoacoustic findings, typologies and morphologies of sound, pedagogical recommendations, anthropological and ethnological considerations of the origins of music, and a bevy of other topics too numerous to mention here. Throughout the text, phenomenology is employed not merely as a method, but also, and more importantly, as a kind of commitment that may have indeed been present from the very beginning, only coming into focus slowly and patiently.

In the *Traité*, Schaeffer writes, “For years, we often did phenomenology without knowing it, which is much better than . . . talking about phenomenology without practicing it.”¹⁶ Rather than simply clinching Schaeffer’s avocation for phenomenology, this suggestive sentence opens a series of questions about the relationship between phenomenology and Schaeffer’s work as a theorist and composer. If doing phenomenology is distinct from knowing it, how did Schaeffer’s actions compare with his method? When Schaeffer began to realize that what he was doing was phenomenology, in what ways did this realization alter his practice? Considering the varieties of phenomenology available to Schaeffer—Husserlian, Heideggerian, Sartrean, Merleau-Pontian—it is not trivial to inquire about what kind of phenomenology Schaeffer was unknowingly doing. More provocative than illuminating, Schaeffer’s tantalizing sentence needs further qualification.

Makis Solomos argues that Schaeffer’s style of phenomenology is much closer to Merleau-Ponty than Husserl, that the *Phenomenology of Perception* played a “capital role” in introducing Schaeffer to phenomenology, “offering an immediate and quasi-poetic introduction” to the discipline.¹⁷ Indeed, striking similarities can be found between the *Phenomenology* and the *Traité*. For example, Merleau-Ponty writes, “To return to the things themselves is to return to that world which precedes knowledge”; was this not also the world to which Schaeffer sought to return, a world of concrete sounds prior to the signification and sense that such sounds accrued through musical and cultural usage?¹⁸ Do we not hear the echo of Merleau-Ponty’s view that “we shall find in ourselves, and nowhere else, the unity of and the true meaning of phenomenology” in Schaeffer’s claim that “man describes himself to man, in the language of things”?¹⁹ Like the gestalt figures that litter the pages of Merleau-Ponty’s text, are we not supposed to find in Schaeffer’s explorations of the locked groove (*sillon fermé*) and the cut bell (*cloche coupée*) small figurations of a much larger field—namely, a field of listening understood not simply as the physiological response to an auditory stimulus but as a field of sound objects intentionally constituted by the subject through various modes of listening? Even in Schaeffer’s tantalizing sentence, one can sense him standing in the footprints of Merleau-Ponty, who famously proclaimed “that phenomenology can be practiced and identified as a manner or style of thinking, that it existed as a movement before arriving at complete awareness of itself as a philosophy.”²⁰

The striking similarities cannot be discounted. But such similarities do not tell the whole story of Schaeffer’s relationship to phenomenology. Although Solomos is correct to assert that *Phenomenology of Perception* introduced Schaeffer and others of his generation to phenomenology, perhaps even giving it a general orientation and persuasive power, I would argue that Schaeffer’s reading of Husserl’s texts—*Ideas, Formal and Transcendental Logic*, and the *Cartesian Meditations*—was more

significant in influencing his actual phenomenological practice. Throughout the *Traité*, Schaeffer remains quite close to the letter of Husserlian phenomenological orthodoxy, often calling upon it when trying to articulate his views on the sound object, reduced listening, and the acousmatic field. Consistently, Schaeffer deploys techniques that are Husserlian in character: the transcendental-phenomenological reduction, the eidetic reduction, imaginative free variation, and the reactivation of ordinary experience.²¹

In chapter 15 of the *Traité*, entitled “Objects and Structures,” Schaeffer explicitly claims his phenomenological inheritance. The tantalizing sentence about knowing and doing phenomenology opens a subsection on “The transcendence of the object.” The transcendent object addressed here is, indeed, the sound object, first identified in the early days of *musique concrète*. But after encountering Husserl’s theory of objects, Schaeffer realized that the sound object, first introduced in the improvised ontology of *In Search of a Concrete Music*, could be systematically defined. According to Schaeffer, “only after the fact did we recognize a conception of the object which has been presupposed by our research, [a conception] circumscribed by Edmund Husserl with a heroic demand for precision to which we are far from claiming.”²² Explicitly retrospective, the theory of the sound object presented in the *Traité* is intended to show how Schaeffer’s first intuitions about the sound object were congruent with the phenomenological theory of objects.

So what is Husserl’s conception of the object? An object must not be mistaken for an entity. In everyday parlance, these two terms are often synonymous, but there is an important distinction to be made. An entity refers to an externally existent thing. An object only comes into being when it is cognized, when it is something capable of being apprehended by a subject. One could imagine a world full of material entities, but it would lack objects unless a subject was to be conscious of them. Moreover, if the consciousness of the subject were simply a stream of distinct experiences, each unsynthesized and disconnected from the last, no object would emerge from that manifold.²³ Husserl is interested in the necessary conditions under which objects are possible. One necessary condition is that there be a subject available to cognize them.

A factor motivating Husserl’s theory of objects is his desire to find a single ontology that covers not only objects presented in sensuous perception but also logical and mathematical objects, which cannot be directly, sensuously perceived. A centaur, a proposition, or a formula is as much of an object for Husserl as a horse or a man. The difference between the centaur and the horse depends on its mode of presentation. While the former cannot be given in the mode of direct sensuous presentation—we cannot vividly see a real centaur as we can see a horse standing in a field—it is available to the subject in imagination. Perception, desires, memory, fantasy, and imagination are all considered different modes of presenting objects to a subject. Whether I perceive a man walking across the street, recollect it later that day, or use him as an example in a mathematical word problem, the objectivity of the object remains the same, regardless of the object’s mode of presentation. Moreover, whether or not entities exist—they might indeed—is irrelevant to Husserl’s investigation.²⁴

After citing Husserl’s “conception of the object,” Schaeffer poses a question about the objectivity of the object. “What are the conditions which permit us, as well as others, the recognition of *objectivity*?”²⁵ Schaeffer is really asking two questions. First, under what conditions can an object be identified? Second, how is it that objects can

be intersubjective? In regard to the first question, Schaeffer cites “a well-known passage” from *Ideas*, where Husserl uses the example of a table to explain the difference between an entity and an object.²⁶

Let us start with an example. Constantly seeing this table and meanwhile walking around it, changing my position in space in whatever way, I have continually the consciousness of this one identical table as factually existing “in person” and remaining quite unchanged. The table-perception, however, is a continually changing one; it is a continuity of changing perceptions. I close my eyes. My other senses have no relation to the table. Now I have no perception of it. I open my eyes; and I have the perception again. *The* perception? Let us be more precise. Returning, it is not, under any circumstances, individually the same. Only the table is the same, intended to as the same in the synthetical consciousness which connects the new perception with the memory. . . . The perception itself, however, is what it is in the continuous flux of consciousness and is itself a continuous flux: continually the perceptual Now changes into the enduring consciousness of the Just-Past and simultaneously a new Now lights up, etc. The perceived thing in general, and all its parts, aspects, and phases . . . are necessarily transcendent to the perception.²⁷

The table is always seen from some particular perspective. From no single point are all parts of the table visible simultaneously. In order to see those parts that are invisible from *this* location, I must circle around to the backside of the table; but from *that* location, I can no longer behold what I saw from *this* location. Perceptually, I am presented with a stream of various perspectives, each unique and distinct from the last. Husserl refers to this stream of perspectival views as a series of “adumbrations” (*Abschattungen*).

How is the table ever known as the same? If we take the series of adumbrations as such, we have only a series of multiple acts of consciousness—each registering the look of the table at a particular place and time, from a certain vantage point, or under specific illumination. Yet, nothing immanent to the stream of adumbrations unifies them. Husserl argues that the identity of the object is provided through an act of consciousness, which synthesizes the stream of adumbrations. As each new percept is connected to the one just past and grasped as a whole, an object emerges that can be identified as the same across a variety of acts of consciousness. I can perceive the table-object, but I can also imagine it, narrate a story about it, or hold various beliefs about its provenance. In each of these acts, the object I intend is the same. If we hold ourselves to the flow of adumbrations, we have only a series of perceived *qualities*, but through the synthesis of these qualities, we are able to posit the *identity* of the object, as something that transcends the stream of adumbrations. The act of mental synthesis, which Husserl refers to as a *noesis*, is correlated with an intended object, a *noema*, irreducible to any single adumbration.

When Schaeffer speaks of the “transcendence of the object,” he means it in the sense that the object I intend is not immanently contained in the stream of perceptual adumbrations. Schaeffer writes, “lived particulars [i.e., adumbrations] are the multiple visual, audible, tactile impressions which succeed one another in an

incessant flux, across which I tend towards a certain object, I ‘intend’ it [*je le ‘vise’*] and the diverse modes according to which I connect myself to this object: perception, memory, desire, imagination, etc.”²⁸ This is Husserl’s theory in miniature. Schaeffer describes the flow of adumbrations, an object that comes into being from out of this flow due to its constitution by a subject’s intentionality, and the possibility that these objects may appear under various modes of presentation. Yet, the main focus is on the transcendence of the object. To clarify the nature of this transcendence, Schaeffer compares a perceptual object, like a table, with an “ideal object” like “a mathematical theorem.”²⁹ In either case, the object can be recollected after some interval of time, and my original experience and memory will refer to one and the same object, whether table or theorem; but the mathematical theorem is not individualized in time and space, because the theorem is not dependent upon having been encountered at some particular spatiotemporal location crucial for establishing identity. All instances of the theorem are necessarily identical in a way that all instances of a table are not. The transcendence of objects, whether ideal or perceptual, is demonstrated by the fact that the subject can refer to them again and again, in various modes of presentation and at different times. The objectivity of an object depends on this kind of repeatable reference.

There is a classic example involving a transposed melody that is often deployed to illustrate this point.³⁰ Take, for instance, a melody played on a violin and a transposed version in which none of the pitches are the same as in the original. Despite the transposition and its wholly new set of adumbrations, the two melodies are recognizable as “the same.” The object in both cases is identical. Thus, an object is not the same as a physical-material entity, which, from a scientific perspective, causes my perceptions. Being the correlate of an act of synthesis on my part, an object is irreducible to any particular adumbration, or even all of them taken together. To grasp the difference between the stream of auditory adumbrations and an object, an appeal must be made to the manner in which the auditory event is experienced. Melodies, cries, harmonic progressions, samples, or other sonic events are not experienced as a discrete array of auditory perceptions; rather, according to the phenomenologist, they are experienced as transcendent objects possessing distinct boundaries, durations, identifying qualities, and properties. The phenomenologist of sound does not deny that there is a stream of auditory adumbrations; rather, the focus is on how parts of the stream are primordially grasped as a unity—as a constituted object, or set of objects, transcending any particular adumbration. The transcendent object grounds the possibility of hearing *the same thing* across the multiple acts of listening by a single subject, despite variations in location, attentiveness, knowledge, or fluctuations in the acoustic signal. The transcendental unity of the sound object is a noematic correlate to a synthetic noetic act by the listening subject. This is the background to Schaeffer’s claim that “it is *in my experience* that this transcendence is constituted. . . . To each domain of objects corresponds thus a type of intentionality. Each of their properties depends on acts of consciousness that are ‘constitutive,’ and the object perceived is no longer the cause of my perception. It is ‘the correlate.’”³¹

Schaeffer’s second question concerns the problem of intersubjectivity: Given that the object is constituted by an intentional act of the subject, how is it that multiple subjects can intend the same object? Rather than provide an argument, Schaeffer

asserts that the transcendence of the object is shared by multiple subjects, thus presupposing a shared objective world:

The object transcends not only the diverse moments of my individual experience but the whole set of these individual lived experiences: it [the object] is placed in a world that I recognize as existing for all. If I direct myself towards a mountain, it appears to me as the same... across the multiplicity of my points of view; but, I also admit that the companion who marches at my side is directed towards the same mountain as I am, while I have reason to think that he has a different view of it. The consciousness of an *objective world*... is presupposed.³²

What holds good for perceptual objects (like mountains) also holds for the sound object, but exactly how the sound object grounds the agreement and coordination between different listeners remains unexplained.³³ Schaeffer collapses two situations into one: He conflates (1) the condition that allows one listener to hear the same object several times and identify it as the same with (2) the condition that allows various subjects to correlate their experiences of one and the same object. The noetic-noematic constitution of objects is conflated with intersubjective agreement. Because an object transcends the stream of adumbrations from which it is constituted, and thus is bound to no specific empirical fact, Schaeffer treats this non-empirical foundation as if it adequately guarantees, or at best permits, the sharing of objects between multiple subjects. Yet, this is a very slender basis upon which to ground an account of the intersubjective experience of objects.

Although Schaeffer lacks a thorough account of intersubjectivity, one should not be too critical, for he lacked a good model to emulate. Husserl too was unable to give an adequate account of the nature of intersubjectivity. In the last of his *Cartesian Meditations*, Husserl argues for the importance of empathy as a capacity whereby the subject is able to imagine or project an inner life onto the minds of others. Yet, Husserl spends little time addressing the question of how the objects of others can be brought to a “higher psychic sphere” where shared cultural products and ideas can be shared by a community.³⁴ The problem of intersubjectivity preoccupied Husserl in his later writings and became one of the great bugbears for phenomenological philosophers. Husserl’s famous notion of the lifeworld, or *Lebenswelt*, can be seen as an attempt to deal with the problem of intersubjectivity; but one can also find this problem treated in Heidegger’s (and later Merleau-Ponty’s) emphasis on the primordially of “being-in-the-world,” where, in order to defeat solipsism, consideration of the subject begins by being placed, always already, into a shared world.

THE ACOUSMATIC REDUCTION AND THE *EPOCHÉ*

After addressing the “transcendence of the object,” Schaeffer turns toward the “naïve thesis of the world, the *epoché*.”³⁵ This is significant because, without the *epoché*, there can be no discussion of “acousmatic experience.” Just as the Husserlian theory of the object allows Schaeffer to define the sound object, the phenomenological *epoché* allows for a definition of *lacousmatique*. The two moments are sutured together. Recall Schaeffer’s statement: “The sound object is never revealed clearly except in

the acousmatic experience.” To show why this is the case, we must now investigate the relationship between acousmatic experience and the phenomenological *epoché*.

The reduction of the natural standpoint, also known as the phenomenological *epoché*, is one of the most famous procedures in Husserlian phenomenology.³⁶ Husserl identifies the natural standpoint (or attitude) with a commonsense view of the world: a world immediately available or “on hand,” where I am surrounded by objects and things of which I have immediate knowledge; where I operate habitually and often without reflection; where things possess significance and utility in relation to my interests and goals; a world that has spatial and temporal extension, and to which I am bound through everyday involvement.³⁷ For Husserl, the natural attitude is the given. But to become aware of the natural attitude, there must be some way of holding it at bay, so that it can be examined. Husserl, borrowing the term *epoché* from ancient skepticism, suggests that we should employ an act of “bracketing” or “suspending,” an act of refraining from judgment about the exterior world in order to experience it anew. In Dan Zahavi’s description, “Our investigation should be critical and undogmatic . . . it should be guided by what is actually given, rather than what we expect to find.”³⁸ Rather than committing to the external world by positing it to be factually given, the *epoché* is a method for suspending the posited world and observing it as a startling phenomenon. Husserl often describes the suspension of the natural attitude as a new, presuppositionless beginning in philosophical method.³⁹ Yet, it could also be characterized as a return to the original impulse of philosophy, as identified by Aristotle: “For it is owing to their wonder that men both now begin and at first began to philosophize.”⁴⁰

The *epoché* has implications for philosophy’s relation to natural science. For the phenomenologist, the natural sciences remain bound to the natural standpoint in that they are predicated on an unexamined *belief or faith* in the exterior world. In Schaeffer’s words, “The elaborate discourse of science is founded on this initial act of faith.”⁴¹ This is not to criticize the results of science as useless or mistaken. In fact, as Husserl writes, “to know it [the external world] more comprehensively, more trustworthily, and more perfectly than the naïve lore of experience is able to do . . . is the goal of the *sciences of the natural standpoint*.”⁴² However, classical scientific method has minimized the contribution made by the observer to this knowledge. As Merleau-Ponty was quick to note, science often reduces phenomena to the effects of stimuli upon an organ, yet finds itself unable to explain how those phenomena are experienced. His use of gestalt figures, visual illusions, and phantom limbs was intended to illustrate how perceptual phenomena were irreducible to collections of individual stimuli, like retinal arrays of light or patterns of activation in the nervous system. “When we come back to phenomena we find, as a basic layer of experience, a whole already pregnant with an irreducible meaning, not sensations with gaps between them.”⁴³

For Schaeffer, the natural standpoint must be overcome if musical research is ever to disclose the grounding of musical practice. By bracketing out the physically subsisting fact-world, by barring judgments in relation to it, and by leaving us only with auditory phenomena, hearing can no longer be characterized as a subjective deformation of external things.⁴⁴ The *epoché* “completely shuts me off from any judgment about spatiotemporal factual being. Thus I exclude all sciences relating to this natural world no matter how firmly they stand there for me, no matter how much I admire

them . . . I make absolutely no use of the things posited in them . . . [nor] the propositions belonging to them . . . none is accepted by me; none gives me a foundation."⁴⁵ Listening becomes a sphere of investigation containing its own immanent logic, structure, and objectivity—one that is irreducible to the physical science of acoustics.

The introduction of the acousmatic reduction is modeled on Husserl's *epoché*. By barring visual access to the source of the sound, it is intended to draw our attention to the sound's immanent properties and objectivity. Schaeffer, following the definition given in Larousse, defines the word *acousmatic* as an adjective, "referring to a sound that one hears without seeing the causes behind it."⁴⁶ The term derives from the ancient Greek word *akousmatikoi*, the name given to the disciples of Pythagoras who listened to the master's lectures through a curtain. According to legend, the physical body of Pythagoras was hidden from the *akousmatikoi*, leaving them with only the sound of their master's voice.⁴⁷ Schaeffer, working in the years after World War II, felt the new technologies of recording, telecommunications, and radio to be continuous with the ancient acousmatic experiences of the Pythagorean students. Schaeffer writes, "In ancient times, the apparatus was a curtain; today, it is the radio and the methods of reproduction, with the whole set of electro-acoustic transformations, that place us, modern listeners to an invisible voice, under similar circumstances."⁴⁸

In Schaeffer's application of the *epoché*, the spatiotemporal causes of sounds are bracketed in order to distinguish them from the sound itself, grasped as a transcendent object. The *epoché* is deployed to distinguish an acousmatic field of listening from the field of acoustics. Schaeffer explicitly contrasts the acousmatic situation with the natural attitude, which is presupposed by the field of acoustics:

In acoustics, we started with the physical signal and studied its transformations via electro-acoustic processes, in tacit reference to . . . a listening that grasps frequencies, durations, etc. By contrast, the acousmatic situation, in a general fashion, symbolically precludes any relation with what is visible, touchable, measurable.⁴⁹

Although the acousmatic experience of sound still allows for the possibility of speculating upon or inferring causal sources, it bars direct access to visible, tactile, and physically quantifiable assessments as a means to this end. The translation or transcription of sounds by scientific instruments is barred. The acousmatic experience reduces sounds to the field of pure listening, "*la pure écouter*."⁵⁰ By shifting attention away from the physical cause of my auditory perception toward the *content* of this perception, the goal is to become aware of precisely what it is in my perception that is given with certainty, or "adequately."⁵¹ After the reduction, only the acousmatic field remains.

The distinction is clearer in French, where Schaeffer contrasts *lacoustique* with *lacousmatique*. (In English, we might say that *acoustics* gives way to *acousmatics*—if we could pardon the neologism.) More than a methodological distinction, Schaeffer demonstrated the practical difference between acoustics and acousmatics in his work with magnetic tape. Certain sounds, when transposed or edited, would maintain expected perceptual features. For instance, doubling the tape speed would produce a perceived transposition by an octave. In other cases, the auditory results were unpredictable. Doubling the tape speed on certain inharmonic sounds would produce transpositions at intervals other than the octave. The intentionality of the

ear, and its divergence from scientific hypotheses tied to acoustic experimentation, demonstrated the primacy of the subjective constitution of the sound object, and the difference between the acoustic and acousmatic fields.⁵²

Part of Schaeffer's originality was to see a profound affinity between the phenomenological *epoché* and the role played by the Pythagorean veil. Schaeffer conceived of modern sound reproduction technologies like radio, the loudspeaker, and the tape recorder as participating in the "actuality of an ancient experience," originally opened by the Pythagorean veil.⁵³ Just as Husserl deploys the *epoché* to bracket any claims about spatiotemporal factuality in order to grasp phenomena in their objectivity, Schaeffer understands the Pythagorean veil (and its perpetuation in the form of modern audio technology) as a tool for bracketing the spatiotemporal factuality of the sonic source. This encourages two fundamental changes: First, the objectivity of sound is grasped as a phenomenon, and second, attention is redirected to the particular essential characteristics of a given sound.

This change in listening does not occur immediately upon encountering acousmatic technologies like the Pythagorean veil, tape recorder, or loudspeaker. Schaeffer offers an illustration. When auditioning a recording of a horse galloping across the pampas, visible clues are no longer available to help in the reconstruction of the source.⁵⁴ Naturally, a competent listener *recognizes* the sound as a horse galloping and treats it as an index, pointing back toward its source. The veil would appear, at first encounter, to encourage curiosity about what lies behind it. The acousmatic reduction by itself does not dismiss this possibility—it still allows for the identification of sources and causes—but it bars access to visual and tactual means to satisfy this goal. *Indexical listening* is still available as a possible modality. However, the acousmatic reduction disorients and redirects listening by *reducing sounds to the field of hearing alone*. "Often surprised, often uncertain, we discover that much of what we thought we were hearing was in reality only seen, and explained, by the context."⁵⁵ This is a significant realization. For Schaeffer, the acousmatic experience of sound opens up the possibility of identifying modes of listening more *essential* than those that depend primarily on context. Sound is always in danger of being apprehended as something other than itself—of possessing what Timothy Taylor calls "residual signification."⁵⁶ Take, for example, the recording of the galloping horse. When treated indexically, "... there is no sound object: there is a perception, an auditory experience, through which I intend [*je vise*] *another object*."⁵⁷ A sound object only truly emerges when a sound no longer functions *for another* as a medium, but rather is perceived *as such*.

The emergence of the sound object from the acousmatic situation is precarious. However, the tenuousness of the situation is bolstered by the fact that recordings can be repeated over and over without variation. Counteracting the overwhelming curiosity evoked by the encounter with the veil, mechanical repetition overrides desire and offers a solid footing for the experience of the sound object.

In fact, Pythagoras' curtain is not enough to discourage our curiosity about causes, to which we are instinctively, almost irresistibly drawn. But the repetition of the physical signal, which recording makes possible, assists us here in two ways: by exhausting this curiosity, it gradually brings the sound object to the fore

as a perception worthy of being observed for itself; on the other hand, as a result of ever richer and more refined listenings, it progressively reveals to us the richness of this perception.⁵⁸

Schaeffer's experience with locked-groove recordings and, later, tape loops, was foundational for stabilizing the emergence of the sound object from within the acousmatic situation. Schaeffer writes, "In order to retrieve this fervor of listening, this fever of discovery, it is necessary to have lived through those instants, which any interested person can personally experience, when sound imprisoned on tape repeats itself endlessly identical to itself, isolated from all contexts."⁵⁹ The locked-groove recording or tape loop, like a word spoken over and over again, halts the flow of signification and promotes, through repetition, the hearing of sounds as such. The "fervor of listening" is inversely proportional to a sound's function as an index or sign. Thus, "the better I understand a language, the worse I *hear* it."⁶⁰

MODES OF LISTENING

Schaeffer understood the acousmatic reduction as more than simply a *theoretical* prescription to withhold presuppositions. Rather, it promoted an *art* of listening. The acousmatic experience of sounds is a concrete, lived experience, operating at the perceptual level. It must be heard. From the very inception of *musique concrète*—before he articulated his project in terms of acousmatics—Schaeffer's desideratum was to articulate an art of listening appropriate to his compositions, a way of conveying to others how to listen to *musique concrète*. In this respect, Schaeffer's journals are revealing, especially those written while he was working on his initial *concrète* piece, the *Étude aux chemins de fer*. Schaeffer writes,

As soon as a record is put on the turntable a magic power enchains me, forces me to submit to it, however monotonous it is. Do we give ourselves over because we are in on the act? Why shouldn't they broadcast three minutes of "pure coach" telling people that they only need to know how to listen, and that the whole art is in hearing? Because they are extraordinary to listen to, provided you have reached that special state of mind that I'm now in.⁶¹

How can one articulate that "special state of mind" and instill it in others? It is an understatement to say that listening is a challenging field to theorize, for there is no direct material artifact produced by listening. It is often extraordinarily challenging to convey to others what is being heard in some stretch of sound such that they can reproduce the intended experience. Again, Schaeffer looks to phenomenology for guidance. Like Husserl, who lavishes attention on describing the relationship between objects and the various modes of presentation in which they appear, Schaeffer dedicated many pages in the *Traité* to the sound object and the various modes of listening that one employs when auditioning it. To put it schematically, Schaeffer addresses two dimensions of listening sorted along typical Husserlian lines: the noetic and the noematic. His famous categorization of the four basic modes of listening falls on the noetic side of this project; his theory of the sound object falls on the noematic side.

Four verbs are used to divide up the field of listening: *écouter*, *entendre*, *comprendre*, and *ouïr*. Each of Schaeffer's verbs indicates a distinct mode (*fonction*) of listening.⁶² Each mode must be understood as a unique type of intentional noetic act—a sense-giving act of listening—correlated with a particular type of auditory object.

Ouïr, which is often simply translated as “perception,” is the most primordial mode of listening. According to Schaeffer, “Strictly speaking, I never cease to perceive [*d’ouïr*]. I live in a world which does not cease to be here for me, and this world is sonorous as well as tactual and visual.”⁶³ I am always already in-the-world, and this world is perceptually manifested *for me*. From this perspective, *ouïr* is the most basic mode in which the auditory manifestation of the world is apprehended. It constitutes the “*fond sonore*” shared by all other modes of listening or ways of attending to the sonorous world.⁶⁴ However, this foundation remains hidden in our everyday attentiveness to the source and meaning of sounds. Here, Schaeffer's thinking strongly echoes Merleau-Ponty, who often reflected on the rediscovery of the primordial world of perception. However, unlike Merleau-Ponty, Schaeffer spends little time investigating this *fond sonore*, preferring to focus on other modalities. *Ouïr* provides that which is *passively* “given to me in perception,” but it must be contrasted with other, more active forms of attentiveness and intentionality.⁶⁵

Comprendre, which is sometimes translated as “comprehending” or “understanding,” refers specifically to the reception of sounds mediated by sign systems or languages—a type of listening aimed at getting the message from an utterance or proposition. Michel Chion, in his guide to Schaeffer's *Traité*, glosses the term: “Comprehending means grasping a *meaning*, values, by treating the sound as a sign, referring to this meaning through a language, a code. . . .”⁶⁶ *Comprendre* extends beyond linguistic utterances to systems like music that employ quasi-linguistic auditory signs. Much of what gets taught in elementary harmony classes institutes this kind of listening, showing students how to compose, evaluate, and understand a well-formed tonal phrase, one that demonstrates the requisite musical grammar, proper use of musical *topoi*, or correctly reproduces a given musical style.

The two remaining verbs, *entendre* and *écouter*, are commonly used to describe the active and passive modes of listening that translate into the English equivalents “to hear” and “to listen.” For Schaeffer, *écouter* designates a mode of listening that is securely bound to the natural attitude, where sounds are heard immediately as indices of objects and events in the world. *Écouter* situates sounds in the surrounding sonorous milieu, grasps their distance and spatial location, and identifies their source and cause on the basis of sonic characteristics.⁶⁷ It is an information-gathering mode in which sounds are used as indices for objects and events in the world. For example, if we are crossing the street and suddenly hear the sound of squealing tires, our information-gathering listening mode could mean the difference between life and death. In this mode, “sounds are an index to a network of associations and experiences; we are concerned with causality; it is a question of living and acting in the world, ultimately of survival.”⁶⁸ *Écouter* is active, situated, positional, and indexical. It is also unreflective. When we are in the natural attitude, we immediately posit the objects presented to us perceptually as really existing—there is no reflection on the manner in which the objects are intentionally constituted or upon the variety of their modes of givenness. When listening in this mode, “[I am] directed towards the event, I hold onto my perception, I use it without knowing it.”⁶⁹

Écouter has often played a problematic role in Schaeffer's aesthetics of *musique concrète*. For Schaeffer, the "musical" as such begins only when the source of sounds has been eliminated. Schaeffer consistently uses the term "anecdotal" to describe a mode of listening fixated on sonic sources or causes, a mode clearly captured under the heading of *écouter*. While working on the *Étude aux chemins de fer*, Schaeffer often despaired that his experiments were falling prey to simple anecdotalism:

Isn't the noise of [train] buffers first and foremost anecdotal, thus antimusical? If this is so, then there's no hope, and my research is absurd.⁷⁰

My composition hesitates between two options: dramatic or musical sequences. The dramatic sequence constrains the imagination. You witness events; departures, stops. We observe. The engine moves, the track is empty or not. The machine toils, pants, relaxes—anthropomorphism. All this is the opposite of music. However, I've managed to isolate a rhythm and contrast it with itself in a different sound color. Dark, light, dark, light. This rhythm could very well remain unchanged for a long time. It creates a sort of identity for itself, and repeating it makes you forget it's a train.⁷¹

The categorical divide between the musical and the anecdotal is presented without argument, and many composers before and after Schaeffer would dispute this rigid division. Yet, he strongly maintained this view for his entire career. That aside, it should be noted that the historical and critical popularity enjoyed by the *Étude aux chemins de fer* as an exemplary piece of *musique concrète* is a bit surprising when viewed in the light of Schaeffer's own aesthetics. For the study is hardly about trains at all; rather, it uses trains to generate contrasting rhythms and tone colors. The "trainness" of the sounds, when heard in the way Schaeffer intends, is separated from their purely musical values. In other words, the *étude* studies rhythms, not trains.⁷²

The final mode, *entendre*, must be contrasted with *écouter*. *Entendre* is the mode of listening to a sound's morphological attributes without reference to its spatial location, source, or cause; we attend to sounds as such, not to their associated significations or indices. *Entendre* shares the Latin root *intendere*, with the central phenomenological concept of intentionality. Schaeffer is absolutely clear about this connection; he writes, "For *entendre*, we retain the etymological sense, 'to have an intention.' What I hear [*j'entends*], what is manifested to me, is a function of this intention [*intention*]."⁷³ This connection is lost when *entendre* is translated as "hearing," obscuring the close association between this mode of listening and Schaeffer's phenomenological preoccupations.

"Reduced listening" is Schaeffer's name for the audible act of attending to the sound apart from its source.⁷⁴ This is perhaps an unfortunate choice on Schaeffer's part, because of the confusion it causes: Reduced listening (*écoute réduite*) falls under the mode *entendre*, not *écouter*. It is as if *écouter* becomes *entendre* when the indicative or communicative signification of sounds is reduced.⁷⁵ *Entendre* (or "reduced listening") emerges when *écouter* and *comprendre* are barred. When sounds are auditioned under the mode *entendre*, "I no longer try, through its intermediary, to inform myself about some other thing (an interlocutor or his thoughts). It is the sound itself that I intend [*je vise*], that I identify."⁷⁶ In reduced listening, sound no longer appears as a medium or placeholder for "some other thing."

Entendre plays a central role in two halves of Schaeffer's work, his musical research and his composition. Concerning his research, *entendre* is the mode of listening that forms the basis for his *Programme de la Recherche Musicale* (PROGREMU). John Dack describes PROGREMU as Schaeffer's "ultimate ambition... to discover the basic foundations of musical structure and meaning and that this could only be achieved once the sounds were freed from their causal origins."⁷⁷ In order to attain this end, Schaeffer encouraged musicians "to learn a *new solfège* by systematic listening to all sorts of sound objects."⁷⁸ Chion describes this new *solfège* as "a kind of becoming aware of the new materials of music while distrusting preconceived ideas and relying first and foremost upon what *one hears* [*on entend*]."⁷⁹ Through the selection and appreciation of sonic attributes, it is possible to construct a taxonomy of sounds, capable of organizing and classifying not only the typical sounds of instrumental music, but "the entire sound universe."⁸⁰

On the compositional side, *entendre* is the mode of listening identified with Schaeffer's aesthetic preference for reduced listening. In this regard, the titles of Schaeffer's various études are revealing. Unlike the *Étude aux chemins de fer*, which identifies the source in the title of the work, the later studies remain wholly abstract: *Étude aux objets*, *Étude aux allures*, *Étude aux sons animés*. Rather than identify the source, these later works derive their material from a variety of sources, and then organize it in order to bring out some shared aspect, such as its grain, its duration, its register, or its timbre. These features of the sound object are afforded by *entendre*. Sounds are not employed as indicative or communicative signs; rather, the object is used to focus the listener on some intrinsic feature of the sound, regardless of its worldly reference. If Schaeffer initially worried about the difference between anecdotal and musical sequences in *musique concrète*, the later studies have effaced all traces of this worry by excising the former. The musical sequence alone is promoted. In the *Étude aux objets*, Schaeffer even deploys a plan that is based on traditional musical forms. The opening movement, "*Objets exposés*," smartly indicates its musical function as an exposition of musical materials. The first phrase, for left loudspeaker alone, concatenates eight sound objects of various character, only to be followed by a "counter-theme" for the right speaker, also formed of eight different objects.⁸¹ The rest of the movement sequences and superimposes material taken from the phrases in a manner that is loosely fugal in character. The other movements in the étude are also based on the opening material, developing and drawing connections between sounds through the use of overlapping, mixing, and montage. The final movement, "*Objets rassemblés*," is also described as a "stretto."⁸²

Unlike the purely musical études of Schaeffer in the late 1950s that efface all traces of *écouter* for the sake of *entendre*, a work like Pierre Henry's *Variations pour une porte et un soupir* thematizes the alternation of the musical and the anecdotal in an elegant manner.⁸³ The title of Henry's work is telling; it is a set of variations *for*—not *on*—a door and a sigh. Thus, it is conceptually closer to a work that names its instrumental forces, like Messiaen's *Theme and Variations for Violin and Piano*, than to a work like Reger's *Variations and Fugue on a Theme of Mozart*. The latter is based on a well-known musical theme and (existing in both orchestral and piano versions) is perhaps conceived as indifferent to its instrumental forces. In Henry's short movement entitled "*Étirement*," all sounds come from a recording of a creaking door hinge. In the left and right speakers, Henry begins with—pun intended—opening

gestures. The referentiality of the sounds is brought to the fore by the sharp, percussive stridulations of the creaking hinge. The listener can sense the size and heft of the door, and the physical force required to move it. In the course of one minute, Henry transmogrifies these creaking doors into a musical duet by editing and sequencing passages that bring out dramatic melodic profiles, layered to create overlapping and unexpected entrances. The doors lose their characteristic “dooriness” and are metamorphosed into flatulent tubas, rumbling contrabasses, or honking baritone saxophones. At the moment when the sounds are most continuous, having reached a crescendo, Henry ends the piece by slowly letting the doors creak shut in a closing *rallentando* where each snap of the hinge is distinctly and clearly articulated. The ear of the listener hovers between anecdotal reference and musical autonomy—oscillating between *écouter* and *entendre*.

THE EIDETIC REDUCTION AND THE END OF IMPROVISED ONTOLOGY

If the only concern of this chapter were to introduce Schaeffer’s concept of *l’acousmatique*, I could stop right here. We have seen how the acousmatic reduction is modeled on Husserl’s phenomenological *epoché*. We have also seen how the acousmatic reduction brings various modes of listening to the attention of the listener. By defamiliarizing everyday practices of listening, the acousmatic reduction makes these modes perspicuous. (Or, to use less visually centered terms, we could say that the acousmatic reduction brings these modes of listening into audibility.) If Schaeffer prefers *entendre* or reduced listening to other modes, this is not a valuation that *necessarily* follows from the acousmatic reduction. It must be noted that all modes are available within the acousmatic situation. The acousmatic situation is not a constraint on modes of listening; it is a way of bringing those modes into focus.

Although this is an important point, one that has been generally underappreciated in the reception of Schaeffer’s work, there is still more to say about the role of the acousmatic reduction in Schaeffer’s project if we want to explain the reasons behind his claim that “the sound object is never revealed clearly except in the acousmatic experience.” If the acousmatic reduction brings the variety of modes of listening to the fore without preference for one of them, what is the special relationship between the sound object and acousmatic reduction?

As I argued earlier, by barring our access to visual, tactile, and measurable causes of sounds, the acousmatic reduction reduces sounds to the field of hearing alone. The listener is directed away from the physical object that causes a perception, toward the *content* of that perception. This shift is useful not only for bringing modes of listening into audibility, but also for establishing a few negative claims about what cannot constitute the sound object.⁸⁴ Once the *content* of some auditory perception is distinguished from its source or cause—once a split between the sonic source and its auditory effect has been established—then it is no longer possible to think of the sound object as determined by some physical thing. This is why Schaeffer claims that “the sound object is not the instrument that was played,” nor is it reducible to “a few centimeters of magnetic tape.”⁸⁵ These negative definitions might lead one to assume

that, if the sound object is irreducible to some physical thing, then it must be reducible to some subjective state. Schaeffer anticipates this line of thought:

To avoid confusing [the sound object] with the physical cause of a “stimulus,” we seemed to have grounded the sound object on our subjectivity. But... the sound object is not modified... by the variations in listening from one individual to another, nor with the incessant variations in our attention and our sensibility. Far from being subjective... [sound objects] can be clearly described and analyzed.⁸⁶

The challenge or “ambiguity” of the sound object is to realize that it is indeed “an objectivity linked to a subjectivity.”⁸⁷ So what constitutes the objectivity of this ambiguous object?

To answer this question, Schaeffer supplements the acousmatic reduction or *epoché* with a second reduction, known in phenomenology as the *eidetic reduction*. The motivation behind Schaeffer’s use of the eidetic reduction is simple; if the sound object is intended to ground the identification of sounds across multiple acts of listening and among multiple listeners, then the basis for its objectivity must be explained. The use of sound objects in *musique concrète* may help us to perceive and appreciate specific qualities of sound objects, but a piece of *musique concrète* is not a philosophical argument for the objectivity of sound objects generally. This is where the eidetic reduction comes into play. The eidetic reduction is a technique deployed by Husserl intended to reveal an object’s *essential* features. Starting with some particular object, Husserl encourages the philosopher to detach it from its real situation and treat it as an “arbitrary example” that acts as a guiding model, “a point of departure for the production of an infinitely open multiplicity of variations.”⁸⁸ By producing a series of “free variants,” each of which is also imagined, “it then becomes evident that a unity runs through this multiplicity.” In the act of producing a set of free variations, “an *invariant* is necessarily retained... according to which all the variants coincide: a *general essence*.” The essence of an object “proves to be that without which an object of a particular kind cannot be thought,” or in other words, an essence discloses the very condition of the possibility of some object’s identity.⁸⁹ For Husserl, such essences form the basis of an object’s objectivity; for without an a priori grasp of an object’s essence, we could not identify and re-identify particulars.

In the *Cartesian Meditations*, Husserl returns to his example of a table in order to show how “imaginative free variation” operates as a technique for disclosing essences:

Starting from this table-perception as an example, we vary the perceptual object, table, with a completely free optionalness, yet in such a manner that we keep perception fixed as perception of something, no matter what. Perhaps we begin by fictionally changing the shape or color of the object quite arbitrarily... In other words: Abstaining from acceptance of its being, we change the fact of this perception into a pure possibility, one among other quite “optional” pure possibilities—but possibilities that are possible perceptions. We, so to speak, shift the actual perception into the realm of non-actualities, the realm of the as-if.⁹⁰

Three aspects of the process are worth noting: (1) Imaginative variation reveals *invariant* properties of the transcendent object. By imagining the table in a variety of changing contexts (changing its shape, color, structure, etc.), the essence of the phenomenon comes to be grasped and understood. Variation is a technique for revealing *essence*. (2) By undergoing the reductive test of the *epoché*, by bracketing all theses dependent upon the external world, imaginatively varied intentional objects are freed from all bonds to the external world. Thus, *the distinction between fiction and reality becomes moot*. In the lectures on the *Idea of Phenomenology*, Husserl explains that when considering essences, “perception and imagination are to be treated exactly alike,” because any “suppositions about existence are irrelevant.”⁹¹ (3) Since existential questions are irrelevant, it is no longer possible to argue that transcendent objects are merely subjective fictions. For Husserl and Schaeffer, the contents of our mental acts possess a special type of objectivity. Schaeffer writes: “No longer is it a question of knowing how a subjective hearing interprets or deforms ‘reality,’ to study reactions to stimuli; hearing itself becomes the origin of the phenomenon to study.”⁹² Hearing, whether imagined or real, presents us with indubitable evidence or data. Based on such indubitable evidence, intentional objects are both *ideal and objective* or, in Husserl’s terminology, “ideal objectivities.”⁹³

In a section of the *Solfège de l’objet sonore* entitled “The objectivity of the object,” Schaeffer relies upon variation and eidetic reduction to clarify the objective character of the sound object.⁹⁴ In each of his examples, Schaeffer takes the same recording and gives it a variety of electronic variations. By taking a sound and using electronic means to alter its qualities, Schaeffer *pedagogically produces* a set of variations with the aim of disclosing the sound object’s *invariant* and *essential* features. The sound of a gong gently rolled with soft mallets is played twice, followed by variants: by adjusting the potentiometers, the envelope of the object is varied; by using low and high pass filters, the mass and grain of the object are varied; subtle shifts in volume create an object with more *allure*, or internal beating; and finally, a combination of techniques produces another variant. As a listener, not only do we recognize the different variations as variations, we also hear them as one and the same sound object. The objectivity of the sound object is intended to emerge across its various instances.

No two instantiations are exactly the same: From an acoustician’s point of view, the signal would contain measurable differences in each case; from the phenomenological point of view, each variant differs in aspect from the last. Schaeffer concludes,

we must therefore stress emphatically that [a sound] object is something real [i.e., objective], in other words that something in it endures through these changes and enables different listeners (or the same listener several times) to bring out as many aspects of it as there have been ways of focusing the ear, at the various levels of attention or intention of listening.⁹⁵

While employing these examples to demonstrate the objectivity of the sound object, Schaeffer wants to defend against any reduction of this demonstration to a set of studio tricks. “The purpose of these manipulations, these technical tricks, is purely pedagogical. It is an anticipation of the way in which the ear becomes increasingly alert, the more often one listens to the same object.”⁹⁶ By emphasizing the pedagogical use of these “manipulations,” Schaeffer is also noting that there is nothing

specifically technical about the objectivity of the sound object. It could have been demonstrated otherwise than with mechanical means; one could have simply imagined such variations for oneself. *Once Schaeffer commits to the eidetic reduction, there can be no essential difference between imagined hearing and actual hearing.* The “mode of givenness” may change, but the “central core” remains the same.⁹⁷

Many of the techniques developed for producing *concrète* works depend upon variation. The composer subjects recorded sounds to filtration, editing, looping, reverberation, and changes in speed or direction. The results of such processes must be auditioned again and again to determine whether these variations present us with “the same” sound object or a new sound object entirely. Each variation is an investigation into the objectivity of the sound object. Although Schaeffer clearly incubated his ideas about the sound object from within the *concrète* context, one must not treat his *solfège* as simply a method for learning *musique concrète*. The point of his phenomenological project is to identify an object capable of grounding both acoustics and our musical practices, be they concrete or abstract. Schaeffer’s desideratum is to systematize what first began as an improvised musical ontology.

ORIGINARY EXPERIENCE AND THE PROBLEM OF HISTORY

After the eidetic reduction, Schaeffer’s musical ontology is much clearer. A sound object is disclosed as a particular type of transcendental object, the typing of a sonic token defined by the possession of certain invariant features. Each empirical token of a sound object is identifiable and re-identifiable based on noetic synthetic acts, just like any other kind of object; each sound object, as a type capable of having many tokens or instances, is identifiable based on the recognition of a set of invariant, essential features. At the level of the token, it makes no difference under what mode the sound object is heard. We need not be attending to a sound’s immanent morphological features to grasp it as an object; we could just as well be listening to it for its source or cause. But this is not the case when we talk about a sound object as a type. Here, all non-immanent properties have been stripped away. After undergoing the test of the *epoché*, after being acousmatically reduced and heard via “reduced listening,” we can start to imaginatively vary a sound object in order to disclose its essential, invariant properties. Those invariant properties, which are always morphological for Schaeffer, identify a sound object as a specific kind or type. A sound object in this sense is an ideal object; it inhabits an order of essences (in the phenomenological sense) that guarantees repetition without difference. It insures ascriptions of identity to sounds across a variety of contexts, and thus also governs ascriptions of difference and variation, which are so central to musical composition. A sound object, in its fullest sense, is to be ontologically distinguished from the realm of empirically sounding events in that its ideal “being” guarantees infinite empirical identification and re-identification without divergence.

The eidetic reduction also clarifies the relationship between the sound object and technology. For Schaeffer, the empirical repetition afforded by technologies of recorded sound is simply a consequence of the ideality and repeatability of the sound object. Technology may be important, but it would be a misunderstanding of Schaeffer’s thinking to assume that the sound object is in any way the result of modern sound technology. The Pythagorean veil or the loudspeaker, both of which

encourage the acousmatic reduction and recognition of sounds distinct from their causes, find their condition of possibility in the ideal objectivity of the sound object.

In contrast to Schaeffer's claim from May of 1948 that the sound object "does not fit in with the elementary definitions of music theory," the ideal objectivity of the sound object is perfectly *music theoretical*. It follows upon and re-inscribes the ideality that was previously attached to the note: It defines a class, a type possessing tokens. Each sound object is a specific essence, an ideal objectivity posited as the ground that guarantees its repeatability. But as an ideality, this sound object does not exist in the world. It is heard *in sounds*, but must also be distinguishable from the actual sonorousness of sounds. The sound object is not itself sonorous. In the silence of imagined sound, where there is nothing actually vibrating, one can perform intentional acts that depend on the sound object's ideal stability, such as conceiving, comparing, composing, and distinguishing sounds.

The ontological grounding offered by the sound object challenges the claims of acoustics, or any science bound to the natural attitude. From Schaeffer's perspective, the acoustician is mistaken to take the signal as primary. Nowhere is Schaeffer more explicit on this point than when he writes, "One forgets that *it is the sound object, given in perception, which designates the signal to be studied*, and that, therefore, it should never be a question of reconstructing it on the basis of the signal."⁹⁸ This is an orthodox phenomenological strategy: By grounding the acoustician's signal upon the sound object, Schaeffer considers his investigation to be more ordinary, since it provides an ontological foundation to the merely empirical (or ontic) conclusions of acoustics. Compare this strategy with Heidegger's description of phenomenological reduction from *The Basic Problems of Phenomenology*. "Phenomenological reduction means leading phenomenological vision back from the apprehension of a being, whatever may be the character of that apprehension, to the understanding of the Being of this being."⁹⁹ This ontological understanding—"the Being of beings"—consistently resists the habitual tendency to gather our ontological terms from the natural attitude.

Not only is the hidden foundation of the acoustician's signal revealed as grounded upon the sound object, the sound object also underlies and determines our own subjectivity. According to Schaeffer,

I must *free myself from the conditioning* created by my previous habits, by passing through the test of the *epoché*. It is never a question of a return to nature. Nothing is more *natural* than obeying the dictates of habit. [Rather,] It is a question of an *anti-natural* effort to *perceive what previously determined my consciousness without my knowing it*.¹⁰⁰

The process of phenomenological reduction lends to the sound object a strange trajectory: Methodologically, one discloses the sound object only at the end of the investigation, after a series of interlocked reductions; but ontologically, the sound object is absolutely first, a priori. The priority of the sound object is evinced when Schaeffer writes, "I must re-visit the auditory experience, to re-grasp my impressions, to re-discover through them information about the sound object."¹⁰¹ Due to the danger of continually losing the sound object to habit, one must constantly become reacquainted with it. But one can only be *reacquainted* with something with

which one was already familiar. Perhaps the strangeness of this trajectory becomes less mysterious, less portentous, when we realize that it is simply teleological.

Yet, only through incessant revisiting, re-grasping, and rediscovering is the sound object revealed as the “originary experience” of phenomenological investigation.¹⁰² In the phenomenological literature, an originary experience designates something quite specific; it marks the discovery of some transcendental region or field of inquiry (such as geometry, logic, technology, etc.) by a founding (noetic) act, which discloses a horizon containing all future investigations of that region. Through reactivation, an originary experience is available to all inquirers at all times. It is an inquiry into the propagation of essences, into the sense and structure that make some region of experience or thought possible, not into the factual circumstances or engagements of particular historical individuals or modes of apprehension. To explicate this concept, it is useful to compare Husserl’s introduction of the originary experience of geometry, as presented in *The Origin of Geometry*, with Schaeffer’s use of the concept. Husserl writes,

The question of the origin of geometry...shall not be considered here as the philological-historical question, i.e., the search for the first geometers who actually uttered pure geometrical propositions, proofs, theories...or the like. Rather, our interest shall be the inquiry back into the most original sense in which geometry once arose, was present as the tradition of millennia, is still present for us, and is still being worked on in a lively forward development.¹⁰³

This “regressive inquiry” or *Rückfrage* avoids anything that could be called historical.¹⁰⁴ The question of origins replaces the question of beginnings. Although Schaeffer first discovers the sound object by means of a material engagement with real technical devices in the studios of Radiodiffusion Française, in his mature theory, the revelations that emerged from the *cloché coupée* and the *sillon fermé* no longer constitute new phenomena. Harkening back to the time of Pythagoras and echoing Husserl’s own analyses of the origin of geometry, the disclosure of the sound object from within the acousmatic and eidetic reductions is less a historical phenomenon than the rediscovery of an originary experience first disclosed in ancient Greece and reactivated by the technology of sound reproduction.

An analogy can be drawn between the geometer and the electronic musician. Husserl writes,

The geometer who draws his figures on the board produces thereby factually existing lines on the factually existing board. But his experiencing of the product, qua experiencing, no more *grounds* his geometrical seeing of essences and eidetic thinking than does his physical producing. This is why it does not matter whether his experiencing is hallucination or whether, instead of actually drawing his lines and constructions, he imagines them in a world of phantasy.¹⁰⁵

The same could be said of the sound object. Whether a sound is locked in a groove, looped on a tape, or hallucinated in fantasy, the contingent and constantly varied experience of sound cannot provide a foundation for its qualitative, indicative, or communicative aspects. The geometrical drawing, with all of its crooked lines, is

akin to the acoustician's signal—empirical, inessential, and contingent. As a vehicle to arrive at the sound object, *the empirical phenomenon* “does not matter.” However, in the drive to locate a secure grounding for aural experience, *experience itself falls away*. Husserl says as much:

[The] *pure eidetic sciences* . . . are pure of all positings of matters of fact; or, equivalently: *in them no experience, as experience*, that is, as a consciousness that seizes upon or posits actuality, factual existence, *can take over the function of supplying a logical ground*. Where experience functions in them it does not function as experience.¹⁰⁶

Experience remains curiously ungrounded in phenomenology's eyes and must be supplemented after the fact with an ideal objectivity. Experience becomes secondary to its role of providing evidence for disclosing essences. Through a sleight of hand, phenomenology covertly places its ontology prior to experience, and then subsequently discloses the ontological horizon *as if* it were always already present—as if *its* ontology made experience possible in the first place.

In the Husserl passage just cited, this is made explicitly clear; the “pure eidetic sciences,” if they want to remain free of the vulgar contingency of history, causality, or culture, *must* remain free of the “positings of matters of fact.” Such vulgar positings (i.e., history, biography, culture, fact, contingency, chance, etc.) might sully the immaculate purity of philosophy as a rigorous science. In Husserl's privileged domain of geometry, the ethical imperative to avoid contingency at all costs is clearly demonstrated where the “originary experience” of geometry cunningly displaces any kind of material-historical investigation into its beginnings. The phenomenological necessity to end-run contingency, to remove the historical from history, is a self-imposed blind spot, an act of hardheaded idealism.

OBJECTIONS

The motivation for this chapter was to clarify the statement “the sound object is never revealed clearly except in the acousmatic experience.” By rehearsing Schaeffer's argument and articulating how he models his research in the *Traité* upon Husserlian phenomenology, I have tried to show the precise relationship between the sound object and the experience of the acousmatic reduction. They are not the same. The acousmatic reduction restricts listening to the field of hearing alone, by bracketing visual, tactile, and other sensory means of assessing sounds. The acousmatic reduction is Schaeffer's version of the phenomenological *epoché*. Within the acousmatic reduction, various prominent modes of listening emerge. Some modes are indicative and communicative, where the sounds are used as signs to direct the listener's attention to physical-causal sources or linguistic meanings; others are self-reflexive, directing attention toward the intrinsic qualities and characteristics of sounds. *Entendre* and reduced listening are of the latter variety, *écouter* and *comprendre* of the former. The habitual everydayness of *écouter* and *comprendre* is disturbed after undergoing the acousmatic reduction. As for the sound object, it underlies all the various modes of listening, for a sound object is the basic ontological unit in Schaeffer's account. If it is only clearly revealed in the mode *entendre*, this is because Schaeffer thinks

that the additional signification added to a sound when treated as an indicative or communicative sign can be reduced away without essentially changing the ontology of the sound. The essential qualities of the sound object are revealed in a process of imaginative variation, or eidetic reduction. This further reduction brings out the invariant features of an object and discloses these features as constituting the object's ideal objectivity.

I reiterate this account because the relationship among the acousmatic reduction, the sound object, and reduced listening is not always clearly understood. Even some of our finest writers on 20th-century sound, music, and technology occasionally miss these distinctions. Frances Dyson writes,

Pierre Schaeffer, for instance, taking an essentially phenomenological approach, argued for “acousmatics”—a reduced listening that would bracket sounds from their musical and cultural origin and focus listening on sounds “in themselves” without recourse to their visual or material source.¹⁰⁷

The imprecision in this sentence—which glosses acousmatics by identifying it with reduced listening and places an emphasis on sounds in themselves and the separation of the senses—may appear insignificant. Yet, without a precise distinction between these various parts of Schaeffer's project, we cannot really subject acousmatic experience to a thorough, honest, and clear-sighted assessment. Indeed, “the sound object is never clearly revealed except in the acousmatic experience,” but it does not follow that acousmatic experience is *necessarily* beholden to the theory of the sound object.¹⁰⁸ Nor do we need to understand the acousmatic experience of sounds according to the phenomenological approach of Schaeffer. In fact, there is much left to be said about acousmatic experience *in distinction to* Schaeffer's affirmation of the sound object and reduced listening, and *apart from* his phenomenological method.

The chapters that follow investigate acousmatic experience in other terms than those proposed by Schaeffer. But before moving on to those investigations, I will quickly present three objections to Schaeffer's theory, with the acknowledgment that each objection functions as a starting point for investigations of acousmatic experience in the chapters that immediately follow. My three objections concern (1) the phantasmagoric effacement of technology in Schaeffer's thinking; (2) the mythic use of the Pythagorean veil; and (3) the ontological problem that emerges when sounds are conceptualized as sound objects that reify sonic effects, rather than events that bind source, cause, and effect together. These three objections are further developed in parts II and III.

The Ontological Problem

By positing the sound object as the ontological grounding of musical experience, Schaeffer commits himself to an ahistorical view about the nature of musical material. Of course, for Schaeffer, that is precisely the point; the sound object must be defined in a purely objective manner in order to ground subsequent research. Schaeffer employs phenomenology in the same way that Husserl did, as a rigorous

science that veers away from the naturalistic grounding of the physical sciences. However, one might object that the severe reduction required to “disclose” the sound object is not worth the effort, since it sacrifices all ties of the sound object to its context and history. Despite Schaeffer’s goals, the method used to disclose a sound object as an essence ends up denaturing the object and thus distorting the resulting essence.

This objection follows along the lines first proposed by Theodor Adorno. In the late 1920s, Adorno argued that “the cognitive character of art is defined through its historical actuality.”¹⁰⁹ The compositional act is engaged, from the very beginning, in a historical dialectic presented *in the form of* musical material. Adorno writes,

It is the material which provides the stage for progress in art, not individual works. And this material is not like the twelve semitones with their physically patterned overtone relationships, interchangeable and identical for all time. On the contrary, history is sedimented in the figurations in which the composer encounters the material; the composer never encounters the material separate from such figurations.¹¹⁰

The equivocal term “figuration” is intended to capture this dialectic of material and history: Sounds and notes do not simply constitute a realm of essence detachable from their moment, sites of production, or reception. Rather, they need to be recognized as a sedimentation of historical and social forces.

But such figurations are precisely the *disjecta membra* cast aside by reduced listening. The indicative and communicative sign is dismissed as inessential to Schaeffer’s foundational project. In order to have an existence in the domain of the musical work, indicative and communicative signs must be reconstructed on the basis of the sound object. This style of reconstruction is hardly value-neutral. In fact, it reveals a bias that is manifest in the phenomenological method itself, despite its claims to be merely a descriptive science. As Adorno once wrote, “The form of phenomenological description borrowed from the sciences, which is supposed to add nothing to thought, changes it in itself.”¹¹¹ This change is made in the name of securing an a priori ontological foundation, but the benefits of such a foundation are attained at the expense of historically sedimented “residual signification.” Schaeffer, unwilling to see his own composing and theorizing as historically conditioned, deludes himself into describing a sonic material that necessarily stands outside history. What Adorno writes about Husserl also holds of any foundational musical ontology: “ostensible original concepts . . . are totally and necessarily mediated in themselves—to use the accepted scientific term—‘laden with presuppositions.’”¹¹²

Although the acousmatic reduction does not bar the possibility of hearing sounds in relation to their source, when combined with the eidetic reduction, it changes the way sounds are conceptualized. They become audible phenomena, understood as ontologically distinct from their causal sources. Either we hear through the sound object to its source or attend to it for its own intrinsic features—but in either case, the sound object, taken as a phenomenon, has priority. This phenomenalization of sound, which is part and parcel of Schaeffer’s acousmatic *epoché*, encourages the listener to understand sounds as objects, not as events. An event-based ontology of sounds is not congruent with a Husserlian emphasis on intentional, transcendent

objects or noema. Unlike an event-based ontology, where the effect of a sound is not conceptually distinguished from its source or cause, Schaeffer's theory assumes a split from the outset. This authorizes a reification of the sonic effect and makes it impossible to accurately determine the ontological relation of effect to source and cause within a Schaefferian framework.

Even theorists who claim allegiance to Schaeffer have not accepted his reification of the sound object. For instance, Michel Chion, who often praises Schaeffer's work, challenges the strict separation of source and effect when he introduces the figure of the *acousmètre* in *The Voice in Cinema*.¹¹³ For Chion, the magical powers of the *acousmètre*—the strange cinematic figure of an audible voice without a clearly visible body—depend on “whether or not the *acousmètre* has been seen.”¹¹⁴ The *acousmètre* is never an essence, ontologically indifferent to the source from which it is emitted; rather, the gap that separates the voice from its source generates the *acousmètre*'s strange potency. Never suspended, never bracketed, the *acousmètre* depends on the *paradox* of the effect without a cause—a paradox that has been reduced in Schaeffer's eidetic theory of the sound object. In chapter 5, I will return to Chion and the *acousmètre*, along with literary examples from Kafka and Poe, to show how an auditory effect always underdetermines its source and cause; and how the strange potency attached to such underdetermined sounds challenges any kind of eidetic reduction.

Phantasmagoria

Schaeffer maintains an essentialist view of technology. Rather than theorize the acousmatic reduction in its specific relationship to modern audio technology, Schaeffer conceives of it as the reactivation of an ancient telos, an originary experience presupposed and retained in our practices, yet always available to be re-experienced in its fullness. He writes,

The acousmatic situation, in a general fashion, symbolically precludes any relation with what is visible, touchable, measurable. Moreover, between the experience of Pythagoras and our experiences of radio and recordings, the differences separating direct listening (through a curtain) and indirect listening (through a speaker) *in the end become negligible*.¹¹⁵

Instead of capitalizing on this difference and distinguishing the manner in which new forms of technology produce *historically unique affordances or opportunities*, Schaeffer conjures technology into an archetype, disclosing a realm of essence that is always already present—and thus essentially ahistorical. Phantasmagorically, Schaeffer masks the technical specificity and labor involved in the production of the sound object, in order to present an autonomous realm of sonic effects without causes. In the “fervor of listening,” Schaeffer effaces the historical and material specificity of the locked groove (*sillon fermé*) in the name of the disclosure of an eidetic sound object. In other words, acousmatic experience is treated like a horizon of possibility that underlies certain kinds of experiences epitomized in modern audio, rather than as a field constituted through material engagement with various forms of technology, both visual and auditory.

Carlos Palombini has convincingly argued for the explicit connection between Heidegger's and Schaeffer's views on technology.¹¹⁶ In particular, both Heidegger and Schaeffer conceive of the technological domain as distinct from its particular cultural and social manifestations. According to Heidegger, "Technology is not equivalent to the essence of technology."¹¹⁷ This is no anodyne claim; Heidegger assumes a split between the factual and the essential. Instead of negotiating with technology in its concrete, material manifestations, it must be reconceived as an ontological perspective, a new form of understanding or disclosing the world. Heidegger writes, "Technology is therefore no mere means. Technology is a way of revealing."¹¹⁸

Schaeffer would agree. Materially and historically specific forms of technology (magnetic tape and its possibilities of editing, splicing, and playback; the *phonogène*, the morphophone, analogue filters, and artificial reverberators) may have afforded the conditions for developing *musique concrète*, but Schaeffer views technology as something far greater than the sum of such material conditions. More than just a prosthesis for the senses, technology discloses a "way of revealing." Schaeffer writes,

The age of mechanism, denounced wrongly by Pharisees of spiritualism, is the age of the most inordinate human sensibility. It is not solely a question of machines for making, but of machines for feeling which give to modern man tireless touch, ears and eyes, machines that he can expect to give to him to see, to hear, to touch what his eyes could never have shown him, his ears could never have made him hear, to touch his what his hands could never have let him touch. As this enormous puzzle, which knowledge of the exterior world is, composes itself, strengthens itself, verifies itself and finally "sets" into shape, man recognizes himself in it: he finds in it the reflection of his own chemistry, his own mechanisms.¹¹⁹

But what is ultimately revealed? The celebration of new possibilities for feeling and sensation is superseded by man's recognition of himself, where "man" is characterized wholly abstractly. This is no account of historically specific persons involved in artistic or critical engagements with the technological means at hand; rather, Schaeffer presents a picture of ahistorical, existential man discovering himself within a teleological horizon. What modern technology reveals for Schaeffer is little more than an abstract glimpse into an ancient originary experience. Where "man describes himself to man, in the language of things," the "voice" of technological things is silenced. In chapter 4, I will revisit the relationship of acousmatic listening and phantasmagoria and present the historical context for their close affiliation. Additionally, I posit a set of philosophical conditions that underlie cases of musical phantasmagoria and propose a more productive model for understanding the role of technology, broadly construed, in the production of acousmatic experience.

Myth

Roland Barthes once said, "Myth deprives the object of which it speaks of all history."¹²⁰ In the Schaefferian discourse, the sound object is indeed the object that has exchanged its history for myth. The terms of that myth are well defined: The experience of the electronic musician in the studio reactivates the ancient originary experience of the Pythagorean disciples who heard the master speak from behind a veil.

This claim is not authorized by a patient historical account, but simply by an act of mythic identification.

The mythic identification between Pythagoras and the composer of *musique concrète*, initiated by Schaeffer, is prolonged in his students' work. This is clearly evinced in François Bayle's writings on acousmatic music. Bayle offers a standard account of the history of the term "acousmatic," tracing its origins to the legendary accounts of Pythagoras lecturing to his disciples from behind a veil. But two extra features are added: First, he writes that the Pythagorean disciples were placed in the dark; second, he writes that the *akousmatikoi* developed a special technique for concentrated listening.¹²¹ As I will show in chapter 2, neither of these features has sufficient historical evidence to support it. Rather, they resemble Bayle's own modifications to and prescriptions for the practice of *musique concrète*. Bayle has been instrumental in developing darkened spaces for the performance of acousmatic music, in which an engineer at a mixing console spatially projects sounds. Thus, a specious identification is produced between the ancient acousmatic situation of the Pythagorean disciples and Bayle's own practice. Just as Pythagoras announced his teachings to his pupils in the dark from behind a veil, so too does the acousmatic music composer project his discourse into a darkened hall while remaining obscure. The loudspeaker and mixing console prolong the Pythagorean veil. As for the second feature, one can imagine that these special listening techniques foreshadow Schaeffer's *écoute réduite*, various kinds of sonic *sofège*, or even the link between the Husserlian technique of phenomenological *epoché* and the acousmatic reduction. To say the least, historical accuracy does not motivate Bayle's account. When the distance between our technological devices and the veil of Pythagoras becomes negligible, sadly, we are in the presence of ideology. As Marx wrote, "... we must pay attention to this history, since ideology boils down to either an erroneous conception of this history, or a complete abstraction from it."¹²²

33. For a suggestive analogy, see Whitney Davis, *A General Theory of Visual Culture* (Princeton, NJ: Princeton University Press, 2011) and his use of the term “visuality.”
34. In chapter 3, I discuss a moment in 18th-century France when a historical agent explicitly attempted to coin a word to describe an extraordinary audible phenomenon that was heard but not seen, what I would call an acousmatic sound.

CHAPTER 1

1. Journal entry of March 1948. Pierre Schaeffer, *A la recherche d'une musique concrète* (Paris: Éditions du Seuil, 1952). All further citations are from *In Search of a Concrete Music*, trans. Christine North and John Dack (Berkeley, CA: University of California Press, 2012). I have occasionally modified North and Dack's rendering when necessary.
2. March. *Ibid.*, 4.
3. April 18. *Ibid.*, 6.
4. May 5. *Ibid.*, 12.
5. May 10. *Ibid.*, 13.
6. April 19. *Ibid.*, 7.
7. April 21. *Ibid.*
8. May 15. *Ibid.*, 14.
9. *Ibid.*
10. April 21. *Ibid.*, 7.
11. Schaeffer, *Traité des objets musicaux*, 20.
12. However, Schaeffer's method for theorizing the sound object would change dramatically. Throughout *In Search of a Concrete Music*, Schaeffer relies on information theory to indentify the sound object. This is in contrast to the phenomenological method of the *Traité*.
13. *Traité*, 95.
14. My emphasis on Schaeffer's Husserlianism contrasts with scholars who claim Merleau-Ponty as the central phenomenological influence on Schaeffer. See Michel Chion, *Guide des objets sonores*, 32; and Makis Solomos, “Schaeffer phénoménologue,” in *Ouïr, entendre, écouter, comprendre après Schaeffer* (Paris: Buchet/Chastel, 1999), 53–67.
15. Marc Pierret, *Entretiens avec Pierre Schaeffer* (Paris: P. Belfond, 1969), 97.
16. *Traité*, 262.
17. Solomos, “Schaeffer phénoménologue,” 57–58.
18. Maurice Merleau-Ponty, *Phenomenology of Perception*, trans. Colin Smith (London: Routledge & Kegan Paul, 1962), ix.
19. Merleau-Ponty, *ibid.*, viii; *Traité*, 662.
20. Merleau-Ponty, *ibid.*
21. By the time *Traité* was published, Schaeffer would have had access to French translations of many of Husserl's central texts. The *Cartesian Meditations* were published in France in a translation by Gabrielle Peiffer and Emmanuel Levinas in 1931. See *Méditations cartésiennes: introduction à la phénoménologie* (Paris: Librairie philosophique J. Vrin, 2001). Paul Ricoeur published a translation of *Ideas* in 1950 with an extensive commentary. See *Idées directrices pour une phénoménologie*, trans. Paul Ricoeur (Paris: Gallimard, 1950); an English translation of Ricoeur's commentary is available as Paul Ricoeur, *A Key to Edmund Husserl's Ideas I*, trans. Bond Harris

- and Jacqueline Bouchard Spurlock (Milwaukee, WI: Marquette University Press, 1996). *Formal and Transcendental Logic* was available in 1957; see *Logique formelle et logique transcendantale: essai d'une critique de la raison logique*, trans. Suzanne Bachelard (Paris: Presses universitaires de France, 1957). Jean Wahl's lectures on the *Crisis of the European Sciences*, with copious quotations, appeared the same year; see *L'ouvrage posthume de Husserl: la "Krisis": la crise des sciences Européennes et la phénoménologie transcendantale* (Paris: Centre de Documentation Universitaire, 1957). From the material related to Husserl's *Crisis*, Husserl's important essay on the "Origin of Geometry" was available in a translation with extensive commentary by Jacques Derrida in 1962; see *L'origine de la géométrie*, trans. and ed. Jacques Derrida (Paris: Presses Universitaires de France, 1962); an English translation of Derrida's commentary is available as Jacques Derrida, *Edmund Husserl's Origin of Geometry: An Introduction*, trans. John. P. Leavey, Jr. (Lincoln, NE: University of Nebraska Press, 1982).
22. *Traité*, 262.
 23. Schaeffer agrees, claiming that "a [sound] object is an object *only* for our listening, it is relative to it." *Traité*, 95.
 24. A. D. Smith, *Husserl and the Cartesian Meditations* (New York: Routledge, 2003), 34. I acknowledge a debt to Smith's clear description of Husserl's theory of the object.
 25. *Traité*, 263.
 26. *Ibid.*, 263–264.
 27. Edmund Husserl, *Ideas Pertaining to a Pure Phenomenology and to a Phenomenological Philosophy*, First Book, trans. F. Kersten (The Hague, NL: Martinus Nijhoff, 1982), §41. Although I am relying on Kersten's translation, I have also consulted W. R. Boyce Gibson's translation of *Ideas* (New York: Collier-Macmillan, 1962) and the original German edition, occasionally modifying Kersten's translation for the sake of clarity.
 28. *Traité*, 263.
 29. *Ibid.*, 264.
 30. The classic example of the transposable melody first appears in von Ehrenfels before it receives differing interpretations in the neo-Helmholtzian Graz school and the gestalt psychologists. For an overview of this history, see Jean Piaget, *The Psychology of Intelligence*, trans. Malcolm Piercy and D. E. Berlyne (London: Routledge, 2003), 61ff. Although Husserl talks about the temporal perception of a melody in his lectures on time consciousness, he discusses the transposition of a melody to make a different point concerning the productivity of fantasy. See Edmund Husserl, *On the Phenomenology of the Consciousness of Internal Time (1893–1917)*, trans. John B. Brough (Dordrecht, NL: Kluwer Academic Publishers, 1991), §4.
 31. *Traité*, 267 (Schaeffer's emphasis).
 32. *Ibid.*, 264–265.
 33. This is the closest Schaeffer comes to arguing for the intersubjectivity of the sound object: "We must therefore stress emphatically that [a sound] object is something real [i.e., objective], in other words that something in it endures through these changes and enables different listeners (or the same listener several times) to bring out as many aspects of it as there have been ways of focusing the ear, at the various levels of 'attention' or 'intention' of listening [*d'entendre*]." Pierre Schaeffer, *Solfège de l'objet sonore* (Paris: INA-GRM, 1998), 59. I have more to say about this passage below.

34. A. D. Smith, *Husserl and the Cartesian Meditations*, 230. Edmund Husserl, *Cartesian Meditations*, trans. Dorion Cairns (The Hague, NL: Martinus Nijhoff, 1970), §54, 149.
35. *Traité*, 265.
36. Husserl, *Ideas*, §27.
37. *Ibid.*
38. Dan Zahavi, *Husserl's Phenomenology* (Stanford, CA: Stanford University Press, 2003), 44.
39. Husserl, *Cartesian Meditations*, §2.
40. Aristotle, "Metaphysics," 982b, in *The Basic Works of Aristotle*, ed. Richard McKeon (New York: Random House, 1941).
41. *Traité*, 266.
42. Husserl, *Ideas*, 96.
43. Merleau-Ponty, *Phenomenology of Perception*, 21–22.
44. *Traité*, 92.
45. Husserl, *Ideas*, §32.
46. *Traité*, 91.
47. I offer an extensive treatment of Pythagorean origins of this term in chapter 2.
48. *Traité*, 91.
49. *Ibid.*, 93.
50. *Ibid.*
51. Edmund Husserl, *Logical Investigations*, Vol. 2, trans. J. N. Findlay (New York: Humanities Press, 1970), §6, 503–505.
52. Schaeffer presents evidence for the non-correlation of frequency and pitch perception in his *Solfège*, CD 1, tracks 26–28.
53. *Traité*, 91.
54. *Ibid.*, 268.
55. *Ibid.*, 93.
56. Timothy Taylor, *Strange Sounds* (New York: Routledge, 2001), 46.
57. *Traité*, 268.
58. *Ibid.*, 93–94.
59. *Ibid.*, 33.
60. *Ibid.*, 270.
61. May 5. Schaeffer, *In Search of a Concrete Music*, 12.
62. *Traité*, 103–128.
63. *Ibid.*, 104.
64. *Ibid.*
65. *Ibid.* John Dack's decision to translate *ouïr* as *perceiving* captures the phenomenological aspects of Schaeffer's usage by allowing for a closer relation between Schaeffer's theories and Merleau-Ponty's. However, it does lead to some translation issues because of the presence of both *ouïr* and *percevoir* in French. For example, when Schaeffer writes, "*Ouïr*, c'est percevoir par l'oreille..." (104), we end up with the strange tautology "Perceiving, is to perceive by the ear," or even "Perception is auditory perception." See Chion, *Guide*, §6; and Dack's translation.
66. Chion, *Guide*, §6.
67. *Traité*, 106.

68. Denis Smalley, "The Listening Imagination: Listening in the Electroacoustic Era," *Contemporary Music Review*, Vol. 13, No. 2 (1996): 79.
69. *Traité*, 107. "Dirigé vers l'événement, j'adhérais à ma perception, je l'utilisais à mon insu."
70. May 7. Schaeffer, *In Search of a Concrete Music*, 12.
71. May 10. *Ibid.*, 13.
72. This claim is substantiated by appeal to the rest of the *Cinq études de bruits*. Other than the *Étude aux tourniquets*, all other titles from the set do not make reference to their original sound sources. Schaeffer's later studies, such as the *Étude aux objets*, continue in this manner.
73. *Traité*, 104.
74. *Ibid.*, 270–272.
75. Derrida, in his critique of Husserl, argues that "indicative signification," that is, the indexical sign, is always connected to "empirical existents in the world" and "covers everything that falls subject to [phenomenological] 'reductions': factuality, worldly existence, essential non-necessity, nonevidence, etc." See Jacques Derrida, *Speech and Phenomena*, trans. David B. Allison (Evanston, IL: Northwestern University Press, 1973), 30. An analogous case can be made for Schaeffer's proscription of *écouter*. I revisit Husserl's theory of the indicative sign in chapter 7.
76. *Traité*, 268.
77. John Dack, "Ear-Training Using the Computer and PROGEMU," 4 [accessed 12/1/2010: http://www.cea.mdx.ac.uk/local/media/downloads/Dack/Ear_training.pdf].
78. Pierre Schaeffer, *La musique concrète* (Paris: Presses Universitaires de France, 1967), 29.
79. Chion, *Guide*, §38.
80. Dack, "Ear-Training," 5. Schaeffer's *Tableau récapitulatif de la typologie* (TARTYP) is an attempt to organize just such a taxonomy. See *Traité*, 459.
81. Pierre Schaeffer, *L'œuvre musicale*, ed. François Bayle (Paris: INA-GRM, 1990), 85.
82. *Ibid.* A reliance on classical form runs throughout Schaeffer's compositions. The fugal-like layout of parts of the *Étude aux objets* could be traced back to the *Bidule en ut*, composed with Pierre Henry.
83. Pierre Henry, *Variations pour une porte et un soupir* (1963) from the CD *Mix 03.1* (France: Philips Music Group, 2001).
84. Schaeffer establishes these negative claims in a section of the *Traité* entitled "On the sound object: what it is not." See *Traité*, 95–98.
85. *Traité*, 95–96.
86. *Ibid.*, 97.
87. *Ibid.*
88. Edmund Husserl and Ludwig Landgrebe, *Experience and Judgment*, trans. James S. Churchill and Karl Ameriks (Evanston, IL: Northwestern University Press, 1973), §87.
89. *Ibid.*
90. Husserl, *Cartesian Meditations*, §34.
91. Edmund Husserl, *The Idea of Phenomenology*, trans. William P. Alston and George Nakhnikian (The Hague, NL: Martinus Nijhoff, 1964), 53–54.
92. *Traité*, 92.

93. On “ideal objectivities,” see Husserl’s essay “The Origin of Geometry,” in Husserl, *The Crisis of the European Sciences and Transcendental Phenomenology*, trans. David Carr (Evanston, IL: Northwestern University Press, 1970). For a more thorough analysis, see Jacques Derrida, *Edmund Husserl’s Origin of Geometry: An Introduction*, which reprints Carr’s translation of the essay.
94. Schaeffer, *Solfège de l’objet sonore*, 59–61.
95. *Ibid.*, 59, “...les multiples attentions ou intentions d’entendre.” The English translation misses the close association between attention, intention, and reduced listening.
96. *Ibid.*, 61.
97. Husserl, *Ideas*, §89–90.
98. *Traité*, 269.
99. Martin Heidegger, *The Basic Problems of Phenomenology*, trans. Albert Hofstadter (Bloomington and Indianapolis, IN: Indiana University Press, 1982), 21.
100. *Traité*, 270.
101. *Ibid.*
102. *Ibid.*
103. Husserl, “The Origin of Geometry,” 354. An interesting parallel is found in René Leibowitz, who apes this passage nearly phrase by phrase in the introduction to *Schoenberg and His School*: “Let us begin at the beginning by questioning the very origin of polyphony. It goes without saying that the question, as we put it here, has no historical or philological interest. It is not a matter of investigating the first polyphonists, or of hunting down the earliest extant essays in polyphony. What matters is to find the *original meaning* with which polyphony must have made its first historic appearance, with which it has developed through the centuries (thanks to a living tradition), with which it still appears to us today, even though we know almost nothing about its first creators.” See René Leibowitz, *Schoenberg and his School*, trans. Dika Newlin (New York: Da Capo Press, 1979), xx. Schaeffer speaks disparagingly of Leibowitz and his advocacy for dodecaphony in *In Search of a Concrete Music*, chapter 15, 126ff., apparently without realizing their shared methodological commitment.
104. The phrase “regressive inquiry,” or *Rückfrage*, appears in Husserl, “Origin of Geometry.” The ahistoricism of Husserl’s project has often been noted by other scholars of phenomenology, most powerfully by Paul Ricoeur in an essay for the *Revue de métaphysique et de morale* from 1949. He argues that Husserl’s “philosophy of essence,” is mistrustful of “genetic explanations.” “The ‘eidetic reduction,’ which parenthesizes the individual case and retains only the sense (and the conceptual significance which it expresses), is in itself a reduction of history.” In Husserl’s work, “the notion of origin . . . no longer signifies historico-causal genesis but rather grounding.” See Paul Ricoeur, “Husserl and the Sense of History,” in *Husserl: An Analysis of His Phenomenology*, trans. Edward G. Ballard and Lester E. Embree (Evanston, IL: Northwestern University Press, 1967), 146.
105. Husserl, *Ideas*, §7.
106. *Ibid.*
107. Frances Dyson, *Sounding New Media: Immersion and Embodiment in the Arts and Culture* (Berkeley, CA: University of California Press, 2009), 10.
108. For instance, the converse does not hold. One cannot say that “the acousmatic experience is never clearly revealed except in the sound object.” Chapters 4, 5, 6,

- and 7 explore this possibility—a theory of acousmatic sound that does not entail Schaeffer’s ontology of the sound object.
109. Theodor Adorno and Ernst Krenek, *Briefwechsel* (Frankfurt, DE: Suhrkamp Verlag, 1974), 12.
 110. *Ibid.*, 174–175.
 111. Theodor Adorno, *Against Epistemology: A Metacritique*, trans. Willis Domingo (Cambridge, MA: MIT Press, 1982), 49.
 112. *Ibid.*, 6.
 113. Michel Chion, *The Voice in Cinema*, 17–18.
 114. *Ibid.*, 23.
 115. *Traité*, 93 (emphasis added).
 116. See Carlos Palombini, “Technology and Pierre Schaeffer: Walter Benjamin’s *technische Reproduzierbarkeit*, Martin Heidegger’s *Ge-Stell* and Pierre Schaeffer’s *Arts-Relais*,” *Organised Sound*, Vol. 3, No. 1 (1998): 35–43.
 117. Martin Heidegger, *The Question Concerning Technology*, trans. William Lovitt (New York: Harper Colophon Books, 1977), 4.
 118. *Ibid.*, 12.
 119. Pierre Schaeffer, *Machines à communiquer* (Paris: Éditions du Seuil, 1970), 92.
 120. Roland Barthes, *Mythologies*, trans. Annette Lavers (New York: Hill and Wang, 1972), 151.
 121. François Bayle, *Musique acousmatique: propositions—positions* (Paris: INA, 1993), 181.
 122. Quoted in Barthes, *Mythologies*, 151.

CHAPTER 2

1. Lynn Hasher, David Goldstein, and Thomas Toppino, “Frequency and the Conference of Referential Validity,” *Journal of Verbal Learning and Verbal Behavior*, Vol. 16, No. 1 (1977): 107–112. Perhaps the truth effect offers the proof for the old saying “A lie told often enough becomes the truth.” Surprisingly, this statement is often attributed to Lenin, although there is no solid evidence to support the attribution—an example of precisely the kind of thing the saying asserts.
2. Claude Levi-Strauss, *The Raw and The Cooked: Introduction to a Science of Mythology I*, trans. John and Doreen Weightman (New York: Harper & Row, 1969), 35.
3. Chion, *The Voice in Cinema*, 19 and fn. 5. This passage does not appear in the original French edition; see Michel Chion, *La voix au cinéma* (Paris: Cahiers du Cinéma, 1982). According to Claudia Gorbman (personal correspondence), it was added by Chion to the English translation.
4. Bayle, *Musique acousmatique*, 179.
5. *Ibid.*, 180.
6. *Ibid.*, 181.
7. *Ibid.*
8. “New Media Dictionary,” *Leonardo* Vol. 43, No. 3 (2001): 261. The dictionary was edited by Louise Poissant and appeared in a number of issues of *Leonardo*. According to her introduction, the entries were prepared by Francis Dhomont, Robert Normandeau, and Claire Piché. Although this entry is anonymous, I think it is safe to say that Dhomont is its author. The entry is nearly identical to Dhomont’s liner notes to *Cycle D’errance*. See Francis Dhomont, “Acousmatic,

Sound Unseen

Acousmatic Sound in Theory and Practice

Brian Kane

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