The Sound Studies Reader

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Chapter 2

Don Ihde

THE AUDITORY DIMENSION

WHAT IS IT TO LISTEN *phenomenologically*? It is more than an intense and concentrated attention to sound and listening, it is also to be aware in the process of the pervasiveness of certain "beliefs" which intrude into my attempt to listen "to the things themselves." Thus the first listenings inevitably are not yet fully existentialized but occur in the midst of preliminary approximations.

Listening begins with the ordinary, by proximately working its way into what is as yet unheard. In the process the gradual deconstruction of those beliefs which must be surpassed occurs. We suppose that there are significant contrasts between sight and sound; thus in the very midst of the implicit sensory atomism held in common belief we approximate abstractly what the differences might be between the dimensions of sight and of sound.[1] We "pair" these two dimensions comparatively. First we engage in a hypothetical and abstract mapping which could occur for ordinary experience with its inherent beliefs.

Supposing now two "distinct" dimensions within experience which are to be "paired," I attend to what is seen and heard to learn in what way these dimensions differ and compare, in what ways they diverge in their respective "shapes," and in what ways they "overlap."

I turn back, this time imaginatively, to my visual and auditory experience and practice a kind of free association upon approximate visual and auditory possibilities, possibilities not yet intensely examined, which float in a kind of playful revery.

Before me lies a box of paper clips. I fix them in the center of my vision. Their shape, shininess, and immobility are clear and distinct. But as soon as I pair their appearance with the question of an auditory aspect I note that they are also *mute*. I speculatively reflect upon the history of philosophy with recollections of pages and pages devoted to the discussion of "material objects" with their various qualities and upon the "world" of tables, desks, and chairs which inhabit so many philosophers' attentions: *the realm of mute objects*. Are these then the implicit standard of a visualist metaphysics? For in relation to stable, mute objects present to the center of clear and

distinct vision, the role of *predication* seems easy and most evident. The qualities adhere easily to these material objects.

A fly suddenly lands upon the wall next to the desk where the paper clips lie and begins to crawl up that wall. My attention is distracted and I swat at him. He quickly, almost too quickly for the eye, escapes and flies to I know not where. Here is a moving, active being upon the face of the visual "world." With the moving, active appearance of the fly a second level or grouping of objects displays itself. This being which is seen is active and is characterized by motion. Movement belongs to the verb. *He walks, he flies, he escapes.* These are not quite correctly properties but activities. Who are the "metaphysicians" of the fly? I recall speculatively those traditions of "process" and movement which would question the dominance of the stable, mute object, and which see in motion a picture of the world. The verb is affirmed over the predicate.

But the metaphysicians of muteness may reply by first noting that the moving being appears against the background of the immobile, that the fly is an appearance which is discontinuous, that motion is an occasional "addition" to the stratum of the immobile. The fly's flight is etched against stability, and the arrow of Zeno, if it may speed its way at all, must do so against the ultimate foundation of the stable background. Even motion may be "reduced" to predication as time is atomized.

But what of sound? The mute object stands "beyond" the horizon of sound. Silence is the horizon of sound, yet the mute object is silently *present*. Silence seems revealed at first through a visual category. But with the fly and the introduction of motion there is the presentation of a buzzing, and Zeno's arrow whizzes in spite of the paradox. Of both animate and inanimate beings, motion and sound, when paired, belong together. "Visualistically" sound "overlaps" with moving beings.

With sound a certain liveliness also makes its richer appearance. I walk into the Cathedral of Notre Dame in Paris for the first time. Its emptiness and high arching dark interior are awesome, but it bespeaks a certain monumentality. It is a ghostly reminder of a civilization long past, its muted walls echoing only the shuffle of countless tourist feet. Later I return, and a high mass is being sung: suddenly the mute walls echo and reecho and the singing fills the cathedral. Its soul has momentarily returned, and the mute testimony of the past has once again returned to live in the moment of the ritual. Here the paired "regions" of sight and sound "synthesize" in dramatic richness.

But with the "overlapping" of sight and sound there remains the "excess" of sight over sound in the realm of the mute object. Is there a comparable area where listening "exceeds" seeing, an area beyond the "overlapping" just noted where sight may not enter, and which, like silence to sound, offers a clue to the horizon of vision?

I walk along a dark country path, barely able to make out the vague outlines of the way. Groping now, I am keenly aware of every sound. Suddenly I hear the screech of an owl, seemingly amplified by the darkness, and for a moment a shock traverses my body. But I cannot see the bird as it stalks its nocturnal prey. I become more aware of sound in the dark, and it makes its presence more dramatic when I cannot see.

But night is not the horizon of sight, nor Dionysius the limit of Apollo. I stand alone on a hilltop in the light of day, surveying the landscape below in a windstorm. I hear its howling and feel its chill, but I cannot see its contorted writhing though it surrounds me with its invisible presence. No matter now hard I look, I cannot see the

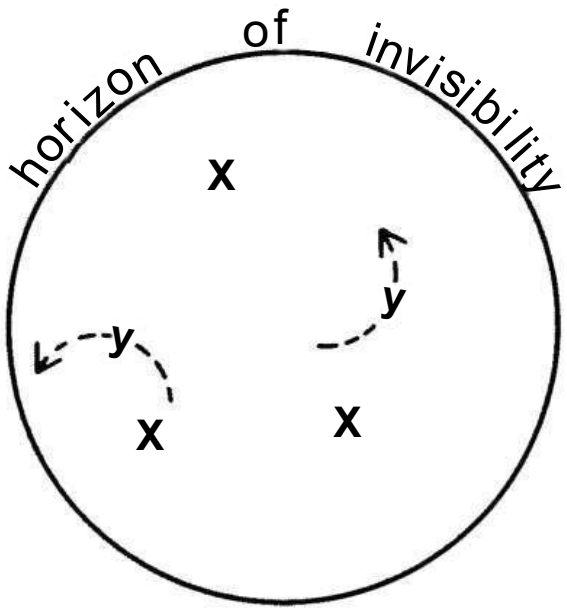

Fig. 2.1

wind, *the invisible is the horizon of sight.* An inquiry into the auditory is also an inquiry into the invisible. Listening makes the invisible *present* in a way similar to the presence of the mute in vision.

What metaphysics belong to listening, to the invisible? Is it also that of Heraclitus, the first to raise a preference for vision, but who also says, "Listening not to me but to the Logos, it is wise to acknowledge that all things are one."[2] Is such a philosophy possible beyond the realm of mute objects? Or can such a philosophy find a way to give voice even to muteness? The invisibility of the wind is indicative. What is the wind? It belongs, with motion, to the realm of verb. The wind is "seen" in its *effects,* less than a verb, its visible being is what it has done in passing by.

Is anything revealed through such a playful association? At a first approximation it seems that it is possible to map two "regions" which do not coincide, but which in comparison may be discerned to have differing boundaries and horizons.

In the "region" of sight there is a visual field which may be characterized now as "surrounded" by its open horizon which limits vision, and which remains "unseen." Such a field can be diagrammed [see Figure 2.1].

Here, where the enclosed circle is the present visual field, within this presence there will be a vast totality of entities which can be experienced. And although these entities display themselves with great complexity, within the abstraction of the approximation we note only that some are stable (x) and usually mute in ordinary experience, and that some (—y—) move, often "accompanied" by sounds. Beyond the actually seen field of presence lies a horizon designated now as a horizon of invisibility.

A similar diagram can be offered for a "region" of sound presences [see Figure 2.2].

Although once we move beyond this approximation, the "shape" of the auditory field will need to be qualified. Within the limits of the first approximation we note that the auditory field contains a series of auditory presences which do not, however,

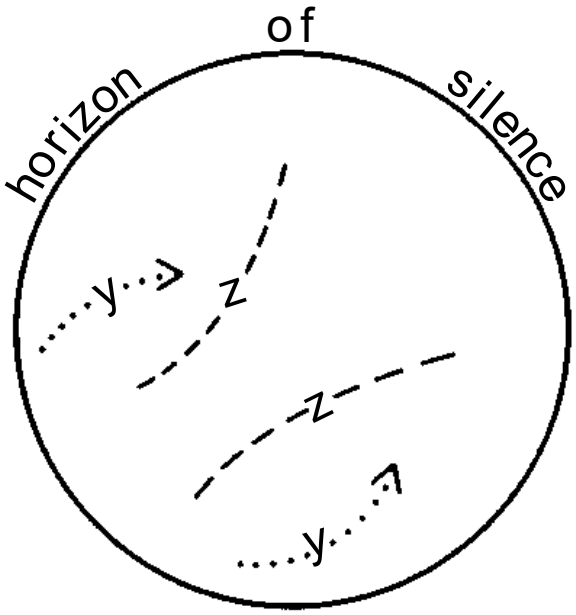

Fig. 2.2

perfectly overlap those of the visual field. There are sounds which "accompany" moving objects or beings (—y—), but there are some for which no visible presence may be found (—z—). Insofar as all sounds are also "events," all the sounds are, within the first approximation, likely to be considered as "moving." Again, there is also a horizon, characterized by the pairing as a horizon of silence which "surrounds" the field of auditory presence.

It is also possible to relate, within the first approximation, the two "regions" and discern that there are some overlapping and some nonoverlapping features of each "region." Such a "difference" may be diagrammed [see Figure 2.3].

In this diagram of the overlapping and nonoverlapping "regions" of sight and sound we note that what may be taken as horizonal (or absent) for one "region" is taken as a presence for the other.

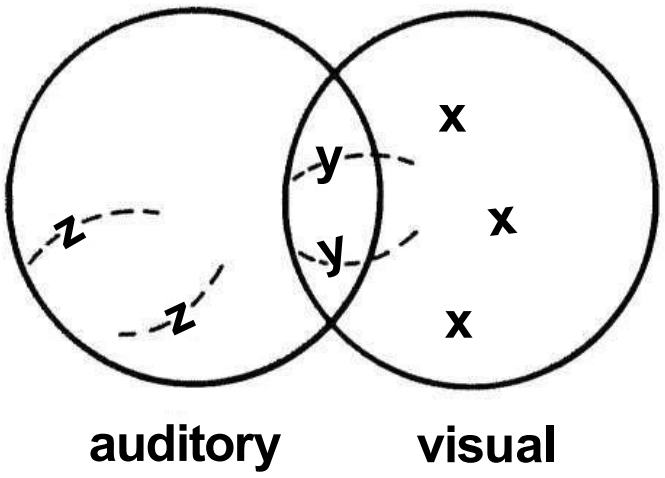

Fig. 2.3

Thus while the area of mute objects (x) seems to be closed to the auditory experience as these objects lie in silence, so within auditory experience the invisible sounds (—z—) are present to the ear but absent to the eye. There are also some presences which are "synthesized" (—y—) or present to both "senses" or "regions."

This pairing when returned to the revery concerning the associated "metaphysics" of the "senses" once more reveals a way in which the traditions of dominant visualism show themselves. If we suppose that any metaphysics of worth must be one which is at least comprehensive, then a total visualist metaphysics must find a way to account for and to include in its description of the world all those invisible events which at this level seem to lie beyond the reach of the visible horizon, but which are nevertheless present within experience.

This may be done in several ways. First, one can create some hermeneutic device which, continuing the approximation of the "regions," *functionally* makes the invisible visible. This implies some "translation" of one "region" into the terms of the favored "region." Such is one secret of the applied metaphysics often found in the sciences of sound. Physically, sound is considered a wave phenomenon. Its wave characteristics are then "translated" into various visual forms through instruments, which are the extended embodiments of the scientific enterprise. Voice patterns are "translated" into visual patterns on oscillographs; sound reverberations are mapped with Moire patterns; even echo-location in its practical applications is made a matter of seeing what is on the radar screen; the making or "translating" of the invisible into the visible is a standard route for understanding a physics of sound.

In the case of the sciences of sound this translation allows sound to be measured, and measurement is predominantly a matter of spatializing qualities into visible quantities. But in ordinary experience there is often thought to be a similar role for sound. Sounds are frequently thought of as anticipatory clues for ultimate visual fulfillments. The most ordinary of such occurrences are noted in locating unseen entities.

The bird watcher in the woods often first hears his bird, then he seeks it and fixes it in the sight of his binoculars. The person hanging a picture knows where to look for the dropped tack from the sound it made as it rolled under the piano. And although not all noises yield a visual presence for example the extreme case of radio astronomy may yield the presence of an unsuspected "dark" star which may never be seen—the familiar movement from sound to sight may be discerned.

The movement from that which is heard (and unseen) to that which is seen raises the question of its counterpart. Does each event of the visible world offer the occasion, even ultimately from a sounding presence of mute objects, for silence to have a voice? Do all things, when *fully* experienced, also sound forth?

In ordinary experience this direction is also taken. The bird watcher may be an appreciative bird listener. He awaits quietly in the hopes that the winter wren will sing his long and complicated "Mozart" song. But only in more recent times has this countermovement become conspicuous. The amplified listening which now reveals the noise of lowly ant societies gives voice to the previously silent. Physically even molecules sound, and the human ear comes to a threshold of hearing almost to the point of hearing what would be incessant noise.

Notes

1 A phenomenological warning must be issued here. There is a strict difference between empty supposing and what is intuitionally fulfilled. Thus the exercise at this point is not strictly phenomenological but proceeds toward strict phenomenology by approximations.

2 Philip Wheelwright. *The Presocratics* (New York: Odyssey Press. 1966), p 79.

Chapter 5

Michel Chion

THE THREE LISTENING MODES

Causal Listening

WHEN WE ASK SOMEONE TO SPEAK about what they have heard, their answers are striking for the heterogeneity of levels of hearing to which they refer. This is because there are at least three modes of listening, each of which addresses different objects.[1] We shall call them *causal listening, semantic listening,* and *reduced listening.*

Causal listening, the most common, consists of listening to a sound in order to gather information about its cause (or source). When the cause is visible, sound can provide supplementary information about it; for example, the sound produced by an enclosed container when you tap it indicates how full it is. When we cannot see the sound's cause, sound can constitute our principal source of information about it. An unseen cause might be identified by some knowledge or logical prognostication; causal listening (which rarely departs from zero) can elaborate on this knowledge.

We must take care not to overestimate the accuracy and potential of causal listening, its capacity to furnish sure, precise data solely on the basis of analyzing sound. In reality, causal listening is not only the most common but also the most easily influenced and deceptive mode of listening.

Identifying Causes: From the Unique to the General

Causal listening can take place on various levels. In some cases we can recognize the precise cause: a specific person's voice, the sound produced by a particular unique object. But we rarely recognize a unique source exclusively on the basis of sound we hear out of context. The human individual is probably the only cause that can produce a sound, the speaking voice, that characterizes that individual

alone. Different dogs of the same species have the same bark. Or at least (and for most people it adds up to the same thing) we are not capable of distinguishing the barking of one bulldog from that of another bulldog or even a dog of a related breed. Even though dogs seem to be able to identify their master's voice from among hundreds of voices, it is quite doubtful that the master, with eyes closed and lacking further information, could similarly discern the voice of her or his own dog. What obscures this weakness in our causal listening is that when we're at home and hear barking in the back room, we can easily deduce that Fido or Rover is the responsible party.

At the same time, a source we might be closely acquainted with can go unidentified and unnamed indefinitely. We can listen to a radio announcer every day without having any idea of her name or her physical attributes. Which by no means prevents us from opening a file on this announcer in our memory, where vocal and personal details are noted, and where her name and other traits (hair color, facial features—to which her voice gives us no clue) remain blank for the time being. For there is a considerable difference between taking note of the individual's vocal timbre—and *identifying* her, having a visual image of her and committing it to memory and assigning her a name.

In another kind of causal listening we do not recognize an individual, or a unique and particular item, but rather a category of human, mechanical, or animal cause: an adult man's voice, a motorbike engine, the song of a meadowlark. Moreover, in still more ambiguous cases far more numerous than one might think, what we recognize is only the *general nature* of the sound's cause. We may say, "That must be something mechanical" (identified by a certain rhythm, a regularity aptly called "mechanical"); or, "That must be some animal" or "a human sound." For lack of anything more specific, we identify *indices,* particularly temporal ones, that we try to draw upon to discern the nature of the cause.

Even without identifying the source in the sense of the nature of the causal object, we can still follow with precision the *causal history* of the sound itself. For example, we can trace the evolution of a scraping noise (accelerating, rapid, slowing down, etc.) and sense changes in pressure, speed, and amplitude without having any idea of *what* is scraping against *what*.

The Source as a Rocket in Stages

Remember that a sound often has not just one source but at least two, three, even more. Take the sound of the felt-tip pen with which I am writing this draft. The sound's two main sources are the pen and the paper. But there are also the hand gestures involved in writing and, further, I who am writing. If this sound is recorded and listened to on a tape recorder, sound sources will also include the loudspeaker, the audio tape onto which the sound was recorded, and so forth.

Let us note that in the cinema, causal listening is constantly manipulated by the audiovisual contract itself, especially through the phenomenon of synchresis. Most of the time we are dealing not with the real initial causes of the sounds, but causes that the film makes us believe in.

Semantic Listening

I call semantic listening that which refers to a code or a language to interpret a message: spoken language, of course, as well as Morse and other such codes. This mode of listening, which functions in an extremely complex way, has been the object of linguistic research and has been the most widely studied. One crucial finding is that it is purely differential. A phoneme is listened to not strictly for its acoustical properties but as part of an entire system of oppositions and differences. Thus semantic listening often ignores considerable differences in pronunciation (hence in sound) if they are not *pertinent* differences in the language in question. Linguistic listening in both French and English, for example, is not sensitive to some widely varying pronunciations of the phoneme *a*.

Obviously one can listen to a single sound sequence employing both the causal and semantic modes at once. We hear at once what someone says and how they say it. In a sense, causal listening to a voice is to listening to it semantically as perception of the handwriting of a written text is to reading it.[2]

Reduced Listening

Pierre Schaeffer gave the name *reduced listening* to the listening mode that focuses on the traits of the sound itself, independent of its cause and of its meaning.[3] Reduced listening takes the sound—verbal, played on an instrument, noises, or whatever—as itself the object to be observed instead of as a vehicle for something else.

A session of reduced listening is quite an instructive experience. Participants quickly realize that in speaking about sounds they shuttle constantly between a sound's actual content, its source, and its meaning. They find out that it is no mean task to speak about sounds in themselves, if the listener is forced to describe them independently of any cause, meaning, or effect. And language we employ as a matter of habit suddenly reveals all its ambiguity: "This is a squeaky sound," you say, but in what sense? Is "squeaking" an image only, or is it rather a word that refers to a *source* that squeaks, or to an unpleasant *effect*?

So when faced with this difficulty of paying attention to sounds in themselves, people have certain reactions—"laughing off" the project, or identifying trivial or harebrained causes—which are in fact so many defenses. Others might avoid description by claiming to objectify sound via the aids of spectral analysis or stopwatches, but of course these machines only apprehend physical data, they do not designate what we hear. A third form of retreat involves entrenchment in out-and-out subjective relativism. According to this school of thought, every individual hears something different, and the sound perceived remains forever unknowable. But perception is not a purely individual phenomenon, since it partakes in a particular kind of objectivity, that of shared perceptions. And it is in this objectivity-born-of-intersubjectivity that reduced listening, as Schaeffer defined it, should be situated.

In reduced listening the descriptive inventory of a sound cannot be compiled in a single hearing. One has to listen many times over, and because of this the sound must be fixed, recorded. For a singer or a musician playing an instrument before you

is unable to produce exactly the same sound each time, she or he can only reproduce its general pitch and outline, not the fine details that particularize a sound event and render it unique. Thus reduced listening requires the fixing of sounds, which thereby acquire the status of veritable objects.

Requirements of Reduced Listening

Reduced listening is an enterprise that is new, fruitful, and hardly natural. It disrupts established lazy habits and opens up a world of previously unimagined questions for those who try it. Everybody practices at least rudimentary forms of reduced listening. When we identify the pitch of a tone or figure out an interval between two notes, we are doing reduced listening; for pitch is an inherent characteristic of sound, independent of the sound's cause or the comprehension of its meaning.

What complicates matters is that a sound is not defined solely by its pitch; it has many other perceptual characteristics. Many common sounds do not even have a precise or determinate pitch; if they did, reduced listening would consist of nothing but good old traditional solfeggio practice. Can a descriptive system for sounds be formulated, independent of any consideration of their cause? Schaeffer showed this to be possible, but he only managed to stake out the territory, proposing, in his *Traité des objets musicaux,* a system of classification. This system is certainly neither complete nor immune to criticism, but it has the great merit of existing.

Indeed, it is impossible to develop such a system any further unless we create new concepts and criteria. Present everyday language as well as specialized musical terminology are totally inadequate to describe the sonic traits that are revealed when we practice reduced listening on recorded sounds.

In this book I am not about to go into great detail on reduced listening and sound description. The reader is encouraged to consult other books on this subject, particularly my own digest of Pierre Schaeffer's work published under the title of *Guide des objets sonores.*

What Is Reduced Listening Good For?

"What ultimately is the usefulness of reduced listening?" wondered the film and video students whom we obliged to immerse themselves in it for four days straight. Indeed, it would seem that film and television use sounds solely for their figurative, semantic, or evocatory value, in reference to real or suggested causes, or to texts—but only rarely as formal raw materials in themselves.

However, reduced listening has the enormous advantage of opening up our ears and sharpening our power of listening. Film and video makers, scholars, and technicians can get to know their medium better as a result of this experience and gain mastery over it. The emotional, physical, and aesthetic value of a sound is linked not only to the causal explanation we attribute to it but also to its own qualities of timbre and texture, to its own personal vibration. So just as directors and cinematographers—even those who will never make abstract films—have everything

to gain by refining their knowledge of visual materials and textures, we can similarly benefit from disciplined attention to the inherent qualities of sounds.

The Acousmatic Dimension and Reduced Listening

Reduced listening and the acousmatic situation share something in common, but in a more ambiguous way than Pierre Schaeffer (who first developed both notions) gave us to understand. Schaeffer emphasized how acousmatic listening, which we shall define further on [see original publication] as a situation wherein one hears the sound without seeing its cause, can modify our listening. Acousmatic sound draws our attention to sound traits normally hidden from us by the simultaneous sight of the causes—hidden because this sight reinforces the perception of certain elements of the sound and obscures others. The acousmatic truly allows sound to reveal itself in all its dimensions.

At the same time, Schaeffer thought the acousmatic situation could encourage reduced listening, in that it provokes one to separate oneself from causes or effects in favor of consciously attending to sonic textures, masses, and velocities. But, on the contrary, the opposite often occurs, at least at first, since the acousmatic situation intensifies causal listening in taking away the aid of sight. Confronted with a sound from a loudspeaker that is presenting itself without a visual calling card, the listener is led all the more intently to ask, "What's that?" (i.e., "What is causing this sound?") and to be attuned to the minutest clues (often interpreted wrong anyway) that might help to identify the cause.[4]

When we listen acousmatically to recorded sounds it takes repeated hearings of a single sound to allow us gradually to stop attending to its cause and to more accurately perceive its own inherent traits.

A seasoned auditor can exercise causal listening and reduced listening in tandem, especially when the two are correlated. Indeed, what leads us to deduce a sound's cause if not the characteristic form it takes? Knowing that this is "the sound of x" allows us to proceed without further interference to explore what the sound is like in and of itself.

Active and Passive Perception

It seemed important, in the context of this book on audio-vision, to draw clear distinctions among the three modes of listening. But we must also remember that these three listening modes overlap and combine in the complex and varied context of the film soundtrack.

The question of listening with the ear is inseparable from that of listening with the mind, just as looking is with seeing. In other words, in order to describe perceptual phenomena, we must take into account that conscious and active perception is only one part of a wider perceptual field in operation. In the cinema to look is to explore, at once spatially and temporally, in a "given-to-see" (field of vision) that has limits contained by the screen. But listening, for its part, explores in a field of audition that is given or even imposed on the ear; this aural field is much less limited or confined, its contours uncertain and changing.

Due to natural factors of which we are all aware—the absence of anything like eyelids for the ears, the omnidirectionality of hearing, and the physical nature of sound—but also owing to a lack of any real aural training in our culture, this "imposed-to-hear" makes it exceedingly difficult for us to select or cut things out. There is always something about sound that overwhelms and surprises us no matter what—especially when we refuse to lend it our conscious attention; and thus sound interferes with our perception, affects it. Surely, our conscious perception can valiantly work at submitting everything to its control, but, in the present cultural state of things, sound more than image has the ability to saturate and short-circuit our perception.

The consequence for film is that sound, much more than the image, can become an insidious means of affective and semantic manipulation. On one hand, sound works on us directly, physiologically (breathing noises in a film can directly affect our own respiration). On the other, sound has an influence on perception: through the phenomenon of added value, it interprets the meaning of the image, and makes us see in the image what we would not otherwise see, or would see differently. And so we see that sound is not at all invested and localized in the same way as the image.

Notes

1. English lacks words for two French terms: *le regard,* the fact or mode of looking, which has been translated in film theory as both "the look" and "the gaze," and its aural equivalent *l'écoute*. Here, *l'écoute* alternately appears in English as as "mode of listening" and "listening."—Trans.
2. Linguistics distinguishes perception of meaning from perception of sound by establishing the different categories of phonetics, phonology, and semantics.
3. Pierre Schaeffer, *Traité des objets musicaux,* p. 270, and Michel Chion, *Guide des objets sonores,* p. 33. The adjective "reduced" is borrowed from Husserl's phenomenological notion of reduction.
4. See Rick Altman on the "sound hermeneutic," in "Moving Lips," pp. 67–79.—Trans.

References

Altman, Rick. "Moving Lips,"

Chion, Michel. *Guide des objets sonores*

Schaeffer, Pierre. *Traité des objets musicaux*