

# MAKING THE FILM SILENT: MACHINES, REVERBERATION, AND NOISE

JOSÉ CLÁUDIO SIQUEIRA CASTANHEIRA

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The classical division of film sound in dialogues, music and sound effects presents an issue of signification. In a very common approach in structuralism studies, the need to assign certain sounds to specific sources ignores the materiality of sound objects and its ability to produce effects beyond the spheres of language. Some sounds transcend or even question the idea of representation of objects or events by audible means. Among them, we can mention noise in its various forms; silence, no less a plural element; and the sounds of technologies themselves. This paper proposes an investigation on these different ways of perceiving the film as audible matter, beyond purely representational parameters.

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The classical division of film sounds into three relatively well-defined categories – dialogue, music and sound effects – has been perpetuated through the history of cinema and serves not just theoretical purposes. It presents a practical approach of filmmaking. The assertiveness with which film handbooks or professional statements address the role that each of these elements has in film discourse explains a systematization of film sound peculiarities based on criteria of interpretation and meaning. What do certain sounds mean? What do they refer to? What do they represent?

Sounds are sounds of things; they exist for these things and must remain tied to them. This very pragmatic and coercive formulation brings substantive issues that deal with recording technologies and with the reproduction of sounds in general. The efficiency of representation models are inevitably linked to the idea of fidelity that, in turn, fits within this context in a fairly complex and flexible key of realism. The conditioning of this perfect representation to technological environments is also a recurring theme in which increased resolution and better signal-to-noise ratios have a key role. In a way, every technological enhancement boost in sound relates, to a greater or lesser extent, directly to the increase of “fidelity” from the reduction or elimination of noise.

Noise is thought of as a kind of interference or disruption in the representation relationship between sounds and things. In the case of cinema, this relationship is more apparent, even if just intuited from objects that are not visible. In the experience of sounds not linked to images, as in the case of music, the proposed parameters of “fidelity” become more fluid, but no less important. Recording and reproduction technologies have made possible the displacement of music from a form of essentially social art, namely, inseparable from specific time and space and also associated with well-defined social circumstances, to more controlled (re)presentational conditions: more personal and linked to a material basis. Technological mediation has granted music the status of material work, endowed with greater “objectivity.” The technology that enables this kind of change happens to be also the object of affection for some groups of audiophiles – at a level many times



greater than that related to the music itself. Audiophilia is presented as a sensitive branch of a more deeply rooted technophilia.

The isolation of this listener from the external environment, in “ideal” conditions of listening, reflects a model that highlights the “artwork as a text” from the “abstraction” of the physical environment.

In the case of cinema, the reference to the “outside world” is stronger and, instigated from the relationship between sound and image, the “interpretation” of what you hear is often based on what is aurally and visually known beforehand. Defining categories in restrictive and pragmatic ways was a mean not only to affirm this analogy relationship when interpreting the sound universe of films, but also to exclude all non-identifiable elements within that classification. Thus, filmmaking and film analysis processes are facilitated since the lexicon with which they deal is well known and allows easy associations.

The development of sound technologies in cinema was generally connected to the readability of audible and visual events. The presence of any form of “external” noise was a disturbance of narrative flow, and should therefore be eliminated. Noise is considered, in this case, an excess that must be removed to provide a better understanding of the film. Noise is seen as disturbance.

Before the development of noise reduction mechanisms such as Dolby in the 1970s, film sound consisted of a limited number of tracks. The more tracks were added, the greater the amount of noise from each individual recording as well as from the apparatus itself (magnetic tape or optical track). Reducing the amount of sound elements to what was essential was a way to reduce noise level of films. In addition, reducing the audible spectrum (which is nonetheless a way to reduce the amount of sound elements) also helped to eliminate elements that did not matter.

More than presenting a reproduction of frequency spectrum as “flat” as possible, *Dolby* made evident the absence of those undesirable elements. He turned silence into a material possibility, not just something conceptual. But, far from more generously including those frequencies which were not provided by the Academy Curve and by film praxis, *Dolby* filters only increased the distance between audible and inaudible – indeed between what was sound and what was disturbance. It is clear therefore that the definition of sound elements in the three categories that I have mentioned before is, at the same time, an affirmation of what does not interest film sound experience. The excess, either of tracks or of frequencies, does not inhabit the universe of the film analyzed as text.

However, I draw attention to those elements which, outside the set of sounds considered to provide some level of representation, still contribute to the conformation of the film experience: silence, within a very broad range of forms and functions it may have; the different types of noise, which is also a multiple and hard to delimitate element; and the sound of the technologies themselves. The latter carry a kind of sound signature of different models of production, historically and culturally determined. This signature is disregarded by most theories that take as basis the interpretation of film or of the sounds of film. Once sounds of technology do not refer by analogy to anything external – on the contrary –, they are not even categorized as possible sounds.

The very existence of one single general term for both the impertinent sounds that invade a recording and those generated systemically is an example of how research has symptomatically ignored their specificities. The fact that sound technologies are in a very common sense seen as transparent is also a decisive factor in the deletion of any material trace produced by the apparatus.



Considering machine's noises as a participant in the construction of filmic experience would be equivalent to delegate to them (the machines) a kind of independence or autonomy not quite interesting from the point of view of part of the Humanities.

Some broader issues, such as the opposition between analog and digital, are results of that discourse. For example: to consider the first as a more prone model to produce noise and the second as representing an instance of higher purity, of a better relationship between signal and noise and, thus, closer to the original object. In the case of sound technologies, it is noticeable how this sound signature has been changing over time. This can be extended to images, of course. These transformations within of the processes of film-making are obviously contaminated by other movements of contemporary culture and conform new ways of listening to film. Actually, they build up new models of listening to things. Just to mention an example by Michel Chion (2009), when describing a sort of "silence of the loudspeakers," we can perceive a kind of inaudibility in current films. All traces of ground or system noises were wiped out so that we can be faced by an overwhelming silence. We hear no more the film. Instead, the film would listen to the spectator. However, older models of listening are wrapped up in a certain nostalgia that attaches to certain noises the capacity to bring back the past.

Systems such as THX, by defining in details the structure, size, shape and the materials used in movie theaters, want to forecast the whole process of contraction and dispersion of sound waves. The ecology of sound space is under control of a project that is objective and totalizing. There is no possibility of unwanted sounds. Just as the studios (both film and phonographic) try to eliminate the signature of the recording rooms, reproduction systems also ignore the diversity of possible ways of relating to sounds during the film projection by electing one single ideal listening. It is as if they ignored the collective listening, since each viewer is at a different place in the room, and sought to define hundreds of central places. A privileged listener that can, similarly, be compared to the development of Renaissance perspective based on one single point of view, that of the painter. Contemporary listening in movie theaters has as a reference point the chair of the mixer.

The sound signatures of space are banned in the same way that the sound signatures of technologies. State of the art equipments stand for not modifying sounds: not favoring any specific frequency bands, for the absence of total harmonic distortion, for maintaining correct dynamics etc. HiFi systems do not corrupt the original sound.

However, what original sound is that?

## ENTROPY

To Aden Evens, a sensitive body is able to capture the various changes in air pressure and synthesize them as perceived sound. Despite the different variables in action – frequency, amplitude, shape, attack, decay and other defining characteristics of timbre – sound is perceived as an unique event that is "contracted", being highlighted from a background of multiple sound waves in eternal process of entropy. Sounds lose energy, they become scattered increasingly merging into the environment, but they persist. The act of contraction is caused by any event that may give enough power to sonic elements, from the apparently stationary group of sounds waves, to restart a movement of organization and again of dispersion. This is a process of coming to surface and submerging again that never stops: "*Every sound masks an entire history of sound, a cacophony of silence*" (EVENS, 2005, p. 14).



This indistinct and confused set is what Evens calls *noise*. Our perception assigns meaning to a “contracted” sound while noise would be meaningless, it would not be perceived. However, noise is also the base without which there can be no sound. We build the elements to which we can attach some meaning from noise.

This proposition is very close to the thermodynamic theory of bodies that Henri Atlan uses as basis to his principles on the self-organization of organisms. Noise is a necessary element for a constant update of systems, making ambiguous its very nature: “*Le bruit provoqué dans le système par les facteurs aléatoires de l’environnement ne serait plus un vrai bruit à partir du moment où il serait utilisé par le système comme facteur d’organisation*” (ATLAN, 1979, p. 56).

According to Evens, there is an explicated quality in perceived sounds – detached from their background – and an implicated one in the set of sounds that remain inaudible, but that moulds every sound that is heard. This background is unclear, but responsible for the expression of explicated sounds. The expression would then be an ethics of implication. It would be like permitting sounds to drift between clarity and noise. The transition between the two spheres is always unpredictable, making each experience unique. The implicated dimension of sound is specific of performance, of live events, of what is in motion. There is a constant negotiation between the audible and the inaudible.

Digital, as a model of signal privilege, strives to exclude noise. The lower resolution elements are left out, making digitally recorded sound experience deprived of random and expressive elements – which the analog system would accept more complacently. Therefore, it is necessary to make a distinction between noise generated in the act of recording, in which digital operations without moving parts would favor a discard of everything but signal, and noise generated in the act of reproduction, including intermittent or constant noises from electronic circuits of amplifiers and loudspeakers.

Of course, to some extent, in the very transduction of sound waves by pickups, microphones or the like, there is some kind of transformation or filtering of a sound material that becomes explicated in relation to the implicated context. The implicated of sound recording is not only the elements dispersed in space, but also the infinite possibilities of electrical system variations. To what extent these variations will be translated into an implicated background, it will be known only when reproducing sounds. The electrically implicated do not reverberate; do not shape the explicated as a form of registration but as a kind of performance. In this sense, both digital and analog recordings present losses of implicit references. The moving parts of analog systems provide another implicated context known only in reproduction. At this moment, the implicated of registration is added to the implicated of environment. Those factors may lead us to think all recordings as, ultimately, a “live” construction, a relationship with space.

Still on self-organizing systems, according to Atlan’s proposition, the ability to deal with new arrangements, as well as variables and random elements, would take these complex systems to identify patterns that are incorporated by the entire set. These patterns constitute a kind of material memory used as background for the increasing diversity and complexity. Technologies may be considered exteriorizations of these memories: memories that Atlan also identifies as language forms.

To exit physical limits of the body signifies processing and reinforcing this relationship between memory and a type of language that presents itself not only in verbal forms. This language, existing in different forms of technology, is organized and adopted as an integral part of human being.



Thus, technical apparatuses can be thought of as forms of memory. Established routines, crystallized habits over which we create new experiences, producing always-different results. Therefore, we avoid stabilization through an eternal struggle between consolidated codes and new environmental stimuli. We instigate the creative capacity of systems when minimizing the possibility of equilibrium.

## THE MYTH OF ORIGINAL SOUND

The myth of “original sound” is also responsible for the revival of certain habits associated with analog’s “impurity”, as if analog sounds were imbued with a high level of “reality” which does not exist in digital. This appropriation of analog noise by the use of old equipments or by the emulation within digital tools of analog effects assumed aesthetic values immediately associated with certain groups or musical styles and certain experimental filmmakers. The analog “impurity” bears the marks of a “retro” feeling that is based less on efficiency or objectivity than on the recovery of affection built over time. Social memories are embedded in mechanisms that return, revived by new generations and remodeled by new forms of intensely technological environments. As Simon Reynolds says: “*contemporary pop culture is addicted to its own past*” (Reynolds 2011, 403).

Let us take an example of music production... In the 1990s, a moment when digital sound was one of the major investments in music and electronics industries, we may find the following considerations on analog “lo-fi” technologies that became quite common in rock recordings:

*The senior vice-president of artists at Columbia Records notes, ‘Tape hiss, guitar-amp noise, low-level garbage. Five years ago, we would have cleaned all that up. But today, the prevailing wisdom is to go lo-fi and let that noise become part of the music.’ This is in the service of trying to ‘capture a less digital sound’ and goes hand-in-hand with embracing ‘incidental noise and incorporat[ing] it into the mix to achieve a heightened sense of reality.’ (CHUN cited EVENS, 2005, p. 177).*

Recording, mixing, and mastering practices were increasingly dependent on digital processes. Yet the use of “lo-fi” elements, as well as “analog” noise, would give a sense of “reality” to the music of these groups. It provided authenticity to sound. Although it proposed to offer a “pure” experience, uncontaminated by noise, digital sound – at least at an early stage – was met with suspicion and even with disgust by those who considered it less warm, less human.

This kind of nostalgia is much less evident in the film industry. The aesthetic appeal of analog, seen as more significant by the music industry, did not arouse such a great interest of an industry whose main emphasis was the predictability of events during projection. The difference of a collective experience to one that tried to homogenize the spectator reception surely influenced the definition of a digital model of cinematic listening. Even when the standard sound reproduction in movie theaters was still an analog one (*Dolby Stereo*, for example), innovative uses of sounds were not the rule. *Dolby* was not creative, it was only compatible with the existing modes of sound reproduction before the 1970s.

Noises were more radically eliminated with digital processes than they were with *Dolby Stereo* filters. Implicated sounds were not something that “intruded” in spite of technological barriers. Within digital realm, noise is not part of the repertoire of technologies. Similar to noise masking by the use of psychoacoustic effects, new apparatuses “ignored” that which was not signal. The fundamental difference is that the obliteration of noise depended on the “perception” of the machine. Variations in electrical signals,



measured as discrete units, rigidly determined what was in and what was out. Digital works as an experience of just “figures” without “backgrounds”. Silence in *Dolby Digital*, for example, should be absolute: once machines were silenced, the room and the original space became also mute. The viewer seemed thus more imprisoned than prisoners of Plato’s cave.

The relationship between technology and past also indicates a way to hear not only through technology but to hear technologies themselves. The historical context allows us to describe certain inaudibility of current sound technologies and an uncomfortable presence of “older” ones. The inaudibility regime stands for transparency, namely, not realizing the technological mediation and thus assigning a higher level of “fidelity” to reproduced sound. Although the main concern of digital technologies is related to “definition”, the idea of fidelity still hangs as an important – and cyclical – element of technological imaginary.

The possibility of “hearing” the past through their specific noises implies a denaturalization of noise itself and a softening of any relationship between what is reproduced and what is actually heard. The effects of making the past audible not only incorporate psychoacoustic processes, but also symbolic constructions about sound technologies.

## BACKGROUND AND SYSTEM NOISE

By reinforcing the idea of the film as a significant text, with emphasis on the arbitrary assignment of meaning to things through sounds and images, we lose track of the material condition that all audiovisual product has at its base. Films deal with assumptions that predate linguistic constructions. The meaning of film is, at a first moment, linked to non-textual issues.

At the same time that we intellectually interpret the meaning of film in a textual level, the various materialities of media are aroused and work within affective modes. The film is composed of different layers of meaning operating simultaneously and of which we do not necessarily have consciousness.

Some of these layers, outside established perception regimes, become unrecognizable. They challenge hegemonic ways of understanding the film, constituting a “non legitimate” epistemological field. These layers defy traditional ways of seeing and listening, and therein lies their strength. Taken as “noise”, sound makes use of its material properties to question the representational character with which it is usually associated. It interferes, distracts, and disorganizes.

Background noise and machine’s noise are associated with the interference of technology in film experience. They distract, drawing the attention of the narrative structure, interfering in the “reading” of the film. For this reason, technological advance has always had, as its discursive basis, the elimination of noise, favoring transparency of recording technologies. Noise was always seen as a problem to be eliminated, and technical perfection is by no means a privilege of digital technologies. The possibility of a world not disturbed by noise and with full emphasis on the “good” part of the sound – the signal – was already present in technical texts of the 1930s. Contemporary professionals, such as Stanley Alten, basically repeat the same discourse: *“In fact, because noise reduction with digital processing is so effective, getting rid of recorded and system noise has become far less of a problem than it once was”* (ALTEN, 2011, p. 176).

Alten suggests that noise is especially related to analog sounds. In considering the analog as a source of noise – and the digital, consequently, as freed



from it – authors who focus on the description of practices and methods of sound production and post-production in films remove noise from the agenda of contemporary cinema. It ceases to be an important topic as technologies managed to make it inaudible. Not anymore a problem to be overcome, noise is treated from a nostalgic perspective as something that once existed, but currently is “used” only in controlled simulations. Noise has lost its disruptive power, encapsulated in digital pastiches. It was adopted as an affective memory of past technologies, but cannot be resurrected for two reasons: first, technologies “evolved” and would be a nonsense to return to a more primitive stage of filmmaking; second, aestheticized noise does not contest any kind of order. Rather, it is the result of certain logic where it is seen as the “other” of technology. It is a ghost that reminds us of how far we have gone into a clean and clear future. Noise acts as a myth.

At the same time, the theme is symptomatically neglected by film studies. While communication studies show a relatively conservative approach by adopting the mathematical model of Shannon and Weaver (1964) in which noise is a negative interference in the system, film literature, in general, do not know how to deal with the topic. It transcends hermeneutical issues, hindering the exercise of film analysis, so dear to film studies. The reason is exactly that noise is not supposed to be noticed, as well as sound technologies in general. To be aware of noise is to have consciousness of the apparatus mediating the experience. We return – once more – to the assumption that sounds should refer to the real world: the fidelity of representation.

The adoption of “technically imperfect” effects to render film a greater credibility index is a relatively recent phenomenon. The simulated appearance of error has become a common pastiche in film productions since the 1990s. Thus, the eyes and ears of apparatus assume a position of presenting reality but at the same time to present themselves. They become visible and audible.

The twentieth century has demonstrated a growing interest in reshaping and domesticating noise as affective matter. As the vinyl revival for a specific niche of music consumption, the use of negatives of different gauges or old or handmade cameras to achieve purposely “poor” or “imperfect” effects aims to make technology apparent. Noise is, then, something expected, as a manifestation of the material basis of both audio and video. In an opposite route to what media technical development – both analog and digital – and post-production processes have suggested over the years, some independent film directors use the materialities of media as meaningful elements and minimize the importance of sound and images representation as an evidence of a previously given reality. However, most of the cases, film production still sees technologies as a means to achieve an objective, not as an element to be noticed.

In spite of that, even in the most idealized forms of sound technologies, we can identify the signature of a type of film practice. This practice is associated with aesthetic, economic, ideological factors. The self-erasure of technologies themselves is one such factor. The technical execution of the notion of fidelity cannot hide the specific sonority of each technological model. Technologies always leave traces of different types of noise, inevitably. The concreteness of this apparatus in effective systems will always be subject to a greater or lesser degree of disorganization and entropy.

The invisibility of technologies is more efficiently carried out by the proximity effect. The past is always more audible than the present, both for the interest of new technologies to continue imposing themselves as more transparent than the “older” ones and for the spectator’s difficulty to identify different sound treatments compared to what “is heard” outside the theater room.



The more common the listening modes, the more naturalized they are. To identify the hiss of magnetic tape or the intermittent clicks of optical sound is much simpler than to refer to the “silence” post-*Dolby*. In this case, for Chion (2009), the silent dimension is so intense that the relationship is inverted: the loudspeakers listen to the audience. Now, the spectator cannot hear the sound of new technologies: but for how long?

Noise becomes unstable according to contemporary displacement conditions. The apparatus is noticed when seen in the distance. In this sense, clicks, hisses etc. may produce a sense of past that digital reproduction does not evoke. It is not its intention to do so. As we said, the transparency of digital technologies (in fact, of any new technology) is confirmed by the opacity of older ones. The former is legitimated as “opposite” to the latter. Technical criteria, although protected by rational arguments, demonstrate, routinely, a strong emotional appeal.

In the case of old movies, background noise, voice compression or limited extension of frequency spectrum are then abstracted so that the spectator can focus on the content of the dialogue. Listening adapts itself to “imperfect” conditions through a negotiation between the perception of the different physical characteristics of sound and the interpretation of that sound through language and/or representational structures. Here, the question is not about fixed ways of “reading” the film (and the term itself already indicates a biased way to look into the matter), but about perception regimes that are conformed at the time film is projected and in relation to a historical and social context. The “aesthetics of the imperfect” meets the demands of contemporary industry. The creation of affects from the use of noise is one of its strategies.

Still, the contract between film and audience is not so draconian and presents gaps where both sides can develop alternatives to pre-programmed modes of listening to a film.

Let us think, specifically, about the effects of analog noise in old movies sound tracks. In particular those produced by optical sound. Background noise (or just “ground noise”) is that produced by physical aspects of the film during its projection. The scratches and other forms of wear of the optical track, producing a continuous “grainy” sound, are a good example. On the other side, system sounds do not require the projection of film to exist. Electric current is responsible for producing them as soon as the circuit is connected. They have an independence of recorded sound on the sound track and create a constant hum. Both background noise and system noise can be thought of as the “sound of the film,” literally:

*Together, the grain and scratch of the optical soundtrack comprise one aspect of what might be thought of as the sound of the film itself: the sound produced by an unmodulated sound track, a sounding of film's material and the technological bases* (BIRTWISTLE, 2010, p. 86).

Other types of noise produced by indirect processes are also added to the two mentioned above. There is background noise of the previously recorded material for the film, prior to mixing, which, in general, was done on magnetic media until the 1990s. Tape hiss indelible survives, no matter how invasive the filters applied in the processes of recording, editing and mixing. Because of the friction between recording and playback heads and magnetic tape, hiss is mixed to signal and cannot be removed without other frequencies being also affected. Noise reduction systems like *Dolby A*, for example, worked to minimize hiss noise present in different frequency bands, masking the effect of these frequencies through changes in the dynamic range of the recorded sounds.





Within determined periods, some devices used to reduce background noise eventually generated a unique sonority. From the 1970s, *Dolby* has become virtually synonymous with noise reduction; movies of the 1920s and 1930s used a type of rather sharp *gate* to “frame” the speech of the characters. *Gates* are devices that reduce the sound volume from a preset level. In these films, every time dialogue stopped, *gate* would reduce the volume of sound, creating an unreal passage between speech and non-speech. Without the existence of a homogeneous background masking the cuts, the two levels of noise – the background noise of recording and editing processes and background noise of film itself being projected – did not mix and it was clear when editing silenced the first, leaving the second more evident.

Still in the early decades of cinema, systems that recorded on film negative with low sensitivity – as *Photophone* – also produced a very specific type of sound. A small mirror reflecting a light beam moved according to the varying intensity of an electric current (produced by the microphone). When moving, it made the light oscillation analogous to electricity variation. As it did not respond very well to tiny oscillations, the system normally discarded low-intensity sounds and at the same time recorded the loudest ones without much subtlety. The sound was generally quite high and saturated.

The effects described above were evident within an editing style that was meant to be invisible; it could not demonstrate the existence of a material intervention on images or sounds. Soundtrack had an even more complex task, creating continuity between different takes, making the cuts invisible, hiding the point of view of machines. Each of these systems may look today as clear demonstrations of “outdated” technologies even though they seemed natural forms of interfering on film and were hardly taken as “inadequate” sonorities in their respective periods.

Even today, the unwanted sounds that may invade recordings, despite the use of directional microphones for film and the development of increasingly sophisticated strategies to exclude elements external to scenes, can also represent a type of disturbance during the experience of film. There are many cases of sounds that should not “be there”, but that, because of a technical oversight, become “apparent” after film is released.

The apparatus invisibility, by the way, may be literally demonstrated by the need to hide microphones and other technical accessories on the set. One of the great mistakes of sound professionals when filming is letting the microphone to be caught by the camera.

Birtwistle (2010) understands the sense of past produced by background and system noise as related to the loss of temporal reference that continuous sounds produce in our consciousness. Microsounds that constitute the optical track produce an uninterrupted and without tonal reference effect, next to a *drone*.

*There are no phrases, no groupings, no patterning or memorable variations within the duration occupied by the sound. In the sound of ground noise and optical crackle, the mesotemporal, the macrottemporal, the sound object and the microsonic domains therefore merge to become one sonic experience, thus setting in motion the dominant temporal frames of reference we bring to bear on our engagement with the film text. [...] This sound of technology is non-directional, and non-narrative, in the sense that it neither supports narrative nor demonstrates any internal development. Such sounds might therefore be thought of in terms of stasis and suspension (BIRTWISTLE, 2010, p. 104).*

The physical experience of listening eclipses the linear development present in film narration and even in musical structures. Birtwistle associates the *drone* effect to the elimination of the horizontality in sound experience,



placing the spectator in an eternal “present”. This present is expanded in several directions, escaping the temporal references that usually guide us. The impossibility to follow each microelement of sounds texture (similar to what happens in sounds of natural elements like wind, fire etc.) presents to our consciousness a continuous multiplicity – a duration in Bergson’s sense – that would lead us into an inner world of thoughts and memories. The relationship between *drone* and memory contributes to the feeling of past evoked by certain sounds. The association between background noise and past – besides the fact that the former may be seen as old technologies signature – is given by the non-resolution of a listening constantly situated between the conscious and the unconscious. The identity of sound remains unclear since it does not relate to textual elements, jeopardizing any reference to narrative questions.

Therefore, it is more difficult to attribute such characteristics to digital noise. It may be difficult even to think of it within the same parameters.

## CONCLUSION

The discourse which advocates a constant search for improvement of sound recording reveals some interesting aspects not only of technology, but of the social body as a whole. To investigate the historically built relationship between society and technological apparatuses is trying to produce a careful and less assertive view of our representations of the world.

This work corroborates the perspective that technologies are not a naive factor within discursive, semiotic or epistemological relations present in society. The analysis of sound (especially film sound) from textual assumptions and interpretive perspectives removes (or limits significantly) the ability of sounds to act on physical dimensions from their material conditions. Sound is denied a direct action on things and on human, an action that forgoes the need for interpretation or rigid attribution of meaning to things. Sound also functions as production of “presence”.

Gumbrecht (2004) proposes a typology that describes in a gradual and not rigid manner features of so-called “presence cultures” and “meaning cultures”. Space presents itself as a primordial dimension in presence cultures. It is within space that bodies relate to each other and to cosmos. Because of this relationship between bodies and different spaces it is inevitable the occurrence of friction. This friction can result easily in violent practices. The body is demanded in different ways: either in rituals or in modes of relating to other bodies.

Friction is, by the way, one of the main causes of noise in sound technologies. Violently, it manifests itself upon the signal, misrepresenting the “ideal” experience of listening to music and to films. Noise reduction technologies have been developed as an attempt to predict the behavior of this unpredictable element. They are articulated from the assumption that there are elements to be preserved and others to be discarded in listening. This technically mediated relationship organizes modes of perceiving.

Technologies reflect and are the reflection of reticular contexts. As such, they cannot be regarded as innocuous elements. Humanity constructs and is constructed by technique. This technique is present in apparatuses which are, among other things, a formalization of social discourses. These discourses have ranged from technological somatism (where technologies work as a sort of mirror of human bodies) to the most Gnostic theories (advocating the redemption and substitution of the human by the machine). With these in mind, we may, perhaps, not just comprise technologies within the notion of human, but understand human as also reflected in its technologies.



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## REFERENCES

- ALTEN Stanley.** 2011. *Audio in media*. Boston: Wadsworth,.
- ATLAN Henri.** 1979. *Entre le cristal et la fumée : essai sur l'organisation du vivant*. Paris: Éditions du Seuil.
- BIRTWISTLE Andy.** 2010. *Cinesonica: sounding film and video*. Manchester: Manchester University Press.
- CHION Michel.** 2009. *Film, a sound art*. New York: Columbia University Press.
- EVENS Aden.** 2005. *Sound ideas: music, machines and experience*. Minneapolis: University of Minnesota Press.
- GUMBRECHT Hans Ulrich.** 2004. *Production of presence: what meaning cannot convey*. Stanford: Stanford University Press.
- LE GOFF Jacques.** 1992. *History and memory*. New York: Columbia University Press.
- REYNOLDS Simon.** 2011. *Retromania: pop culture's addiction to its own past*. New York: Faber and Faber.
- SHANNON Claude, WEAVER Warren.** 1964. *The mathematical theory of communication*. Champaign: The University of Illinois Press.
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**José Cláudio Siqueira Castanheira** is assistant professor and coordinator of Film Program at Universidade Federal de Santa Catarina (UFSC), Brazil. He is researcher in the areas of music, sound studies and cinema, and currently develops research on the constitution of different listening models in cinema and their relationship with technology and social practices. He is one of the contributors to the anthologies: *Reverberations: The Philosophy, Aesthetics and Politics of Noise* (2012), edited by Michael Goddard, Benjamin Halligan, Paul Hegarty; and *Small Cinemas in Global Markets: Genres, Identities, Narratives* (2015), edited by Lenuta Giukin, Janina Falkowska, and David Nasser.

