

EPILOGUE

ACOUSTEMOLOGY: THE STATUS OF SOUND AND RESEARCH METHODS IN SONIC STUDIES

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1. Interpreting images and sounds

Visiting an exhibition of art is an experience usually recognised as subjective, emotive and deeply individual. The artistic work is, by nature, ambiguous because it is not only a communicative phenomenon but also an aesthetic manifestation conditioned by the creativity of the artist. It reveals a very personal way of conceiving the world—the real or the imaginary world, signified in original and inventive forms of representation. The artistic work is therefore extremely dependent on the sensitivity of those who appreciate it as well; nevertheless, if asked to comment on a painting collection or on a photographic gallery, besides providing some personal interpretations, the viewers would be more or less able to remark on some formal characteristics of each work of art.

Performed by experts in art or by art critics, the examination of an artist's production follows specific criteria and rigorous principles. The understanding of the general audience, however, does not comprise a rigid formula of analysis. In spite of the large size of reading horizons, the spectators of such visual performances would mention aspects related to the perspective of the picture, the intensity of the colours and/or the light, the format and the framing, the depth of field, the insinuation of the movement or the rhythm of the depicted objects, and the general composition. Regarding paintings in particular, even with a very common-sense perception, the viewers would also refer to the (ir)regularity of the traces, the textures, the shapes, the ink and painting techniques, and eventually the orientation of the reading.

If instead of a visual art exhibition we consider a sound art installation, the interpretation of the message is still subjective; however, it would be much more difficult to put together formal remarks on sonic work. Because it is not visible, such an artistic work offers less obvious characteristics to be prized. In a much more vague expression, listeners might refer to the rhythm, to the tone or to the intensity of the acoustic composition. Unless they have formal education in music and sound, the audience of this kind of art will not be able to explain in more detail what can be valued in a sequence of sounds. There is consequently a sensation of more superficiality when defining an acoustic experience of art than when explaining the effect of visual artistic works.

The difference between these two situations is grounded primarily in the distinct nature of the languages involved. Image and sound are both matrix languages (primary languages) used for communication purposes, but the ways in which they produce meaning are quite diverse. They affect different senses—sight and hearing, respectively—which represent different sources of information from the surrounding environment. Different senses also correspond to different methods of perception and different ways of knowing. According to Emiliano Macaluso and Jon Driver, “Incoming signals from different sensory modalities are initially processed in separate brain regions” (Macaluso and Driver 2005, 264); thus, the interpretation of each kind of input results in specific modes of abstraction.

The semiotic process associated with visual language is based on analogy or levels of similarity with regards to the represented object. Images belong to the category of signs that Peirce has defined as icons, which have a physical resemblance to the signified—the thing being represented. If it is more figurative or more abstract, the image is intended to reproduce (or recreate) the shape of the reality. Whether physical (engraved in paper or canvas, for example) or electronic (projected by screens), the image is tangible to the eyes. It is made of elements that can be seen and decomposed in separate components. It has a structure that seems to be more palpable and therefore easier to translate into verbal language.

Sound has a material nature just as an image does. It is vibration, and it flows through physical waves. Due to this condition, sound is also tangible. It touches the ear and has an effect on our skin. This is why deaf people can feel the vibration provoked by sound even if they are unable to grasp the acoustic sense with their ears. Sound, however, has an invisible existence. It can be graphically represented (in a stave, in the case of music, or in specific software, in the case of digital editing), but as a flow of acoustic signs it is meant to be reached not with the eyes but rather with

the ears only. The semiotic process that sound suggests is not related to any kind of visual resemblance. It operates more as an index, another category of signs that Peirce identified. An index does not resemble the object or the concept being represented. The correlation between sound and the signified thing is intrinsic. Sound is part of the soul of the thing represented. It is therefore not a repetition of the shape of something, as an image is; it is a part of the thing itself. It is not an appearance or a surface; it is part of the thing's essence. Moreover, a sound message is transmitted in a flow of time. More than an image, which even in movement primarily has to do with space, sound is related to time and is associated with flows, connections, relations and a matter of nexus. If stopped, it does not exist anymore.

In this sense, what separates the description of an image or a sequence of images and the description of a sound stream is in part the way in which we conceive space and the way in which we feel time. In a common-sense approach, space seems to be more concrete than time is. Space is something we feel we are able to describe; meanwhile, time seems to be more abstract and is usually understood as something that has a more psychological meaning. Although we can feel spaces and measure time, spaces are perceived as more solid than time is, and time is something that is always escaping. All other reasons explaining why it seems to be much more complex to produce a metadiscourse on aural messages than on pictorial messages come from this relation we have established with space and time.

2. Visual Culture

It is not easy to establish a starting point in the history of communication. Some books dedicated to this specific dimension of human history—such as *The Story of Human Communication: Cave Painting to Microchip* by Wilbur Schramm (1988)—start the narration in the painted caves, where the first graphic representations were found. Then, the first big revolution that historians have mentioned is the invention of writing, and, after that, the invention of the printing press. Between ancient times and the Middle Ages (when Gutenberg presented the mechanic press), there is a long, but very often silenced, history of auditory culture. Some accounts on the aural tradition and on the flow of news through the spoken word exist, but sound was not taken seriously until sound film, the telephone and the radio were invented, by the beginning of the 20th century. At the same time, however, many forms of visual communication were coming into use. The photograph, first, and then the cinema, picture postcards, posters, the

illustrated press and television quickly turned the focus to images and to their power to fascinate people.

As with science, history works on the basis of registers and on sources that are as objective as possible. Natural sound is ephemeral. There is no way to go back to the acoustic atmosphere of past centuries. Only written texts, based on memories, make it possible for us to have an idea of how important sound was in everyday life. Aside from reviewing certain official documents, reading literature is one of the available ways of finding out the ancient soundscapes and the importance of sound signals in the organisation of communities. Even so, there is a lack of other kinds of records that report scientifically the diachronic course of history from the perspective of sound and demonstrate how sound may offer a way of knowing the world.

Although more-or-less marginal, at least regarding the conventional history of human communication, a number of authors have already tried to fill this gap. One of the most recent examples is a book that David Hendy published in 2013 called *Noise: A Human History of Sound & Listening* (Hendy 2013). Others that the author also mentioned (Hendy 2013, x) move in the same direction, such as *Making Noise: From Babel to the Big Bang and Beyond*, written by Hillel Schwarz in 2011 (Schwarz 2011); *Reason and Resonance: A History of Modern Aurality*, published in 2010 by German Professor of Ethnomusicology and Anthropology Veit Erlmann (currently based at the University of Texas) (Erlmann 2010); and *Discord: The Story of Noise*, a book that Mike Goldsmith dedicated to reflecting on the increase of noise levels (Goldsmith 2012). Focused on the 19th century, Ana María Ochoa Gautier, Professor of Music, wrote *Aurality: Listening and Knowledge in Nineteenth-Century Colombia* (Ochoa Gautier 2014). Describing the origin of sound recordings and of transmission devices, Jonathan Sterne published in 2003 *The Audible Past: Cultural Origins of Sound Reproduction* (Sterne 2003).

The missing chapters on the role of sound in human communication history can no longer be attributed to the lack of a bibliography. Despite the available references—which are only brief examples of the scientific literature available—the most common reports on the evolution of communication systems are usually fixed in two paradigms, the verbal (which regularly means written) and the visual. The 20th century is in this context specifically known by what has been called a “pictorial turn”, and the expression of “civilisation of image” became one of the most-used labels for defining the post-electronic media societies. In a chapter of the book titled *Imagem e Pensamento*, Moisés de Lemos Martins reflected on the shifting from a civilisation of words to a civilisation of images and

warned that images are being multiplied in a way that “screens express today the images’ rebellion” (Martins 2011a, 131). In another article published some years earlier, the same author considered that “the image constitutes the form of our culture”, as “we are today crossed by an immensity of images” (Martins 2003, 127). The abundance of so many forms of images drove us to what the Portuguese semiotician Anabela Gradim referred to as a double effect of the “naturalization of the universe of image” and of “over-exposition” to images (Gradim 2007, 190). She remarked that “comparing with current people, a farmworker of the Middle Age was exposed to a very limited number of images” (Gradim 2007, 190). An article that the author published in the journal *Comunicação e Sociedade* in 2007 does not suggest, however, a sense of saturation. An image is considered something that has a magic and hypnotic power.

Today, all forms of communication are visually oriented. An image is considered the chief language in video and is central in paper publications. The space of verbal language actually decreased to give place to images in print editions. Interaction on the Internet is firstly dependent on icons. Verbal language is more-or-less subordinated to the visual, as images seem to be immediately received without a lot of effort, due to the impression of its universal character. Martins took this supremacy of image to be a sign of the “crisis of the word as human *logos*” (Martins 2011b, 116). No doubt exists that the present time is a time of hypervisibility. Introducing the book *Visual culture*, Chris Jenks realised that “the modern world is very much a ‘seen’ phenomenon” (Jenks 1995), which is consistent with the idea that everything demands to be visible to exist. This is likewise why public relations and strategic communication is focused today on the image of an institution/company or on a single person.

As well as the substitution of words with images, as words today have more connections to the images of things than to the things themselves, what is most intriguing in the hegemony of visual communication is the way in which sound seems to be persistently banned from the paradigmatic discourses on communication. Since the turn of the millennium, sonic studies have faced new challenges and have been developed with renewed enthusiasm; however, they still have little influence in the main sociological readings of modern life and of communication phenomena.

3. Deaf Culture

Enough evidence exists to defend the idea that the commonsensically presumed civilisation of images is a correlative of a deaf culture. As Chris Jenks (1995) stated, Western culture is basically centred on the eye. Brazilian cultural theorist Norval Baitello followed other contemporary sociologists and philosophers in declaring that “we live profoundly inside a world of visuality” (Baitello 2014, 134). As a consequence, continued the author, “the contemporary culture and society treat the sound as a less noble form of expression, a kind of poor relative in the codes spectrum of human communication” (Baitello 2014, 135). The previous section of this chapter stressed this assumption by emphasising how images today are demanding our attention in all spheres of life; yet, the original thought of this author concerns the idea of deafness. According to him, the predominance of the visual over the auditory is provoking a society of intentionally-deaf people, “people who have capacity to hear, but who do not want to hear, (...) people who do not listen to what they indeed hear” (Baitello 2014, 135).

In a book on sounds and silences in the Portuguese soundscape, Carlos Alberto Augusto asserted that today, “we look at the world surrounding us more than we listen to it” (Augusto 2014, 16). People are excessively commanded by images. Everyday language confirms it, as we use much more the verbs “to see”, “to watch” or “to show” (even when what we want to do is make someone listen to something) than we use the verbs “to hear” or “to listen to”. Martins referred to this bias of subordinating sound to image in the preface of a book on radio in Portugal and Brazil, mentioning this example of common expressions: “We go to the cinema to watch a movie or we stay at home to watch TV without being aware that to watch inevitably includes to listen to” (Martins 2015, 5–6). Likewise, we also say “I want to show you a music”, which should be imprecise, as showing is something we do primarily for the eyes and not for the ears.

It is common to say that children often have problems with concentration at school. On the other hand, many personal relationships fail because people do not listen to one another properly. During a TED Talk,¹ the expert on sound Julian Treasure began by saying that “we are losing our listening”.² In a way, it would not be wrong to say that we are

¹ A TED Talk is commonly defined as a showcase for speakers presenting well-performed ideas.

² Treasure, J. 2011. “5 ways to listen better.” Filmed July 2011 at an official TED conference. TED video, 7:43.

https://www.ted.com/talks/julian_treasure_5_ways_to_listen_better

becoming at least a hard-of-hearing society, which is not a consequence of visual demand only. It is a matter of noise as well. The world before the Industrial Revolution was much more silent than it is today. All devices produce sounds. If we are over-exposed to images, it is also true that we are over-exposed to noises—loud, harsh or confusing noises. Mozambican writer Mia Couto once wrote that, “We are not listening anymore not because we are surrounded by silence. We became deaf because of the excess of words, we became autists because of the excess of information” (Couto 2005). Contradictorily, silence is uncomfortable. Silence means a kind of void or vacuum, and very often people are not able to listen to silence. Portuguese poet José Tolentino de Mendonça declared in a newspaper article that we are illiterate of silence and that we do need to be initiated into silence to be initiated into the art of listening.

The illiteracy that exists in the field of sound is likely much more serious than it is noticeable. As a matter of fact, generally speaking, no one is taught to listen to the sounds around them. Children start school by drawing and learning how to write and read. If sound is a language that is included in part of elementary education, this is only because very often children are invited to sing; however, they do it more for entertainment than for pedagogic reasons. Even in the specific area of music education, teaching and learning methodologies tend to start with reading written music in a stave more than with listening to the sound of different instruments, for example.

Excepting in very precise areas of training, in general, education ignores sonic skills. Graduate programmes in communication only deepen this gap. Academic curricula in this scientific area currently include a very wide range of disciplines dedicated to building an image-based and visual culture, but they do not comprise similar disciplines on auditory culture. In Portugal, for example, in the majority of universities, students enrolled in so-called broadband courses on communication are required to study disciplines such as the theory of image and representation, photography, visual culture, the history of images, the design of communication and images, design and visual communication, the semiology of images and discourse, communication, image and new media, design, aesthetics and visuality or digital image. In the regular curricula, there are no equivalent disciplines for sound. On the other hand, optional disciplines focused on acoustic language are usually limited to the field of radio journalism.³ Moreover, when looking at the course syllabuses of these disciplines, it is

³ There are some exceptions in areas more related to audiovisual production. In these cases, students choosing this vocational pathway may also be required to do disciplines such as sound effects and sound editing.

observable that a considerable portion of the contents are related to a technical approach to sound and that learning outcomes are oriented to “pragmatic know-how”. There seems to be, therefore, minor attention given to more reflexive and theoretical approaches on sound meaning and on sound as a language.

In 2010, an article that the *Journal of the American Medical Association* published made public the results of a study that researchers from the Brigham and Women’s Hospital in Boston carried out. By comparing data from 1988 and 2006, researchers figured out that hearing loss among adolescents (between 12 and 19 years old) had increased 31%. Combined with real deafness and hearing loss, symbolic deafness—which has certainly increased in the past few years as well—might be a consequence of centuries of undervaluing the information coming from echoes and reverberations.

4. The Scientific Status of Sound

The field of scientific work is very much concordant with the general perception and representation made of sonic messages. Inspired by the natural sciences, the scientific method in social sciences is primarily based on observation. Research questions are formulated as a result of a rationalisation process triggered by phenomena, behaviours or events observed in natural or social contexts. In a broad understanding of the word “observation”, listening can be assumed as a way of observing; nonetheless, the etymology suggests that observing is a way to see, to witness and to be a spectator or watcher of something. To observe, therefore, has a strong connotation with sighting, which means the capacity to comprehend reality through observable data.

In several circumstances, aurality is used as an equivalent of gossip. Something that is narrated aurally can be understood as being not sufficiently reliable—first, because normally it is not registered, and then, because listening is treated as a less objective way of processing information. Sighting seems to be the unique sense capable of providing objectivity, which means observing through the eyes is the most trustworthy way of collecting information.

By reinforcing the relevance of empirical evidence, the positivist paradigm has been contributing to emphasising the credibility of what can be seen in comparison with what can be heard. Medicine is a good example of a field where images are treated as more believable than sound and where the development of image technologies has provoked in a relevant way the decline of the importance of sound. Medical imaging is

indeed gradually substituting both the auscultation technique and dialogue between doctors and patients. What doctors used to listen to (in pneumology, for example) can now be observed through complementary means of diagnosis. In a certain way, sound is losing to images the role it could play in the examination of social and behavioural phenomena.

For a number of scientific domains, sound has been (and probably will continue to be) a useful tool for research. Recorded interviews or other aural sources help researchers to apply specific methods, such as the discourse analysis. Audio as a support for other sciences is quite common. It is very often a way of registering other research objects in areas such as anthropology, musicology and ethnography. Audio by itself, as a language, is a more improbable research object, especially in the field of Communication Studies. It has become relevant for some areas of psychology, architecture and ergonomics, but it is largely ignored or marginalised in media studies and in the communication sciences. Sound as meaningful content is almost excluded from the list of feasible research objects. Film analysis, for instance, is much more focused on visual language (the option of choosing certain kinds of plans, the framing, etc.) or on a script than it is on sound effects, although the meaning of a sequence of images is in part determined by the narrative that the soundtrack and the audio production suggest.

In methodologic terms, an instrumental understanding of sound exists. It serves to provide evidence for certain research problems, although there is a lack of courage to treat it as a subject of research questions by itself. Semiotics has evolved from a linguistic paradigm to a visual paradigm. Studies on visual semiotics already have a significant tradition. The article “La rhétorique de l’image” published in the 1960s by Roland Barthes launched a transformation of focus that has been contributing to consolidating methodologies applied to the interpretation of effects that images in advertising, arts, journalism and communication in general have. Such a dedication has been more undefined regarding sound, at least from the perspective of meaning understanding.

The interdisciplinary field of sound studies remains a kind of niche in the broad scope of communication sciences. In many countries, such as Portugal, scholars in this area represent a discreet and minor group affected by the low interest in sound among social scientists in general. According to Tom Rice, “The exploration of how places are heard”, for example, “has been very largely neglected in ethnographic enquiry”. The author acknowledged that “academic literature on place has been dominated by a pervasive visual bias” (Rice 2003, 4). Steven Feld defended the same assumption in 1996 in a book chapter on the people of

The result is not surprising. If it exists in the cloud, the word “sound” (*som* in Portuguese) is invisible. “Audio” is there but with very little expression. By contrast, the word “image” (*imagem*) is one of the most remarkable ones. The same occurs with the words “television” (*televisão*), “cinema” and “visual” (the same words in Portuguese). It is not difficult to find them in the cloud. The word “radio” (*rádio*) can be identified in the bottom (left-hand) of the cloud, but when compared with “television” its size suggests that, even as a medium, radio is less significant than visual media is. Although sometimes more artistic than objective, titles of research works tend to use keywords referring to the fields or objects of analysis; thus, the underwhelming presence of words associated with the scope of sound might be considered additional evidence of the negligence of Communication Sciences regarding sound.

5. Sonic Epistemology

Marcel Cobussen, Holger Schulze and Vincent Meelberg corroborate the idea that “scant attention has been paid to the epistemological values of sound” (Cobussen, Schulze and Meelberg 2013). The authors defended the view that sensorial experience “should be regarded as an integrated network in one’s relating to the world”, but they also recognised that “the ear leads to a different orientation on the world” (Cobussen, Schulze and Meelberg 2013). By adding the term “acoustemology” “to the vocabulary of sensorial-sonic studies”, Feld wanted “to argue the potential of acoustic knowing, of sounding as a condition of and for knowing, of sonic presence and awareness as potent sharing forces in how people make sense of experiences” (Feld 1996, 97). By acknowledging the epistemic value of sound, therefore, the author suggested an “exploration of sonic sensibilities”, which does not necessarily mean the supposition that sound comes first in the understanding of the world. Resulting from the combination of “acoustic” and “epistemology”, “acoustemology” should be considered a provoking reminder that sound is also central to making meaning.

One of the crucial topics in debates regarding methodologies of empirical analysis is the specificity of certain research methods. Does sound demand particular methods to allow the expected empirical demonstration? Editing software is certainly a good help for overcoming the limitation concerning the (im)materiality of sound, as audio has become visible on the screen of a computer. With the creation of editing software, technical analysis became more achievable and objective; however, it would be misleading to ignore the fact that the fundamental

method of examining sound meaning is based on listening—listening to sounds first and then listening to the way in which people talk about what they hear. Making meaning is a matter of interpretation, which involves not only what is in the structure of sound but also what exists in people and contexts as well. This means admitting emotion, in addition to rational description, as a valuable and valid element for explaining both the immersion of oneself in the environment and the meaningful power of acoustic energies.

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