A sonic paradigm of urban ambiances?

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Journal of Sonic Studies. Volume 1, n°1, 2011
http://journal.sonicstudies.org/vol01/nr01/a02

Abstract.
This paper intends to investigate urban ambiances through focusing on the world of sounds. Although the aesthetics of everyday life implies employing the whole human sensorium, making it difficult to artificially separate the information received from the individual senses from each other, I explore what can be learned about an ambiance when we just listen to it. In other words, how and under which conditions is it possible to develop a sonic paradigm of urban ambiances? The basic argument is to consider sound as a particularly efficient medium to investigate and develop an account of urban ambiances. Various ideas will be explored in order to answer this question, involving theoretical, epistemological and methodological arguments. Three main directions are accentuated: the first one relates to the tuning *into* an ambiance, the second relates to the unfolding *of* an ambiance, and the third relates to the situating *within* an ambiance.

Urban spaces provide numerous ambiances to be felt with all the senses. Whether we think of a lively outdoor marketplace or an ordinary parking lot, an attractive historical center or an accessible subway station, the very way we relate to these places is based on the sensory experience they provide. It is a matter of light and colour, sound, smell, touch and heat, as well as the manner in which we walk and talk, move and look, relate and behave. In other words, urban ambiances always create a subtle interweaving of synaesthesia and kinaesthesia, a complex mixture of percepts and affects, a close relationship between sensations and expressions.

To put it succinctly, an ambiance can be defined as a space-time qualified from a sensory point of view. It relates to the sensing and feeling of a place. Each ambiance involves a specific mood expressed in the material presence of things and embodied in the way of being city dwellers. Thus, ambiance is both subjective and objective: it involves the lived experience of people as well as

the built environment of the place[1].

I would like to investigate urban ambiances by focusing on the world of sounds. Although the aesthetics of everyday life implies the whole human sensorium and makes it difficult to artificially separate the information received from the individual senses from each other, I will explore what can be learned about an ambiance when we decide to just listen to it. The basic argument is to consider sound as a particularly efficient medium to investigate and develop an account of urban ambiances. In other words, how and under which conditions is it possible to develop a sonic paradigm of urban ambiances? By asking such a question, I will focus on the relationship between sound and ambiance, and consider the very nature of sonic experience.

Ambiance and Music

To start with, it can be useful to remember that certain forms of music are very closely related to ambiances. Consider Eric Satie's *Musique d'ameublement* (furniture music) that was composed in order to create a background atmosphere for specific activities such as dinner. We can also think of Brian Eno's *Ambient music* that aims to create diverse moods appropriate to various times and situations. The set of pieces entitled *Music for Airports* may be some of the most famous. Of course, from a different perspective, there is also the musical atmosphere produced by Muzak and other companies that offer *background music* for commercial purposes (Sterne 1997).

Those few examples show that the link between music and ambiance has already been explored. Such cases are worth mentioning because they emphasize three important features of an ambiance. With sound – as with ambiance – we are immersed in a milieu. No need to mention the famous surroundability and omnidirectionality of sound. We are surrounded by sounds that propagate all around and come from everywhere at once. In other words, sound places me in the midst of a world (Ong 1981).

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[1] For an overview of the notion of ambiance, see (Amphoux, Thibaud and Chelkoff 2004) ; (Augoyard 2011) ; (Thibaud 2011).

With Muzak, loud speakers are disseminated everywhere in space in order to create a ubiquitous sonic environment. As Sumrell and Varnelis (2005: 118) observed, "if the music is audible, its source is no longer discernable". Secondly, this kind of music is not designed to be listened to very attentively; it should barely be heard. It operates as a continuous background to everyday life. This is what Michel Chion (1993) designates as *musique-milieu*, which tends to accompany everyday activities, as opposed to *musique-discours*, which involves a linear discourse with a specific beginning and an end. Here again – as with ambiance – these experiences can combine both attention and distraction, they can implement various levels of listening attention. In other words, such sensory environments can be experienced without being noticed, heard without being listened to. Third, there is a direct link between this background music – this ambient music – and the situation in which it is played. Each composition is designed to fit a specific situation, to induce a specific mood (Lanza 1994). Here again, it is intrinsic to ambiances that they cannot be dissociated from their context of appearing. We sometimes define an ambiance as the pervasive quality of a situation (Thibaud 2004).

The Multisensoriality of an Ambiance

This discussion of background music demonstrates the close affinity between sound and ambiance. However, in what sense is it legitimate to focus exclusively on sound? Each sensory modality contributes to the fabric of an ambiance and provides its specific phenomenal characteristics. For instance, in his attempt to identify the various features that generate a certain atmosphere of a building, the Swiss architect Peter Zumthor (2006) distinguishes the sound of a space that contributes a great deal toward a "feeling at home", the temperature of a space that helps to temper the environment and to search "for the right mood", the light on things that is experienced "almost as a spiritual quality". Also, Juhani Pallasmaa (1996) aims at developing a sensory architecture that puts the entire body in the centre and integrates all the senses.

Obviously, sound cannot pretend to operate as a substitute for light, temperature, touch or odors in the creating of an atmosphere. If one sense is in

no way replaceable by another, why do I focus my investigation on sound exclusively?

Additionally, it has been argued that it is not sound which bears the closest relationship to an atmosphere. In a very interesting and convincing piece of work, Hubertus Tellenbach elaborates a phenomenology of the "oral sense" (smelling and tasting) and demonstrates its strong affinity with atmosphere: "That which precisely characterizes the essence of the sensorial system is that in the feeling of being affected - more than in the affections of the other senses - a homogenization of the state of being human is realized, that is to say: a tuning into an ambiance." (Tellenbach 1983: 17, my translation). In emphasizing the archaïc, immersive and pre-judgemental aspect of the oral sense, Tellenbach achieves an elaboration of the notion of "atmospherics". Based on existential psychology and clinical observations, this research brings back into favour the so-called "lower" senses, showing their importance in the development of human being and the understanding of various pathologies and psychosis. If the oral sense plays such a crucial role in the experiencing of atmosphere, why insist on exploring another sense such as the auditory one?

From these few remarks, it seems that the idea of a sonic paradigm of urban ambiances is far from being obvious and cannot be taken for granted. In order to go further, we have to ask ourselves what can be considered specific to the world of sound. The problem is not to reduce an ambiance to its sonic component, or to affirm that only sound can give us an account of what an ambiance is all about. Rather, the idea is to ponder what an ambiance is in terms of sound. What can we learn when we consider an ambiance from a sonic perspective? In a way, it is a heuristics of sound that I am attempting to develop here. This is of course a very ambitious project, and I do not pretend to accomplish it completely. I will simply give three different directions that seem worth exploring in the future. The first one relates to "the tuning *into* an ambiance", the second one relates to "the unfolding *of* an ambiance", and the third one relates to "the situating *within* an ambiance".

The Tuning *into* an Ambiance

When we try to describe an ambiance or even to define the very notion of ambiance, we tend to use various terms derived from the science of acoustics or music, terms that are rooted in the verbal history of auditory experience. For instance, an ambiance can be specified by its “tone” (an affective tonality), it involves our ability to be “in tune” with the place, it has something to do with “sympathy” and “harmony”… We speak sometimes of “a vibrant atmosphere”… While our everyday language is predominantly based on visual images, such is not the case with ambiance. The three main properties of vision identified by the philosopher Hans Jonas (1966) – simultaneity, neutralisation and distance – are not accurate to express the very nature of an ambiance. On the contrary, audition appears to be closely related to it. Eugene Minkowski explains it very accurately:

> We usually talk, for the phenomena related to sympathy, of harmony, of resonance, of the ability to vibe in unison with or to tune oneself to an ambiance. But why do we use, in this domain, only metaphors coming from the world of sounds? For me, this preference for acoustic ‘metaphors’, far from surprising, seems completely natural, as it exists for the language which in turn creates it. Those metaphors reveal the structural identity between phenomena of lived synchronism and the world of sounds; the latter, as the former, are based on a fundamental property of life : resonance. (Minkowski 1999: 106, my translation).

For sound – as for ambiance – resonance is not a simple property among others; it is a basic and grounding phenomenon of the entire sensory experience. To sum it up: there is no sensation without vibration and resonance, whether it be sound, light or texture (Deleuze 2003). As Elisabeth Grosz comments, relying on Deleuze’s philosophy: ”sensation, after all is nothing but a vibratory difference capable of resonating bodily organs and the nervous system” (Grosz 2008: 62). To be sure, it is a notion which comes from the world of sound – i.e. resonance – that enables us to elaborate on the unity of the senses and point out their common denominator.

But for now, let’s stick with sound and start with an example. Organ builders know perfectly the power of vibrations when they make sure that the low pitch notes of the organ will not cause too many sympathetic vibrations in the stained glasses of the cathedral, in order to prevent breaking them. This is to say that

buildings or places are not completely inert or passive, since they respond to and amplify certain resonance frequencies. Thus, it is necessary to adjust the intensity of sounds of the organ to the place. Like the cathedral mentioned above, the body itself operates as a resonance chamber that vibrates to the stimulation of its immediate surroundings. In other words, resonance involves the ability of the body to incorporate and be affected by vibratory forces: its capacity to engage with, be penetrated by and participate in the actual ambiance. As Jean-Luc Nancy very accurately analyzes, “Resonance is at once that of a body that is sonorous for itself and resonance of sonority in a listening body that, itself, resounds as it listens.” (Nancy 2007: 40)

What I am trying to describe here is not perception but rather sensation; not the way we interpret, recognize and understand the world we perceive, but rather the way we feel and relate to the world we sense. Sensing rather than perceiving. The “pathic” dimension rather than the “gnostic” one:

> “by the pathic moment, we mean the immediate communication we have with things on the basis of their changing mode of sensory givenness. Thus, we do not relate the pathic dimension to the fixed or changing properties of the objects, and this means not to objects capable of attracting, frightening, or oppressing us by their properties. The gnostic moment merely develops the what of the given in its object character, the pathic the how of its being as given.” (Straus 1963: 12)

By pathic, Straus means a mode of immediate communication with the world. Contrary to the gnostic component that involves apperception and is directed towards the objective features of the surroundings, the pathic sphere is on the side of affectivity and bodily sensation, it is not a mode of knowing. For example, when we enter a new place, we immediately feel its atmosphere and make sense of it. Our body responds to the place in some way or another. We tend to adopt its rhythm and its tonality. We are moved by the gentleness of the whispers, the brightness of the light, the coldness of the winter air or the spiciness of the smell. The ambiance takes hold of us before we are able to clearly identify and represent the actual situation. In other words, ambiance relies strongly on the pathic dimension of sensory experience. Obviously, in everyday life the gnostic and the pathic are closely intertwined, as well as the impressions coming from the various senses. However, Straus demonstrates

quite convincingly that acoustic space is particularly relevant regarding pathic experience (Boissière 2011). Because sound occupies and integrates space, reaches and seizes us, it renders orientation and objectivation difficult. To be sure, a tone is not « here » nor « there », it is everywhere. When we look for the source of a sound, when we try to localize it, we still rely on vision and we lose the very nature of acoustic space. Contrary to color that remains attached to the object, sound has the ability to separate itself from its source and liberate itself from directional movement. Such a consideration brings Straus to associate acoustic space with the space of the dance. In both cases, the body tends to move without direction and resonates with its immediate surroundings. Like dance, sound has the ability to embody the pathic dimension of an ambiance.

With sounds – as with ambiances – we do not experience the world from the outside, in front of us, but through it, in accordance with it, as part of it. The sensing subject is nothing but a resonant body that gets in tune and in sync with his environment. Japanese culture and philosophy seem particularly adept in fomenting and developing this perspective (Nagatomo 1992). In a way, I become part of what I sense; I tend to merge with the ambiance; my level of tension adjusts to the one of the world. My voice – my way of speaking – tends to sound akin to what I hear. Here, no need for mediation, since the sensing subject and the sensed world are two faces of the same coin. To put it differently, the limit between my body and the world is porous. With sound, the categories of energy, force and tones tend to replace the one of image, representation and forms (Zuckerkandl 1973). To phrase it concisely: with the idea of “resonance”, the world of sound makes explicit the very power of attunement to an ambiance. It helps to describe the very process by which I feel and sense the world. This may be why sounds – like ambiances – are so close to affective and emotional experience. As Yi-Fu Tuan notices: “More important, sound dramatizes spatial experience. Soundless space feels calm and lifeless despite the visible flow of activity in it, as in watching events through binoculars or on the television screen with the sound turned off, or being in a city muffled in a fresh blanket of snow.” (Tuan 2003: 16) Do we not say that an ambiance can have *good vibes*?

The Unfolding *of* an Ambiance

The second power of sound to be mentioned relates to the unfolding of an ambiance. Sound can help us to record, document and describe the dynamics of an ambiance. Registration of sound can be used to design and develop a sensory ethnography of the urban world. Here, three main arguments should be briefly mentioned.

Firstly, sound cannot be experienced without time. When we define sound as "qualified time", we emphasize that time is not a parameter among others, an additional property of sound. Rather, time is the very nature of sound; it is constitutive of sound. As Don Ihde summarizes: *"*sound embodies the sense of time*"* (Ihde 2007: 85). This is a very well-known argument, and I am not going to develop upon it too much. When we record or listen to a place, we inevitably sense time passing by, a time that is not an abstract time, a time of clocks, but a qualified time: the slow ending of the day when sounds progressively diminish, the frenzy and excitement of rush hour, when the crowds invade the streets, the quiet pause of a Sunday afternoon when nobody is outside… Thus, if we want to study how an ambiance evolves and develops, we listen to it carefully in order to be able to recompose its internal dynamics. In his project of rhythmanalysis, Henri Lefebvre (1984) pointed out the crucial role of sound for the rhythmanalyst, the one who studies the rhythms and atmospheres of a place.

However, what is interesting about the auditory world is not only its temporal dimension but also its active and generative one. This brings me to the second point. When we listen to an ambiance, we hear an ambiance being made, we hear the process of formation and transformation itself. Indeed, an ambiance is not only to be felt but also to be produced. When we try to understand the way an atmosphere is generated, we have to consider the interaction between the built environment and the social practices it enables and relies on. In other words, an ambiance cannot be reduced to mere sensory qualities resulting uniquely from the architecture or spatial design of a place. We also have to take into account the everyday activities of city dwellers: people walking on the

streets, talking to each other, driving their cars, building a new house, mowing their lawns, etc. All those activities are audible and are components of an ambiance.

Sound is not the property of a thing but the result of an action. This can apply for social practices and everyday activities; it can also apply to natural events like when the wind blows or the rain pours and render audible some features of the environment that were silent until then. In any case, sound gives access to what is happening. This is to say that sound is very closely intertwined with movement, gesture and action. Regarding ambiance, it is not only the social activity itself that can be heard but the manner and the conditions in which an action is accomplished. In other words, sound is a very useful medium that can help us document the social expression of an ambiance.

Let me just briefly mention an anecdote related to research carried out several years ago, dealing with the ambiances of underground public places. Together with a colleague of mine – Grégoire Chelkoff – I studied two specific underground public spaces in Paris: the Louvre and the Halles (Chelkoff & Thibaud 1997). We observed that in the Louvre, the very smooth floor enabled, perhaps encouraged, visitors to perform a kind of “sliding step”, a way of walking with motions similar to skating. What is interesting is that we noticed this not from visual observation, but through the act of listening. In the recordings we made, there was a kind of prolonged smooth sound that we could not immediately identify. After some listening we understood that it was the sound people were making when they were walking. What we were hearing was not simply people walking but the way people were walking, in accordance with the texture of the floor and the characteristics of the place. From this example, we understand that people’s practices are constitutive of the production and expression of an ambiance.

Finally, the third point is related to the unfolding of an ambiance. Following the temporal and the generative, we might also highlight the collective dimension. When we listen to an ambiance, we hear the unfolding of social life itself. Ambiances cannot be reduced to a subjective domain, but are rather a

public expression of a specific form of life, of a particular way of living together:

> The question of sound atmospheres is directly related to the dimension of lifestyles, understood as generators of urban atmospheres. In terms of street noise, it makes a difference as to whether it is customary for people to honk their horns or not, what brand of car they drive, whether radio music can be heard through their open windows, whether the names of goods are shouted out, or 'alluring' music comes from their boutiques. These are just some aspects : through their lifestyles, the inhabitants of the city are also, always, producers of its atmosphere. (Böhme 1998: 11).

When you hear a place, you hear a specific social organization of sound as well as the way in which people interact and relate to each other. Sound is both the expression and the medium of various modes of social existence; it is closely intertwined with the hurly-burly of social life, with the "multiple as such" (Serres 1995).

In addition, sound can mark the urban character of an ambiance. At a very basic level, the nature of the acoustic signals is quite significant: ongoing traffic noise, compact voices in a crowd, electronic device beeps or background music in public spaces operate as indexes of an urban ambiance. But more fundamentally, the density of micro-events, the loss of intervals and pauses, the reverberated sound of enclosed space and the fast pace of street life plunge us into the urban world. No need to say that sound is a very powerful medium to express the sensory ecology of urban spaces (LaBelle 2010).

Instead of developing this idea, allow me to illustrate this point with two short sound recordings. Both of them relate to the use of loud-speakers for commercial purposes. The first one – *Cashier New York* – was recorded in New York City, at the checkout counter of a supermarket. The second one – *Street vendors Bahia* – was recorded in Salvador da Bahia, where several street vendors work close to one another on the same street. We can hear two very different cases of a commercial situation, with their specific temporal, practical and collective features.

To recapitulate, emphasizing the temporal, active and collective dimensions of sound enables us to study and to document the unfolding of an ambiance. It brings us also to a socio-aesthetics of commitment that does not rely only on mere contemplation and reception but also on active involvement in urban life.

Situating *within* an Ambiance

The last point – the situating within an ambiance – will be just mentioned and not thoroughly developed. Here, it is important to understand that when I speak

of ambiance, I am referring to architectural and urban ambiances. The idea is not to explore ambiance or atmosphere in general, as a generic notion, as a wide and vague term. On the contrary, the notion refers to various specific sensory experiences always situated and spatially contextualized. Because sound is context-sensitive, it can help us to clarify the situatedness of each singular ambiance. In other words, the sense of audition is sufficiently accurate to properly qualify and precisely distinguish one ambiance from another. Listen to the recordings, mentioned above, of New York City and Salvador da Bahia and you will very easily hear the difference of atmosphere. Although it may also be possible with smell or temperature, this sensory information cannot be recorded, played back and registered in order to be analyzed carefully afterwards.

However, there is a second reason why sound is particularly adequate to describe architectural and urban ambiances. An ambiance is a complex pervasive quality which brings together and unifies numerous components of a situation. Any ambiance involves at once the characteristics of the built environment; the way people live, behave and interact but also the impact of the weather and the growing presence of technology. Those components are diverse and heterogeneous. If each sense relates to all those variables to a certain extent, I contend that sound is perhaps the most likely to incorporate, assimilate and weave them all together. When you listen to a place you can hear the rain pouring down the pavement, the wind blowing through the trees or the subdued sound of a snowy place; you can hear the reverberation of a small indoor plaza or background traffic noise that disperses through a large open field park; you can hear the fast pace of people passing by or a friendly conversation going on in the crowd; you can hear the ringing of cell phones or the filtered music coming from an Ipod. All those voices intertwine and mix together in a single affective tonality that specifies an ambiance. Victor Zuckerkandl (1973: 105) named this phenomenon “tonal coalescence” when “several tones sounding in conjunction produce one sound sensation”.

In a way, the world of sound is sufficiently context-sensitive to unify the variables, conditions and circumstances that generate an ambiance. It enables

us to develop transverse tools and interdisciplinary methods that articulate the sensory within the spatial, the social, and the physical. Such is the case of the paradigm of *sonic effect* – halfway between the sound object of Pierre Schaeffer and the soundscape of Murray Schafer – that "gathers together into unified and harmonious listening what other disciplinary knowledge divides" (Augoyard & Torgue 2006: 11). In other words, while vision tends to implement too great a distance between the perceiver and the perceived, and while olfaction tends to produce overly diffuse and volatile phenomena, audition can mix the affective with the cognitive, the universal with the singular in a very balanced way.

Conclusion

Questioning the possibility of a sonic paradigm of urban ambiances led us to explore the complex relation between sound and ambiance. Sound has proved to be a very useful medium to describe the tuning *into*, the unfolding *of*, and the situating *within* an ambiance. Those three perspectives helped me to approach the puzzling notion of ambiance by revealing some of its main features: the emphasis on sensing over perceiving; the crucial role of resonance and affective tonality; the importance of internal dynamics, everyday gestures and social forms of life; the embeddedness in sensory urban ecology; the phenomenon of coalescence that unifies the diverse; the articulation between the spatial, the social and the physical. I briefly mentioned how an ambiance involves the very nature of lived experience, the dynamics of sensory environment and the complexity of urban situations.

If sound and ambiance are so closely related, it is because they both question the idea of a clear distinction between the perceiver and the perceived, the subject and the object, the inside and the outside, the individual and the world. Instead of relying on a dualistic and substantialistic mode of thinking, they require an alternative to an ontology of the thing that considers the medium, the fluxes and the "quasi-objects" (Serres 1982). Sound and ambiance enable us to emphasize the "in-between" and the "in-the-middle", and through them a relational thought can develop. From this final argument, we can try to

implement the fundamental proposition pointed out quite accurately by Veit Erlmann, “in which the focus is not on the ear as an object, but in which the ear figures as a form of embodied knowledge, as something we think with” (Erlmann 2010: 24).

Bibliography

Pascal Amphoux, Jean-Paul Thibaud and Grégoire Chelkoff (Eds.) (2004). *Ambiances en débats*. Bernin: A la Croisée

Jean-François Augoyard (Ed.) (2011). *Faire une ambiance*. Bernin: A la Croisée

Jean-François Augoyard, Henry Torgue (Eds.) (2006). *Sonic Experience. A Guide to Everyday Sounds*. Montreal : McGill-Queen’s University Press

Gernot Böhme (1998). « The atmosphere of a city. » *Issues in Contemporary Culture and Aesthetics* 7, 5-13

Anne Boissière (2011). « Vers une psychologie du mouvement : l’espace acoustique d’Erwin Straus, entre musique et danse. » *Insistance* 5, 55-68

Grégoire Chelkoff and Jean-Paul Thibaud (1997). *Ambiances sous la ville. une approche écologique des espaces publics souterrains*. Grenoble: CRESSON/Plan Urbain, multigr.

Michel Chion (1993). *Le promeneur écoutant. Essais d’Acoulogie*. Paris: Editions Plume

Gilles Deleuze (2003). *Francis Bacon. The logic of sensation*. London: Continuum [translation from French: Gilles Deleuze *Francis Bacon : Logique de la sensation*. Paris: Seuil, 2002]

Veit Erlmann (2010). *Reason and Resonance. A History of Modern Aurality*. New York: Zone Books

Elisabeth Grosz (2008). *Chaos, Territory, Art. Deleuze and the Framing of the Earth*. New York: Columbia University Press

Don Ihde (2007). *Listening and Voice*. Albany: State University of New York

Hans Jonas (1966). *The phenomenon of life*. Chicago: University of Chicago Press

Brendon LaBelle (2010). *Acoustic Territories. Sound culture and everyday life*. New York: Continuum

Joseph Lanza (1994). *Elevator Music. A Surreal History of Muzak, Easy-Listening and other Moodsong*. London: Quartet Books

Henri Lefebvre (2004). *Rhythmanalysis: space, time, and everyday life*. London: Continuum [translation from French: Henri Lefebvre *Éléments de rythmanalyse*. Paris: Éditions Syllepse, 1992]

Eugène Minkowski (1999). *Vers une cosmologie*. Paris: Payot

Jean-Luc Nancy (2007) *On listening*. New York: Fordham University Press [translation from French: Jean-Luc Nancy *A l’écoute*. Paris: Galilée, 2002]

Shigenori Nagatomo (1992). *Attunement Through the Body*. Albany: State University of New York Press

Walter J. Ong (1981). *The Presence of the Word*. Minneapolis : University of Minnesota Press

Juhani Pallasmaa (1996). *The Eyes Of The Skin: Architecture And The Senses*. London: Academy Editions

Michel Serres (1982). *The Parasite*. Baltimore and London: Johns Hopkins University Press [translation from French: Michel Serres *Le parasite*. Paris: Grasset, 1980]

Michel Serres (1995). *Genesis*. Michigan: The University of Michigan Press [translation from French: Michel Serres *Génèse*. Paris: Grasset, 1982]

Jonathan Sterne (1997) « Sounds Like the Mall of America: Programmed Music and the Architectonics of Commercial Space. » *Ethnomusicology* 41 (1), 22-50

Erwin Straus (1963). *The Primary World of the Senses*. New York: Free Press

Erwin Straus (1966). « The Forms of Spatiality. » In *Phenomenological Psychology: The Selected Papers of Erwin W. Straus*. New York: Basic Books. 3–37 [translation from German: Erwin Straus « Die Formen des Raümlichen. » *Der Nervenarzt*, 3:11, 1930, 633–656]

Robert Sumrell and Kazys Varnelis (2005). « The Stimulus Progression: Muzak and the Culture of Horizontality » In Albert Ferré, Irene Hwang, Michael Kubo, Ramon Prat, Tomoko Sakamoto and Anna Tetas (Eds.), *Conditioning. The Design of New Atmospheres, Effects and Experiences*. (pp. 106-121). Barcelona: Actar

Hubertus Tellenbach (1983). *Goût et Atmosphère*. Paris: P.U.F. [translation from German: Hubertus Tellenbach *Geschmack und Atmosphäre*, Salzbur: Otto Müller, 1968]

Jean-Paul Thibaud (2004). « De la qualité diffuse aux ambiances situées. » In Bruno Karsenti and Louis Quéré (Eds.), *Raisons Pratiques. La croyance et l'enquête*. (pp. 227-253). Paris : Editions de l'EHESS.

Jean-Paul Thibaud (2011). « The Sensory Fabric of Urban Ambiances. » *Senses and Society* 6 (2), 203-215

Yi-Fu Tuan (2003). *Space and Place. The Perspective of Experience*. Minneapolis: University of Minnesota Press

Victor Zuckerkandl (1973). *Sound and Symbol. Music and the External World*. Princeton: Princeton University Press

Peter Zumthor (2006). *Atmospheres*. Basel: Birkhaüser