

SOCIAL REPRODUCTION OF SPACE AND SOUNDSCAPES

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ABSTRACT

The aim of this study is to present a basic discussion of whether sound can be a factor in the process of the reproduction of social space. In order to examine this ubiquitous phenomenon, sound needs to be traced back to its source, the physical environment to which it is attached. In this context, the role of sound in urban areas requires urban morphological and demographical knowledge and this knowledge establishes the physical features of a sonic environment which was radically transformed after the industrial and the electricity revolutions. It is therefore necessary to examine the phenomenon through its historical roots which correspond to the ‘modern’ era, which has been practised by several thinkers from a variety of geographies. The common ground of these first studies was rapid urbanization. On the other hand, ‘the experience of urban’ was also becoming the question asked by modern intellectuals. Some of them, for instance, preferred to walk through the modern city and to narrate the modern way of life critically, for the first time, from the perspective of the individual, unlike the previous model-based analyses of urban sociologists and planners. In particular, Simmel, Benjamin, Lefebvre, de Certeau and Debord all structured theories and pioneering discussions of everyday life and the experience of space within this perspective.

Adopting an interpretive approach for this current study, I began by re-evaluating Lefebvre’s ‘rhythmanalysis’ and Debord’s ‘psychogeography’ for my research area, the sonic environment of Karaköy, in order to question the use of experience-based practices in the field of soundscape studies. In addition to these pioneers, a relatively new concept, the ‘threshold spaces’ of Stavros Stavrides, has also been used here as a basis for understanding soundscapes.

In this research, the continuums of sound, environment and individual experiences are discussed in the physical, perceptual, social and cultural contexts. It has been concluded that it is necessary to evaluate soundscape as a social sphere within the process of the social reproduction of space. This conclusion led me to study the soundscape of Karaköy as a threshold space where the everyday flows of people,

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goods and services are considerably dynamic and diverse. In order to portray the sound environment of the area, the urban transformation of the Galata region is studied both morphologically and demographically. Some of the well-known soundscape research methods such as soundwalking and sound mapping were adopted for Karaköy's urban analysis. The recorded soundwalks help to identify the background and foreground sounds of the sonic environment. In addition to the soundwalks, a public survey was conducted to explore daily users' sound experiences. The findings show that sound has a critical role in everyday life for people who experience the space in a social context. As a final remark, it is concluded that sound must be also seen as one of the significant dimensions of urban analysis for scholars who seek to understand the urban strata multi- and/or omni-directionally in which sound has carried the historical roots of urban experiences for hundreds of years, and this long-lived sonic process also constitutes the process of the social reproduction of space.

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1. UNDERSTANDING THE URBAN CONDITION BY LISTENING THE EVERYDAY LIFE

Trying to understand the way in which a soundscape, an inevitable environment, is generated, we have to consider the interaction between the built environment and the social practices on which it relies. In the modern world, the everyday life of an urban area produces different kinds of rhythm and experience. Listening to the movement and the effect of sound in a public space enables us to investigate the social reproduction of space in the present time and the present place. The flow of the quotidian, and the social, historical, geographical and physical strata connect to each other in each moment. 'Now' is the strata of a whole history and its reproduction, and in this current study, the exploration of the declared soundscape is the research method which I shall use (LaBelle, 2012).

In the middle of the eighteenth century, industrialization first appeared in England and later city boundaries were dissolved as new transportation networks were established and people started moving from rural to urban areas. The everyday life urban experience became a field for critical thinking as early as Engels's work in 1844 (for example, Simmel, 1903; Benjamin *et al.*, 1947; Debord, 1957; Jacobs, 1961; Certeau, 1984) and extends to today's urban condition. Technological improvements introduced during the industrial and electricity revolutions enriched the city and the urban soundscapes. Mass migrations during the twentieth century mixed the world's colonial texture and in the 1980s, the term 'the global city' emerged. The use of the proliferating communications media makes it possible for the current generation to contact each other in seconds regardless of vast physical distances. Space has lost its boundaries. The modern new

world makes spaces global and both physical space and the encounters which occur within it have changed their forms dramatically.

Space is a physical and psychological phenomenon which is reproduced by each moment. In these moments, sound waves vibrate everything, and these vibrations affect our bodies and our eardrums. As an architect, I critically address and eventually create the experience of space. As a researcher, a human being and a listener, I have to choose the human perspective in terms of the point at which I listen. The dynamic relationship between time, space and energy is the crucial question for the reproduction of space. So observing the relationship between listener, environment and sound in urban space is about the social reproduction of space in everyday life.

In order to critically examine the social reproduction of space by sound, I chose a threshold space which is situated in one of the oldest commercial districts of Istanbul, Galata. Thousands of years ago, the name for Galata was Sycae, and it was the 'other' for Constantinople until the nineteenth century. On the outskirts of Galata, the old gate at Karaköy is the earliest industrialized area of Istanbul and it still sustains the public transportation flow by trams, subway trains and buses, and especially by the ferries which have been in service since the early nineteenth century. The transformation of Galata's cultural and built environment has continued to change under the effect of the political and economic forces of urbanization. In the last two decades, the port has begun to undergo gentrification by various renovation and renewal projects. Life in the area has been layered by numerous radical events throughout its history leading to the point at which we ourselves are now situated in today's urban space. This multi-layered position helps us to investigate everyday life where the strata of space are unveiled. Everyday life here contains social (linear) and natural (circular) rhythms which are reproduced by repetitions and differences in a spatial and cultural environment. Discussing this social or common space therefore needs experience-based research. The role of sound emerges in this moment; the space which we share is inevitably connected with air, which is the medium through which sound travels. This is the way that sound creates a common space for all. Listening to a soundscape traces sounds which are physically reshaped by reflection, diffusion and absorption and is socially transformed by the perceptions of individuals and their cultural backgrounds.

In this study, the social, economic, spatial and political features of the city are discussed through the soundscape of Karaköy, just as the history of the modern world has been discussed by urban social theorists who experienced everyday life *in situ*. In order to do that, urban morphology and the acoustic dimension of everyday life in the existing urban soundscape study literature will be reviewed and Stavrides's notion of 'threshold spaces' will be applied to urban soundscapes, which are dynamic and fertile. Based on this review, I shall analyse the social reproduction of space in everyday life in Karaköy as the chosen location for this study.

1.1. MOLECULAR DIFFERENTIATION OF EVERYDAY LIFE and RESEARCH METHODS, RHYTHMANALYSIS and PSYCHOGEOGRAPHY

Everyday modernity begins to look like a patchwork of different times and spaces (Highmore, 2002:174). The theories of everyday life were founded in the industrialized era in the urban areas of England. By the mid-eighteenth century, Great Britain was the world's leading commercial nation, and the new capitalist economy was established on the shoulders of the workers. To seek possible business opportunities, the son of a wealthy German Jewish merchant, Friedrich Engels (1820-1895) went to England. During his time there, he examined the living and working conditions of the working class. His first critical study, a philosophy of the streets, was *The Condition of the Working Class in England* published in 1844. He described the life of the working class as "ruinous and miserable" and the portrayed towns as "unplanned wildernesses of one or two-storeyed terraced houses" where the hunger cries of children could not be heard by their fathers who worked in the noise of factories for more than eighteen hours a day (Chen *et al.*, 2015; Engels, 1845; Meagher, 2007).

In the late nineteenth century, one of the first social theorists of modernity itself,² the German philosopher Georg Simmel (1858-1918), found the essence of modernization in everyday life among people in the emerging metropolis (Chen *et al.*, 2015). In 1903, in an essay titled 'Metropolis and Mental Life', he wrote that Berlin "was a city of intense contrasts between wealth and poverty". Rapid urbanization was creating tension between the traditional and the modern rhythms of life. Simmel saw the capitalist city as a sensorium which assaulted the urbanite with a cacophony of sights and sounds, including advertising, commodities, pedestrians, and vehicular traffic (Lin & Mele, 2013:2) and he questioned the transformation of the city and its culture in micro-scale. For him "a sensory situation that generates a psychological condition" needed to be investigated in the urban life of the metropolis (Highmore, 2002:41).

Simmel's dialectic approach to everyday life and the experience of modernity was fragmented by micro-level behaviors. His method, which offered a dialectical transition between the personal and the social, provided a gate into how the modern world actually worked. In his famous essay, 'Bridge and Door', Simmel (1997:67) described the human being as "the connecting creature who must always separate and cannot connect without separating". This was the line between the personal and the social where experiences occur.

The everyday is linked to an experience of modernity that privileges the urban and the unconscious (or the non-conscious) (Highmore, 2002:32). The German philosopher and cultural critic Walter Benjamin (1892-1940), who was a student of Simmel, recognized

² Sociological concern with urbanization began with sociology itself, for it was the rapidly growing 19th-century industrial cities that first supported those social relationships and structures which inspired the new discipline; urban sociology (Oxford Reference).

“the everyday of modernity as assaulting the totality of the sensate body”(ibid.:26). Benjamin found the everyday experience of modernity in sensation and affection, which was also problematic in urban space. His critique of urban modernity was in where streets are the dwelling place of the collective (Benjamin ,2002:879). Not physical places such as streets, but ‘porous’ entities were another notion which also establish a social sphere; “Building and action interpenetrate in the courtyards, arcades and stairways” (Benjamin, 1979:169), or “only much more loudly, the street migrates into the living room” (Benjamin, 1985:174). Porous places are the spaces where the public and private encounter and reproduce their common space.

Simmel’s ‘Doors and Bridges’ and Benjamin’s ‘porous’ notion suggested a new way of understanding space where a dynamic and stormy modernity creates the cultural common in urban space. These in-between spaces will be discussed below using Stavrides’s notion of threshold spaces.

Thresholds are dynamic spaces which are created by encounters between public and private in a social context. This notion helps to “describe urban space as a process rather than a series of physical entities”; Stavrides sought to “discover practices that oppose a dominant will to fix spatial meanings and uses. These practices mold space and create new spatial articulations since they tend to produce threshold spaces, those in-between areas that relate rather than separate” (2006:174). The everyday life of a urban setting is a stage for action and reaction; it is affective and creates thresholds which “represent passages towards a possible future, already existing in the past” (*ibid.*:177) in the context of urban space.

In this current study, the notion of threshold spaces is correlated with urban soundscapes which are fertile contexts for discussing any particular urban condition. I shall build on the space which is established by sound and consciously or unconsciously experienced by its users. Listening to everyday sounds is a research method which can unveil the strata of historical accumulation and open a field for understanding the social reproduction of space. The field research for this study was undertaken in Karaköy, which is accepted as a physical and cultural threshold space in the urbanization history of İstanbul and as one of the centers of today’s urban flow.

For analyzing the urban everyday life, French Marxist sociologist Henri Lefebvre “focused on the urban environment as a space for the intensification of the alienation of everyday life, as well as a site for its possible transformation”(Highmore, 2002:31). For him “everything from a critique of urban planning to a poetics of movement” was a critical element of everyday life (Highmore, 2002:132-133). Lefebvre argued that a dialectic relationship between social action and spatialization produces space, which is not an absolute or naturally occurring phenomenon; space is more of a social construction.

In Lefebvre’s notion of rhythmanalysis in everyday life, the bodily achievement of the rhythms relies on temporality. Research “has to be both centered on body and to be performed as an embodied activity” (Atanasovski, 2016:16). The researcher “listens –

and first to his body; he learns rhythm from it, in order consequently to appreciate external rhythms. His body serves him as a metronome” (Lefebvre, 2004:19). To produce the critical knowledge of everyday life, the researcher must think “with his body, not in the abstract, but in lived temporality” (*ibid.*:31).

In the post-war years, “the height of economic growth and booming construction” came at the end of the first period of change which started “with the dawning of industrialization in 1850” (Gehl & Svarre, 2013:39). In Europe, avant-garde artists, intellectuals and political theorists established an organization which they called Situationist International (SI) (1957-1972). Their laboratory was the urban space. In the early years of the organization, Guy Debord, a leading figure of the group, coined the term ‘psychogeography’ to describe the “study of the specific effects of the geographical environment, consciously organized or not, on the emotions and behavior of individuals” (Bauder & Mauro, 2008:23). As a method, psychogeography invited them to ‘drift’ (from the French *dérive*) around the city.

They mapped Paris (see *Naked City*) as an individual experiment area. The movement of the drifter in the city was quite similar to Benjamin’s *flâneur* and “both can be seen as collage activities that can embody a dialectical approach that productively negates the coherency of modern culture by introducing other times and other spaces” (Highmore, 2002:139). The social revolutionaries, the Situationist International adherents sought to critique the transformation of urban life by the practices of psychogeography by considering the city as a social expression of mankind (Radicchi, 2018:9). They combined subjective and objective modes of study and the bi-directional relationship between individuals and the environment helped in the collective rethinking of the city.

On the other hand, the sociology of urban theory was led by the ideas of the European theorists and also in particular by the sociologists of the Chicago School. During the 1950s, they applied their concepts to explore how the social order emerges and how social change takes place (Chen *et al.*, 2015). In urban planning, the experience of city was a new question for architects in the mid-twentieth century. In 1954, a research project entitled *Perceptual Form of the City* was conducted in New York by two American urban planners, Kevin Lynch and Gyorgy Kepes. They studied “sensuous qualities” in the everyday life of the city streets (Radicchi, 2018). Their sensuous attempt, not surprisingly, centered on Lynch’s view in the groundbreaking book *The Image of the City* (1960). In 1969, Lynch’s student Southworth studied ‘The Sonic Environment of Cities’ and investigated the perceptual form of the soundscape in Boston’s streets and squares.

In the same period, the works and ideas of the Bauhaus school³ inspired the Canadian composer Murray Schafer’s multi-disciplinary approach to soundscape studies; new

³ The Bauhaus was founded in 1919 in the city of Weimar by German architect Walter Gropius. Its core objective was radical concept: to reimagine the material world to reflect the unity of all arts. Gropius explained this vision for a union crafts, art and technology in the *Programm des Staatlichen Bauhauses Weimar (1919)*, which described a utopian craft guild combining architecture, sculpture, and printing into a single creative expression [Gesamtkunstwerk]. Gropius developed a curriculum that would turn out

methods from the social sciences, musicology, psychology and architecture were brought together in his methodological toolbox as carriers of cultural meanings, and the idea of environmental sounds was introduced into the discussion (Uimonen, 2008). “To judge a society by its noise” or everyday sound environment, soundscape research became “a critical theory of Urban Everyday Life” (Bull, 2000) as well as urban ambiances which developed into a multi-sensory study, established as a field in urban studies.

By the early 1970s, Schafer had enrolled his colleagues at Simon Fraser University into his work and the World Soundscape Project (WSP) was created. This was seen as an “excellent preparatory work in researching the city as an acoustic space” (Böhme *et al.*, 2014). The German philosopher Gernot Böhme believed that urban atmospheres concern the style and manner of unfolding urban life and described atmospheres as “[s]omething between subject and object. They are not something relational, but the relation itself” (Böhme, 2001:54) and they “constitute the ‘In-between’ between environmental qualities and human sensibilities” (Ferrington *et al.*, 2000:14). It was suggested that the cultural aspect of soundscape studies and urban ambiances centered on individual perception and experience:

I experience myself in the city, and the city exists through my embodied experience. The city and my body supplement and define each other. I dwell in the city and the city dwells in me.

Juhanni Pallasmaa, ‘The Eyes of the Skin: Architecture and the Senses’ (2005:40)

Sound blurs the fine border which stands between public and private in each moment and creates unseen commodities. As stated before, the experience-based urban sociology seeks to analyse everyday life at the point where the commons of society are transformed. The architect and activist Stavros Stavrides drew on the work of Simmel, Benjamin, Lefebvre and de Certeau in the context of the spatial and social dynamics of everyday life to form his notion of ‘threshold spaces’. For him, “Considering common spaces as threshold spaces opens the possibility of studying practices of space-commoning”(Stavrides, 2016:5) and it is in threshold spaces that we can encounter the “molecular differentiation of everyday life” (*ibid.*).

Today, soundscape studies are incorporated into urban sociology, in which Lefebvre’s notion of rhythmanalysis is widely used for the critical analysis of social space. Lefebvre’s approach to everyday life gives us a critical insight into the investigation of social and natural rhythms in combination. Within the scope of experience-based methodologies such as Lefebvre’s rhythmanalysis and SI’s psychogeography, the concepts will be discussed later with examples in which similar methods have been

adopted. These methodological foundations will support the current study's urban soundscape focused on the example of Istanbul's Karaköy in the chapters which follow.

2. RETHINKING SOUNDSCAPES in the CONTEXT of the SOCIAL REPRODUCTION of URBAN SPACE

Can sound be defined as a factor in the process of social reproduction of space?

The experience of the urban deals with the idea that “the everyday evidences a range of temporalities that makes it impossible to think of ‘modernity’ as a straightforward narrative. Everyday modernity begins to look like a patchwork of different times and spaces” (Highmore, 2002:174). Questioning the reproduction of social space by listening to everyday soundscapes needs to be handled in terms of three key dynamics, sound, environment and listener. This affective triangle was suggested by Truax (1984) to explain acoustic communication. This current study is structured on the sonic experience of urban space.

Although “sound embodies the sense of time” (Ihde, 2007:85), it also establishes the commons in social space where the borders of the private and the public are ubiquitous. Brandon LaBelle (2010) described auditory knowledge as

... a radical epistemological thrust that unfolds as a spatio-temporal event: sound opens up a field of interaction, to become a channel, a fluid, a flux of voice and urgency, of play and drama, of mutuality and sharing, to ultimately carve out a micro-geography of the moment, while always already disappearing, as a distributive and sensitive propagation.

In LaBelle's philosophy, sound can be heard as “this is our moment”, and “in the movement of sound, the making of an exchange is enacted; a place is generated by the temporality of the auditory”, which means that the moment eventually becomes our place. For him, “thinking and experiencing the contemporary condition, ... the momentary connection found in the arc of sound is equally a spatial formation whose temporary appearance requires occupation, as a continual project”. Therefore our place is also potentially our community (2010).

The soundscape is a texture in the air that surrounds us all, and sounds define the community spatially and temporally, as well as socially and culturally (Foreman, 2011:269). The temporality of sound keeps the distance or recreates the intimacy, and the repetition of the difference establishes the rhythms of everyday life. Soundscapes are the totality of all sounds within a location with an emphasis on the relationship between individual or society's perception of, understanding of and interaction with the sonic environment. The concept of a soundscape was initially introduced by the Canadian composer Murray Schafer and his musician colleagues in the 1960s. Since then, research on soundscapes has been carried out in a number of different disciplines,

such as acoustics, psychoacoustics, psychology, sociology, architecture, geography, landscape planning, engineering, music, sonic art, and anthropology (Panye, 2009).

Urban sounds became more critical after the mass industrialization of countries across the world. In 1967, one of the students of Kevin Lynch, Michael Southworth (1967:49), who carried out early studies of sensuous urbanism in the 1950s when technological progress was bringing city sounds to the threshold of bedlam, wrote that it was no longer sufficient to design environments without considering the soundscapes. Urban planners became aware of the everyday sounds of cities, and in the later decades of the twentieth century, musicians such as John Cage, Luigi Russolo and Edgard Varese listened to and composed the sounds of the transforming cities. The dynamic relationship between sound, listener and environment was explored by Truax (1984) in *Acoustic Communication*, in which he explained the socio-physical incomes and outcomes of the acoustic environment. The urban sonic experience was later studied by Augoyard and Torgue (2005), who put the emphasis on sound effects in everyday life.

Understanding urban life (the experience of the city) became more crucial in terms of the cultural and sociological perspectives in the last century, particularly for George Simmel, Walter Benjamin, Henri Lefebvre, Guy Debord, Jane Jacobs and Michel de Certeau. More recently, in established urban soundscape studies, analysing everyday sounds and experiences has been used as a quantitative and a qualitative research method (Payne *et al.*, 2009). In the last decades, sonic experience has attracted increasing attention in architectural, philosophical and social research. According to some pioneer scholars (for example, LaBelle, 2010; Blesser & Salter, 2007; Augoyard & Torgue, 2005; Thibaud, 2011), acoustic spatiality is a shared social space which is fluid and intangible, and its experiential boundaries are perceived by listening. In this context, a listened space is a threshold (Stavrides, 2011) where the boundaries of the social sphere are ambiguous but fertile. By listening to these shared spaces, the soundscape concept is a way of spatial analysis for finding the acoustic commons in moment/movement, in experience but not on the lines of any map, and these experiences are reproducing what is common or public. The installation of the social is carried out continuously and sound can occur as both the source and the result of these spatial-social changes. In this current study, urban soundscapes are therefore considered as threshold spaces for critically examining the reproduction of social space.

2.1. Acoustic Communities: Sound Perception, Acoustic Space and Acoustic Communication

First, sound is ubiquitous. Unlike visual space, which is sectorial, acoustic space is non-locational, spherical and all-surrounding. Acoustic space has no obvious boundaries and tends to emphasize a space itself rather than objects in the space. Aural harmonization is temporal, whereas visual harmonization is spatial. Sounds, compared with things seen, are more transitory, more fluid, more unfocused, more lacking in context, less precise in terms of orientation and localization, and less capturable.

Jian Kang, 'Urban Sonic Environment'

Sound travels at about 344 meters per second. The range of audible frequencies extends from 20 to 20,000 Hz and the unit of the Hertz is one cycle per second; “Individual pulses or cycles of the sound wave cannot be felt below 20 Hz because of their ability to cause vibration and stimulate bodily resonances” (Truax, 1984:14).

To hear, the human brain compares “what is sensed at one ear and one point in time with what is sensed at the other ear at *another* point in time” (Groh, 2014:112-113); the distance between the two ears helps to the hearer to detect the direction from which the sound is coming. On the other hand, when the sound signals reach a human body, they are “under a perspective distortion, a selection of information and an attribution of significance that depends on the abilities, psychology, culture, and social background of the listener”(Augoyard and Torgue, 2004:8) (also in Blesser & Salter, 2007; Kang, 2007; Schafer, 1994; Truax, 1984).

A soundscape's cultural aspects come under the scientific method of applied acoustics which studies how space, volume, shape and materials determine the propagation of sounds, and “the modern scientific distinction between the ‘objective’ acoustic parameters, such as intensity, frequency and waveform, and their psychoacoustic, ‘subjective’ counterparts, namely loudness, pitch and timbre, respectively, which describe the brain's response to those parameters” (Truax, 1984:5). However, the experience of a listener relies on the physical environment, and the social and cultural circumstances: “The social and cultural environment often shapes common rules of perception of sounds” (Kang, 2007:44).

In *Spaces Speak, are You Listening?*, Blesser and Salter (2007:5) discussed experienced architecture: ‘aural architecture’. The adjective ‘aural’ refers to “the human experience of a sonic process; hearing, to the detection of sound; and listening, to active attention or reaction to the meaning, emotions, and symbolism contained within sound”. As can be expected, acoustic design studies the physical properties of sound waves and the physical properties of space, whereas aural architecture listens. The experience of space gains importance; a ‘cultural acoustic’ becomes critical when it is listened to (*ibid.*).

Carpenter and McLuhan (1960) stated that acoustic space is “dynamic, always in flux, creating its own dimensions moment by moment”. This ubiquitous space is fertile and worth considering as a ground for discussing the urban condition. Schafer’s (1994:43) notion of a soundscape was more extensive: “any acoustic field of study”. He posited two kind of soundscape: hi-fi and lo-fi: “The hi-fi soundscape is one in which discrete sounds can be heard clearly because of the low ambient noise level”(*ibid.*). In *The Soundscape* (1977), he described hi-fi soundscapes as natural soundscapes and the pre-industrial soundscapes, such as rural areas, towns and cities; he classified post-industrial soundscapes as lo-fi.

“The lo-fi soundscape was introduced by the Industrial Revolution and was extended by the Electric Revolution which followed it”(*ibid.*:71); he added that “there is no perspective in the lo-fi soundscape (everything is present at once), similarly there is no sense of duration with the flat line in sound”(*ibid.*:78). The post-industrial era was not to be determined by its clearly heard sounds, but instead by the “overpopulation of sounds; there is so much acoustic information that little of it can emerge with clarity” (*ibid.*:71) and “individual acoustic signals are obscured in an over-dense population of sounds” (*ibid.*:43).

Schafer developed a terminology for identifying the main features: 'keynote sounds', 'signals' and 'soundmarks', which contributed to the structuring of soundscape studies and defining a soundscape.

The term 'keynote sounds' refers to the "tuning of a space" and these sounds are quite important "because they have an archetypical value and meaning and can be imprinted so deeply in the soul of the people who listen to them that life without these sounds could be perceived as an obvious impoverishment" (Radicchi, 2018:19).

The tuning of space "is created by its geography and climate: water, wind, forests, plants, birds, insects and animals" and in today's urban areas perhaps we can call this 'background noise' caused by the non-stop movements of people and things, which all help us to understand that we are in the big city: traffic, the constant hums, and air conditioning. The 'signals' are foreground sounds which are unseen figures and are listened to consciously. These sounds carry an acoustic warning, such as bells, sirens and car horns. The term 'soundmark' is derived from 'landmark' and soundmarks are different from signals because they "stand out and hold a special meaning for a place and its inhabitants" (Radicchi, 2018:19). This terminology has contributed to the structuring of soundscape studies, an interdisciplinary field which has gained importance in urban studies, not only as a physical concept but also in social terms. The city itself becomes a sonic tool in the urban context, with its volumes and materials which are characterized by varying levels of acoustic responsiveness (*ibid.*:23-24).

On the other hand, the composer and researcher Barry Truax was one of the leading scholars in the *World Soundscape Project* (1970-1975) at Simon Fraser University. In *Acoustic Communication* (1984), he introduced a new approach to the sound phenomenon. The term 'acoustic communication' "is the most general way to describe all of the phenomena involving sound from a human perspective" (p.xi).

The human perspective or the human experience, as mentioned before, occupied a central position in research into post-war society. In this study, sound is associated with physical movement and the motions of everyday life. As a principal feature of the urban concept, temporality re-creates urban rhythms and the city's soundscapes. Consciously or unconsciously shared sonic experience in everyday life establishes its own 'acoustic community'. By that, Truax meant that

... acoustic cues and signals constantly keep the community in touch with what is going on from day to day within it. Such a system is 'information rich' in terms of sound, and therefore sound plays a significant role in defining the community spatially, temporally in terms of daily and seasonal cycles, as well as socially and culturally in terms of shared activities, rituals and dominant institutions. The community is linked and defined by its sounds. (ibid.:58)

Just like Schafer, Truax stressed the unique and historical importance of soundmarks, which are the most striking components of the acoustic community. These most powerful and loudest sound signals define the acoustic boundaries of the community;

... since all within these profiles have the shared experience of hearing them, and nearly any definition of community will include some element of a shared commonality. (ibid.: 60)

Hearing covers 360 degrees because we are surrounded by air and therefore by sound. This affective zone is described as a soundscape. Truax's minimal diagram of acoustic communication shows the continuous relation between its elements. Each of them is a reason for the other's situation.

The social anthropologist Edward T. Hall (1966) divided social distance into four spheres: the *intimate* sphere, which extends for about half a meter and is shared with intimate friends and relatives; the *personal* sphere, which extends for about one meter and is shared with acquaintances; the *conversational* sphere, which extends for about four meters and allows oral interchanges with strangers; and the *public* sphere, "which is determined by the acoustic horizon and is impersonal and anonymous" (Blesser & Salter, 2007:34). The acoustic horizon comprises "the most distant sounds which may be heard in a soundscape"(Truax, 1984:60).

On the macro scale, an acoustic horizon defines the boundaries of the community; on the human body scale, a sound environment does not define a personal space but individual perception can help to establish it. Continuous space is established by sound, listener and environment. For example, a sound signal is

... reflected from buildings, hills, or mountains and comes to the listener 'colored' by such acoustic interactions. Moreover, atmospheric conditions subtly change the character of each signaling event and provide additional weather information to those who can detect the differences. In short, the sound signal contains information about its source, its context, and its environment.

Truax (1984:61)

These acoustic interactions eventually color the everyday life urban rhythms. Soundscape research has similarities with Lefebvre's notion of rhythmanalysis:

Sound brings with it strong psychological implications for the way it is understood. On a larger scale of time relations, the temporal sequencing and overlay of sounds in a soundscape is crucial for their comprehension. In a coherent environment, sounds obviously can't all 'talk at once', and therefore rhythm is a key factor in the balance or imbalance of a soundscape.

(*ibid.*:67)

The everyday life of urban space is like a stage for observing the social transformation of public space. The biggest consumers of people and goods are today's metropolises. Each day, they produce new rhythms, new ways of life in the city. So listening to urban soundscapes could be a key way to analyse this dynamic structure.

3. THE SOUNDSCAPES OF KARAKÖY AS THRESHOLD SPACES

3.1. Listening, Soundwalk, Public Survey and Sound Mapping

In today's plural world, the most common space is there for anyone; urban streets vibrate with flow of people, the sounds of engines, with languages from all around the world. With the help of global and universal communication technologies, mass media

and personal media, any space can penetrate anywhere and spaces are tuned more globally than locally. The politics of acoustic spatiality are dramatically informed by the restless, associative and linking processes of the ear (LaBelle, 2012:5). By listening, it becomes possible to perceive the urban experiential boundaries of this common space. The space for social intercourse requires a distance which is filled with air, even though we cannot see the air that fills the every moment of our lives. It is the medium for the sound which is always there and connects the whole, separately but continuously. Two kinds of listening for analysing a soundscape are needed in the vast sonic sphere of the urban environment: background listening is for the lo-fi sonic environment which establishes the mostly unnoticed continuum, whereas foreground listening is for hi-fi sonic environments; it helps to define the common features of the acoustic community, such as soundmarks, and sound signals (Truax, 1984). Nonetheless, there is no such a thing as a universal approach to listening; every individual, every group and every culture listens in its own way (Augoyard & Torgue, 2008:4). Therefore, I discuss the conception of the relationship between sound, listener and environment in the field of Karaköy by soundwalks (Adams *et al.*, 2008; Drever, 2009; Nilsson *et al.*, 2012; Radicchi, 2017; Uimonen, 2011; Winkler, 2004), public survey (Engel *et al.* 2018; Hellström *et al.* 2014; Hellström 1999; Hiramatsu, 2003; Kang, 2006; Radicchi, 2017; Zhang & Kang, 2007) and urban morphological and demographical research. Later, the findings and results sound mapped as unseen strata of Karaköy.

In the case of my soundscape research in Karaköy, I used the two kinds of soundwalk described by Radicchi: ‘solo soundwalks’ which are the sonic exploration of an area by active listening and data collection; and ‘soundwalks with complex evaluation points’, which involve the collection of mixed data; quantitative data such as dB(A)⁴ measurements and source definition, and qualitative data such as field recordings, psychoacoustics analyses, questionnaires and pictures.

The field records of my soundwalks were made on a ZoomH6 recorder and an X/Y microphone set to 120 degrees for a wider reception. The solo soundwalks were performed at different times of day (between 06:00 am and 02:00 am), on weekdays, weekends and national and religious holidays. The walking distance was not clearly limited (the longest walks were between ten and fifteen minutes), but were all centered on Karaköy Pier.

The survey questionnaire was prepared based on surveys used in previous studies described in the literature. The everyday experience-based research survey⁵ targeted participants who were encountered on the street. Two different types of daily user were questioned, passers-by and locals, who might ultimately have different practices which could affect their perception of the space. The survey area centered the Karaköy Pier, both as a periodic source of everyday movement and as a soundmark of the area, and covered an area with a radius of approximately 250-280 meters. The survey area was

⁴ Decibels are more accurately designated by the addition of A, B or C to their abbreviation of dB. DBA indicates that the lower frequencies of the sounds are discriminated against by a weighting in the measuring instrument in a manner roughly equivalent to the human ear's discrimination against low-frequency sounds (Schafer, 1994:39).

⁵ The data were collected from the experiences of the everyday users of the area and contained no personal information of the participants, such as name or identity number.

determined by the soundwalks which were undertaken, which established the critical cultural and spatial differences.

The questionnaire comprised five sections: group D: Demographic parameters which could reveal cultural dynamics in general and give information about individual sound sources; group E: Everyday Practices of the subject, asking about the daily circulations and movements of participants in Karaköy; group SR: Sound Relation with the environment, to show the customs and intentions of an individual in the context of sound; group SS: Sound and Space which asked about the personal perception of sound and the respondent's intention about sound in everyday life; and group SPS: Sound and Public Space which explored the affect and searched for answers to 'what is happening?', 'what is common?' and 'do you recognize it by sound?'. The questionnaire contained three different question types: open-ended questions were used to ask about respondents' experiences; multiple-choice questions and closed questions were used to determine the conditions for both the participant and researcher and the identification of sound sources. For a clear distinction of qualities, dichotomous answers were asked for.

The survey was completed by 66 people who were both passers-by and locals. I was exploring the everyday flow on the streets, so local participants who were invited to participating in the survey were in the street or in their shops. The passers-by were mostly approached on the transportation axes and on the shore where the pier and the densest everyday flow were located. In this study, bearing in mind the difference in usage between daytime and night-time, the survey period was limited to the afternoon hours between 13:30 and 17:30 on weekdays. Because these hours contain in part two different working shifts; one between 07:00 and 19:00 and the other between 13:00 and 01:00. The temperature levels each day were similar: 12°C to 13°C in the first week of December 2018 when the surveys were carried out.

The mapped and analyzed result and finding discussed by theoretical frameworks which is evaluated before.

4. CONCLUSION

In this study, I have sought to present a critique of an urban space through its everyday sounds. By walking through the streets of modernity, as the pioneers of urban sociology did, my intention was to engage and experience the threshold between individual, public and physical space. Lefebvre (1991:130) said that space is the cradle, birthplace and medium of nature's communications and commerce with society; thus it is always fertile, always full of antagonisms and/or harmonies, so as dynamic spaces, soundscapes, which carry information from all directions, are the thresholds where the social reproduction of space is established. In this research, the interconnection between temporality and spatiality which has been created by sound is the fundamental understanding of experienced space.

In order to analyse an urban soundscape, rhythm analysis of everyday life is needed to understand the physical and cultural aspects of an unstable phenomenon: sound. Although the physical properties of space and sound establish the rhythms of daily movement, society interacts with their cultural meaning. The principal examples of everyday rhythms are soundmarks which establish a wider unseen commodity. On the other hand, as a psychogeographic practice, the individually embodied experience of acoustic space reveals the complexity of urban situations.

As the center of the urbanization history of Istanbul, Galata and its port Karaköy are witnesses of constant change. In this physical and cultural threshold space, the results of the public survey showed that the daily movement in the area not only contains transport and tourist flows, but that the locals also move there from distant districts of Istanbul. However, the majority of the participants had migrated to the city in the last six decades, which explains the unsettled locality and the dynamic cultural migration.

A satellite image or a layout plan can demonstrate the divided morphology of the area, but on the other hand, exploring its sound layers by soundwalks showed that the distance can be heard or can be filled and created by traffic noises.

Evaluating the city as a sonic tool and mapping the urban field by sound and its effects unveiled the urban strata. The identification of sonic events and the determination of their characters in the research area, Karaköy, helped to trace the transformation of the field and its cultural heritage from today's urban condition. Experience-based research carries information about past, present and future. The sound phenomenon in the contemporary city is needed for an enhanced understanding of the urban condition and the molecular differentiation of everyday life. For this reason, urban soundscapes should be reconsidered for any theoretical and practical study in this research field.

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