

Searching the Industrial Soundscape of the Early Republican Era of an Anatolian City: Eskisehir

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ABSTRACT

Sounds are inherent parts of cities. While any change occurs in an urban environment, it effects the sounds thus its soundscapes. Changes in urban soundscape with the industrial revolution in Central Anatolia (Ottoman Period) dated back to the construction of Bagdad Railway in 1894 and continued with the industrialization process after the declaration of the Republican regime. One of the leading cities got involved in this process was Eskisehir which is a Central Anatolian city, on the intersection of trade routes. Because of that location advantage, several factories had been built and had provided the impetus to change and form a new urban identity, spatial and social changes. In this study that aims to reveal the importance of industrial buildings that was built in the industrialization process of the city related to the soundscape of the urban past, evaluation of the past acoustic data in the context of urban identity was intended. Therefore, interviews were done with the factory workers of that period; people who lived in the vicinity of the factories and experts who studied the changes, as well as retrospective audio-video records and photographs were collected and analyzed. As a result, industrial soundscape of the urban past is concluded by defining soundscape components and important role of the industrial heritage in urban soundscape is revealed

Keywords: Soundscape of the urban past, Industrial Heritage, Phonic identity

1. INTRODUCTION

The process of industrialization in Turkey dates back to the opening of Bagdad-Berlin Railway in 1894. But before Republican Era, because of the circumstances that existed throughout the country any significant investment in industry was not executed. After that, this process of industrialization spread all over the country and Eskisehir has been one of the first affected cities due to its own location. While the city was a predominantly agricultural settlement in imperial period, it started to gain the look of an industrially developed multifunctional city with the republican period. (1) The railway provided the city with new types of business beside agriculture and stockbreeding for the first time. (2) Because of its location at the intersection of the trade routes, direct connection to Istanbul and Ankara and approximation to raw material sources, several factories, especially tile, brick and flour industries had been established. Especially 1923-1950 was a period of important branches of industry regarding industrial process began to operate. Industrial investments financed by the state and the factories build by private investments began to operate collectively for the first time exactly in this period. (3)

The evolution of Eskisehir experienced in this industrialization process became the origin of a progression that changed the socio-cultural structure, functional and sectoral orientation, physical appearance of the city. The location of the station in the city center with the arrival of the railway

resulted with the gathering of products from surrounding villages in Eskisehir. (4) In this period, urban population has increased rapidly, and the residential areas have expanded. The city has become an attraction point for the people to work and wrapped itself up in an industrial identity. (5)

Industrial buildings have an important role in determination of urban identity with their unique character beside being an important element of technological, social and architectural history.(6)Urban identity is a whole composed of elements which belongs to the city, distinguishes the

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city from others and enriches to it.(7) The physical, historical, social, functional and spatial elements of the cities were considered during the evaluation of the urban identity and the city's characteristic features.(8) Because of the change in fields like social, cultural, economic, environmental, technological and architectural areas, caused by industrial buildings, related buildings have important role in the evolutions of urban identity.

Sounds which belong to the city are also an element of urban identity. Phonic identity is a whole that distinguishes and enriches the city, formed of sounds peculiar to it. Phonic identity is seen as a historical phenomenon and has been progressing in time with different layers forming a coherent and meaningful whole. Sound is a tangible-intangible cultural entity and limited with time because of its physical features. Its temporariness verifies the obligation of reproduction and originality. (9)The evaluation of city sounds and interpretation of phonic identity can only be done through the readings about cities' acoustic environments.

The concept of soundscape that helps to define urban mechanisms, lifestyles and identities of regions was presented by Shafer for auditory equivalent of landscape and proposed for defining auditory environment free from negative or positive judgments. (10) In ISO 12913-1 standard its described as "acoustic environment as perceived or experienced and/or understood by a person or people, in context" (11). According to Shafer, soundscapes has three elements. These are "Keynotes", "Signals" and "Soundmarks". Keynotes are fundamental voices formed with the geographical and climatological features of selected area. They are identified as voices not be consciously listened but couldn't be ignored in perception of our acoustical ambiance. Signals are sudden or exciting pre-voices that formed temporarily. Signals are obligatory heard voices because they are created by acoustical stimulant devices. Soundmarks and they are explained as voices capable of defining the identity of the area. For this reason, there are lots of studies that define the importance of soundmark and its effect on city/phonic identity in scientific literature and soundscape studies. (12,13) Soundmark involves basic information about space, area, city, society and culture.(14) Soundmarks are voices that are important in understanding the progression, evolution and phonic identity of our society and they need to be preserved because of their features like identity and belongingness.

To understand the change and progress of soundscape in historical process and to explain the change in soundscapes of environments, Shafer used hi-fi (high fidelity) and lo-fi (low fidelity) terms. Hi-fi soundscapes are defined as soundscapes that different voices are clearly heard because of low ambient noise. Lo-fi soundscapes emerged from crowd of sound. They are environments where sounds are masked by other sounds and not clearly detected. Soundscapes of areas can show hi-fi or lo-fi feature by time, development or reclamation of the region.

Acoustic environments of cities in historical process change due to completely different dynamics like cultural elements of societies, technological developments, globalization, migration and politics. Changes in living standards and conditions are reflected in the acoustic environment. Phonic identity changes rapidly due to ever-shifting cultural contexts and experience. Therefore, it requires urgent identification, recording and even protection with soundscape studies. (15) However, according to Shafer, the main subject of the study which is to determine and reveal the past urban soundscape data in the historical process, is difficult. Relating to the ways of determining past urban soundscapes:

"(...) We are also disadvantaged in the pursuit of a historical perspective. While we may have numerous photographs taken at different times and before them drawings and maps to show us how a scene changed over the ages, we must make inferences as to the changes of the soundscape. (...) while we must utilize the techniques of modern recording and analysis to study contemporary soundscapes, for the foundation of historical perspectives, we will have turn to earwitness accounts from literature and mythology, as well as to anthropological and historical records." (16)

Explained this, in the soundscape studies of the urban past, he emphasized ability of usage of photos, voice-video recordings, books and also ear witnesses in that period. On this emphasis, the studies taking place in the literature have been implemented within the framework of the methods specified by Shafer.

In this paper, it is aimed to evaluate the city/phonic identity of the area which is known as the industrial region and defined as an industry heritage in Eskisehir through the presence of the past soundmark voices. Therefore, to determine the data of past urban soundscape, interviews were done with the factory workers, people who lived in the vicinity of the factories and experts who studied the changes of that period, as well as retrospective audio-video records and photographs were collected and analyzed.

2. METHODOLOGY

2.1 Study area-Objective data of the past urban soundscape

In this study, the effect of the related factories to the soundscape of the city was evaluated by using the photographs obtained from Chamber of Architects Eskisehir Branch and Tepebaşı Municipality.

The place marked on the map in Figure 1, which is known as Eskisehir Factory Region, and located on the northwest of the city represents the area of this study. The area is located close to the railway, separate from the main settlements of Eskisehir. One of the main factors of the city's development until 1950s is the railway transportation. (17) In this area, nearly twenty factories were established connected to railway transportation including the traction workshop, except the railway station. These factories consist of a variety of industries, major tile and brick factories, including flour, food, tire rim, wine and timber industry. The region played a key role in the development of the city with its improvement between 1923 and 1950 and it took its place among the cultural industrial heritage elements of the city at the present time. Until the 1990s central business areas in the region were concentrated around industry new neighborhoods were established close to the area with the opportunity of finding jobs for the citizens, so the area was developed rapidly

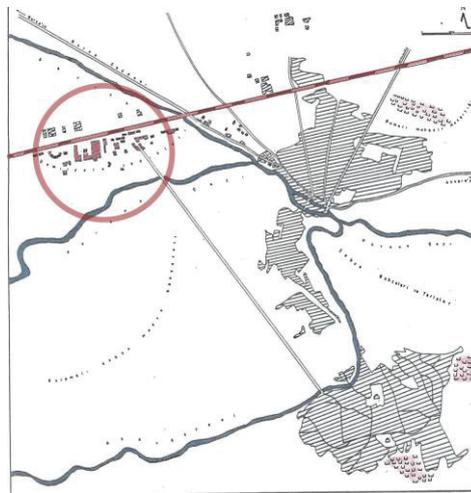


Figure 1: Map of Eskisehir from 1986 (source: Ertin,G. Evolution of the settlement in Eskisehir, 1994)

“Railway Station of Eskisehir” which is accepted as the center of Anatolian railways, is the most important symbol of change. (Fig.2.) In this area, except the railway station there was a large factory made of stone used as Traction Workshop, warehouse for locomotives coming from Ankara, Konya and Haydarpaşa, wards for engine drivers and ticketing place. (18)

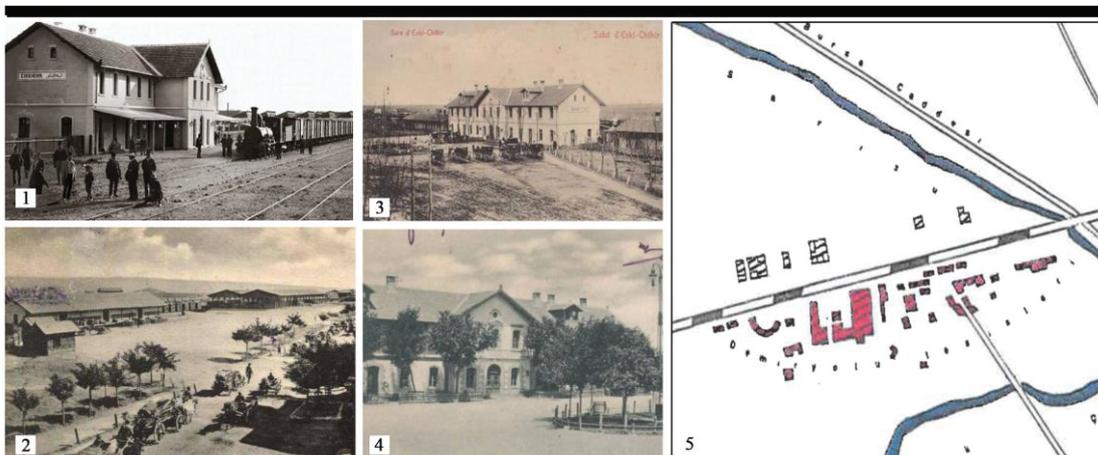


Figure 2: Representation of structures in the area on the map of 1896 (5) Eskisehir station (1-3-4) The Traction Workshop (2)

When we examine the photographs of the station, we can see that sounds that affect the acoustic environment of the region may be train-borne sounds, the density of people in this area has increased and there are coaches and some motor vehicles which are important for the transportation of the passengers coming from the station. (Fig. 2) By the examination of the photographs of The Traction Workshop (Fig. 3) it can be supposed that the production in the workshop contained heavy industry and there may be sounds of metal working like seam, cut, montage because of repairing, maintenance and production of wagons. It is also supposed that the sound of wagons hitting each other may have affected the acoustical environment. Furthermore, in the map from the years 1923-1950, we can see that traction workshop areas are expanded and auxiliary buildings have been built. (Fig. 3)



Figure 3: The Traction Workshop outside photograph (6), The Traction Workshop inside photograph (7) Map of The Traction Workshop in 1923-1950(8)

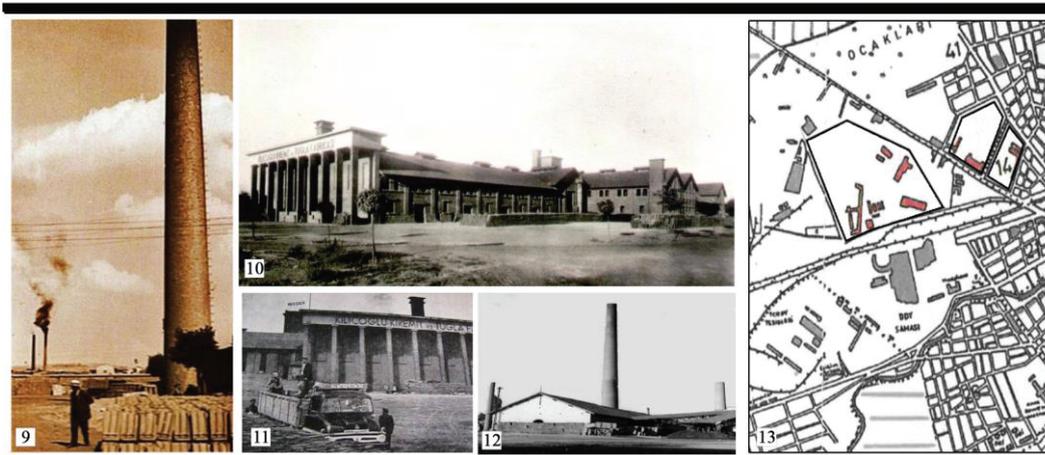


Figure 4: Tile and Brick Factories-Kılıçoğlu Brick and Tile factory (10-11), Doğan Tile factory (9), Kartal Tile Factory(12), Places on Map(13)

Until 1927, Marseille style tiles have been imported. In 1928 Kurt Tile Factory, after that ÇiftKurt Tile (1933), Aslan Tile (Kılıçoğlu Tile And Brick) (1938) (Fig.4), Fil Tile (1942), Kartal Tile (1944), Güneş Tile (1948), Doğan Tile (1948) factories were opened and Eskisehir has become an important region for clay industry sector. (19) Photographs of factories except Doğan, Kılıçoğlu and Kartal Tile couldn't be found with photograph archive scanning. In this period, most of the raw materials used in tile and brick industry in Turkey were produced in Eskisehir. After examination of the photographs of the brick and tile factories, it is supposed that the sounds occurred during the production process(dumping the soil and clay raw materials into the warehouse, carriage of the workers, then loading of tiles and bricks to the removal lorries and train wagons)might have affect to the acoustical environment.



Figure 5: Flour and Food industry buildings, Yasin Çakır Flour factory(14-16-19), Eti Biscuits Factory(15), Kanatlı Flour factory and city general view(17), Mühendisler Flour Factory(18)

Flour and food industry has a major influence on Eskisehir. YasinÇakır Flour (1938), Gümülceli Flour (1948), Gamgam Flour (1948), Mühendisler Flour (1953), Örnek Flour (1959), Pak Flour (1965), Kanatlı Flour (1969) and Eti Biscuits (1969) factories have a historical importance in the city. (20) After the examination of the old photographs of factories working in flour and food industry (Fig.5), it can be said that the sounds during the loading of raw materials and products into the vehicles like lorries and trucks, and the sound of this transport vehicles might have affected the acoustical environment.

2.2 Subjective data of past urban soundscape- interviews

The groups interviewed in order to obtain the acoustic data of this area during the active period of factories were selected as the factory workers, people who lived in the vicinity of the factories and experts who studied the progress of the area. By the questions directed to different users, it is aimed to obtain the acoustic environment data of the area in many ways. The information about the domains of sound sources and their active time interval were attained from the people living close to the area of factories; and the information about the intensive sounds in the area, the mechanism of the factories and heavy industrial voices was attained from the workers of the factories. Finally, the information related to the general progress of the region and the effects of the acoustic environment changing with this progress was drawn from the experts who could evaluate the progress of the area. Questions were directed to all interview groups to obtain some knowledge regarding the soundscape components and to detect the soundmark voices in the area.

The people who lived in the vicinity of the factories claimed that they generally heard train whistle, factory shift voices and wagon loading and shipping sounds at nights. According to the workers of the factory, the most extensive sounds of the region were the ones from the railway, the wagon repair and maintenance workshops, which had the robust impact on the acoustic environment, and heavy industrial sounds, are rooted from metal processing, seaming and assembly. Furthermore, experts suggested that this area being surrounded by settlements in the area has been included into the center of the city for a short period of time, which made its being settled in the memories of the people.

3. FINDINGS

3.1 Soundscapes of the urban past and soundscape components of the area

As a result of the interviews and the visual materials examined, the data obtained from soundscapes of the area were tabulated by considering the soundscape components defined by Schafer. (21)

Soundscape components of the region are classified as nature, human and mechanical/technological sounds.

When the photographs of the region were examined, there was no finding that could refer to sounds of nature, although interviewer specified that they heard dog barking in the region intensively because each factory had guard dogs.

In the interviews, it was declared that the sources of the human voices were coming from the travelers in the station and the peddlers at the exit of the station. At the same time, it was declared that human voices in the region gets raised at the ending time of the factories' work.

In the area, it was detected that sounds from vehicles like truck were mainly heard because there were many heavy vehicles due to the production and transportation of the products. Moreover, the sound of bicycle was found in this area due to factory employees' riding a bicycles given by the factories addition to reach this area. The sound of the region is mainly mechanical and technological, which is compatible with region's industry zone character. As a result of the interviews, the sound of train whistle, finish and start shift whistle, sound of steam train, and sound of diesel trains are found to be among the characteristic sounds of the region. (Chart 1)

FACTORIES REGION		
TYPE OF SOUNDS	SOUND RESOURCES	COMPONENTS OF SOUNDSCAPES
NATURE SOUNDS	Wind sound	Keynote sounds
	Bird sounds	Keynote sounds
	Dog barking	Signals
HUMAN SOUNDS	Human daily life sounds (like speaking, laughing...etc.)	Keynote sounds
	Children sounds	Signals
	Peddler voices (in front of the station)	Signals
	Azan sounds	Soundmarks
MECHANICAL AND TECHNOLOGICAL SOUNDS	Steam locomotives	Soundmarks
	Diesel locomotives	Soundmarks
	Factory Shift-Change Horn	Soundmarks
	Bicycle sounds	Signals
	Automobiles sounds	Signals
	Wagon loading and shipping sounds	Signals
	Truck sounds	Signals
	Heavy industry sounds	Keynote sounds

Chart1:Past urban soundscape component chart. Obtain as a result of interviews of sound sources information and soundscape component in factories region.

3.2 The location of industry heritage building in the urban past soundscape

In the light of the interviews and the sources examined, after the industrialization process, new sounds were added to the acoustical environment of the city. As a result of these added sounds, the acoustic environment in this part of the city was shifted from Hi-Fi character to Lo-Fi. While the effect

of nature sounds in the region decreased, mechanical and technological sounds increased. Thus the soundscape of the region has changed.

As a result of this study, railway-based sounds like train whistle, sounds of steam train and diesel train and factory-based sounds such as shift change whistle was detected as soundmark voices of the area. The continuity of these voices is needed because they are a part of the urban identity and they leave a mark on the memory of the society.

The important structures that have changed the soundscape of Eskisehir have been the railway and the factories established afterwards. The employment increase in the area led to the foundation of neighborhoods close to the area, and the voices from the residents of this area brought have become a part of daily life and have added to the soundscape of the area. Therefore, the number of the components of the soundscape of the area has increased and the soundscape have improved in this process.

4. CONCLUSION

The soundscape over the world have been changing irreversibly in parallel with the progression and the change of the living conditions and places of people.

It is important to investigate and chain this changing in order to understand the progressions of societies and to direct the related future changes.

The investigation of the changes of the soundscape in Turkey is one of the subjects that should be discussed in order to understand the early republican era. The changes of soundscape that began with this era is continuing nowadays by gaining various features. Raising awareness about and documenting the soundscape is important for observing the stages of phonic identity. The studies of soundscape could provide cultural continuity and sustainability about phonic identity. UNESCO have been conducting various studies about this subject since 2001.

UNESCO defined the Intangible Cultural Heritage that: "*Cultural heritage does not end at monuments and collections of objects. It also includes traditions or living expressions inherited from our ancestors and passed on to our descendants, such as oral traditions, performing arts, social practices, rituals, festive events, knowledge and practices concerning nature and the universe or the knowledge and skills to produce traditional crafts.*"(22)

"Living expressions" in the definition indicates a wide description which involves the retrospective soundscape. It is suitable to claim that past soundscape data contributed to gaining identity and perception of continuity by bridging from past to now and to the future.

In this study, the contribution of the progression of industrialization to the city soundscape of Eskişehir, was determined by gathering objective (Photos) and subjective (Ear witness) data. Soundmarks are the sounds that define the identity of the area; these intangible cultural heritages are needed to be protected not only architecturally but also phonetically. This study indicates the importance of evaluations of past soundscape in acoustic environment designs with the approach of soundscape.

It is important to raise awareness about soundscape in order to investigate the sounds that made an impression on the memory of the city, that formed the phonic identity and that began in the progress of industrialization but were unable to reach to modern days.

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