

Research of the Historical Soundscape of the Ancient City of Side in The Light of Small Findings and Architectural Elements

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ABSTRACT

Side is an ancient city located in the Pamphylia region in the Eastern Mediterranean. Due to its location, it has been an important stop for maritime trade and transportation between Greece, Cyprus, Syria, Aegean Islands, Phoenicia and Egypt. The city, which has developed commercial activities, is an important visiting point visited by many tourists today. The revitalization studies on the region mostly focus on the architectural elements in the area. It is seen that there is no study on "sound", which is an important part of understanding past. The historical soundscape of Side, which was an important port city in the past, will be evaluated using archaeological finds. Urban life and sounds of the city were investigated in the light of small finds like those that ceramics, sculpture, etc. and architectural remains. In this study, which aims to create an acoustic base to improve today's tourist experience, academic studies on the region were examined and supported by view of the archaeologists. Within the scope of the study, the soundscape of today's experience route of the ancient city was also evaluated, and determinations and evaluations were made on how it could be improved.

Keywords: Historical Soundscape, Ancient City Side, Small findings

1. INTRODUCTION

Side is one of the important ancient cities in the Pamphylia region in the Eastern Mediterranean. It is also an important port city with connections to many regions such as Greece, Cyprus, Syria, Aegean Islands, Egypt and Phoenicia. Today, this ancient city, which is within the provincial borders of Antalya in Turkey, is an area visited by many tourists every year. The revitalization studies on the field are focused on visual expression. It has been seen that there is no study on "sound", which is an important part of understanding the past.

Sounds are powerful elements that give a certain atmosphere. Recreating the historical soundscape is a popular presentation technique. There are many studies in ancient cities and museums where sound is used as an element to augment the experience.[1]–[3] The enrichment of the experience positively affects the visitors opinion who coming to these areas.[2] The use of sound as an element that enhances and enriches the experience is also important in this sense.

In recent years, there have been many studies investigating the acoustic characters of historical areas. Especially the number of historical soundscape studies is increasing day by day. These studies, carried out in historical urban areas, focus on the identification of sounds, which are part of intangible cultural heritage in these areas, and how they are evaluated by the citizens. [4]–[7] In these studies, sources such as interviews with earwitnesses, field archive research, audio and video recordings are used to determine the historical soundscape. Although earwitnesses are the main data source

for historical areas[8], but it is not possible to reach earwitnesses for ancient areas. In the ancient period areas, all the data reached are important. The challenge of such areas is the analysis of all soundscapes, from a number of separate discipline like architecture, archaeology, history, urban planning, landscape design etc.[9] The sources provided by all these disciplines should be well identified and evaluated.

In this study aims to find a holistic approach that can be followed in the historical soundscape determination of archaeological sites and to offer a proposal for applications that will enrich the experience in these areas. The ancient city of Side was chosen as the study area. In order to evaluate the area, academic studies on the region were examined and supported by view of the archaeologists. In the study, in which ceramics, sculpture and architecture were evaluated holistically. Within the scope of the study, the soundscape of today's experience route of the ancient city was also evaluated, and determinations and evaluations were made on how it could be improved.

2. METHODOLOGY

2.1 The study Area –Side Ancient City

Side ancient city is an important city of Pamphylia region. Pamphylia is the ancient name of the wide coastal plain that follows the seashore for more than 80 km from around Manavgat to Antalya. The region is surrounded by the Taurus Mountains in the north, the Mediterranean in the south, Lycia in the west, and Kilikia Trakheia, in the east. Due to its location in the Eastern

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Mediterranean, the Pamphylia Region has been an important part of maritime transportation and trade between Greece, Aegean Islands, Cyprus, Syria, Phoenicia and Egypt since early times. Side, a port city, has become one of the most important trade centers in its region thanks to its export goods and slave trade. [10] It is not certain when the rich and crowded city was abandoned. Sources and new research indicate that the city got smaller after the third quarter of the 7th century AD. [11] Greek, Hellenistic, Roman and Byzantine art can be seen together in Side.



Figure 1 – Side Peninsula (URL1)

The city of Side, where many building types and various pieces of art can be found, is an area where acoustically different characters and many sounds can coexist.

2.2 Study Aim

The study is a method experiment for determining the historical soundscape in the ancient city. In the study, the importance of a holistic assessment of the historical soundscape is emphasized. Suggestions that will enrich the visitor experience have been researched.

2.3 Highlights in Detecting the Historical Soundscape

There are settlements in the region during the ancient Greek, Hellenistic and Roman periods. First of all, all data should be collected under these periods for easy categorization and understanding. In the studies on historical soundscape detection, first, the sources that we can call objective and subjective about the area were grouped and examined. [12]

The sources that can be considered as an objective source vary for ancient cities. It is not possible to record any sound on the past of ancient cities, information on sound sources is interpreted through the findings. **Objective data sources for ancient cities** include written sources, maps, inscriptions, and all the findings in the city. The structures, statues and small findings related to urban life in the city should be identified.

Small archaeological finds are important data for our understanding of past life. These findings give important information about the functions of the buildings, the life in them and the people who lived there. The material, construction technique and density of the findings provide important information. Small archaeological findings can also provide insight into the soundscape of the region.

Another important issue to be taken into account in the determination of historical soundscape is today's field measurements that will enable us to make inferences from the past. A soundscape of today indeed, it can convey information about the past. [13] The city walls, structures and their features can be the elements that change the acoustics.

Subjective data sources, on the other hand, are mostly people who have ear witnessed the field. It could not discuss such a data source for ancient sites. Although, data about the sound environment of the area and the satisfaction of the people can be deduced from by the ancient authors. Books are used as a source in determining the historical soundscapes. [12], [14] Schafer used novels and sound descriptions in these novels in many chapters in her book. [8]

All these data collection methods mentioned are important sources for historical soundscape detection. In addition, historical soundscape studies are done to better understand the past and narrate it to the present. For this reason, today's acoustic environment determinations of these areas are also important. Sounds and situations that may negatively affect the relationship with the history of the area should be identified.

2.4 Highlights in Evaluation the Historical Soundscape

Conceptual framework of Soundscape in the ISO 12913-1 explained under these headings; context, sound sources, acoustic environment, auditory sensation, interpretation of auditory sensation, responses and outcomes. [15] In historical soundscape determinations, these definitions can be used and the findings can be evaluated. Especially the implications about context, sound sources and acoustic environment come to the fore. The **context** includes the interrelationships between person and activity and place, in space and time. For example, agora areas are the areas where people's shopping activities take place. Inferences on context also lead us to information on **sound sources**. From the agora example, these areas are human voices are dominant. After the predictions about the **sound sources** and **context**, analyses of the **acoustic environment** should also be made. Acoustic environment is the sound from all sound sources as modified by the environment. Modification by the environment includes effects on sound propagation, absorption, diffraction, reverberation and reflection [15]. The physical properties of the environment, materials and spatial relationships must be determined with the help of archaeologists.

After the determinations made on the context, sound sources and acoustic environment, it is important for these areas to consider the classification proposed by Schafer in order to understand the acoustic character of the area. According to Schafer, soundscape perception occurs in three main categories. These categories, also known as; **keynotes**, **Signals** and 'Symbol sounds' (**soundmarks**) [8]. **Keynotes** are not sounds that we consciously listen to, but the sounds we cannot ignore. **'Signals'** are conscious listen. These are informative

and attention-oriented sounds. **Soundmarks** is a recognized and shared sound in the sound field of the social group. It can be relatively unique or specific to a particular community. It has features that make it special or noticeable by people such as identity and belonging. In particular, soundmarks are important sounds that show the character of the field. For this reason, it is important to make these groupings in historical soundscape assessment in terms of understanding the sound environment.

3. FIELD STUDY

In this study, determinations and evaluations were made on the historical soundscape of the ancient city of Side, which experienced many different periods.

3.1 Data Findings and Evaluations

The studies on the historical soundscape of the area are dividing it into five different parts.

The First part is about establishing the timeline of the area, determining the periods. This timeline, in which important events such as the wars, drought, etc. that the region has gone through, are handled, will be a base. The region experienced Goth attack, Persian raids.

The second part is the evaluation of architectural and small archaeological findings belonging to the periods, starting from the first part.



Figure 2 – City Plan (S. Aydal,2014)





The locations of structures and small archaeological findings belonging to the periods should be shown on the map. In Figure 2, we can see that the map of the region and some important structures are marked. [16] And important structures are listed. Within the scope of the study, especially city walls, nymphaeum, agora, ancient theatre, temple of Apollo and Athena, harbor bath, Southern Basilica, columnar street and Vespasian Monument were examined.

The third part, ancient writers that can be subjective sources on this field were examined. Although the sources of ancient times are limited, it is stated in the sources that they spoke a different language around the region. Apart from this, there is no other source to obtain data on the sounds.

The fourth part, it is evaluated whether the data

provides on the sound source, context or acoustic environment. In addition, it is debatable whether the predicted sound sources can be background, signals or soundmarks. The conclusions about sound sources in this section should be supported by expert opinion. Explanations on fields and sound sources are given in Table 1.

Table 1 –Different areas and predictions of the sound environment

	<i>Sound Sources</i>
<i>Nymphaeum(URL2)</i> 	<p>-Sounds from human beings-Speech, conversation etc.) -Natural sounds-Water sounds</p>
<i>Columnar Street(URL3)</i> 	<p>-Sounds from human beings-Speech, conversation etc.)</p>
<i>Ancient theatre(URL4)</i> 	<p>-Voice and instrument sounds -Speech, conversation, music, singing etc.</p>
<i>Temple of Apollo (URL5)</i> 	<p>-Social / Communal sounds -Sounds from human beings-Speech, conversation etc.) -Natural sounds-Wave sounds</p>

Only examples of sound sources are given in the table. Areas such as Theatre, Nymphaeum, harbor bath, Southern Basilica and city walls also have properties that affect the acoustic environment. For this reason, the effects of these areas on the sound environment should be considered. Although almost all of the sound sources in ancient cities are classified as "Sounds from human being" according to ISO 12913-2[17], their contexts and characters are very different from each other.

The fifth and last part, the determination of the present acoustic environment and the effects of the past are tried to be determined. This part is missing in the study.

3.2 Future Studies

In the study, sound measurements were not carried out in the field, and visitor surveys were not applied. The current measurements of partially protected areas such as the city walls, as well as the analysis of the past effect through simulations and models, can be discussed in future studies. In addition, it was thought that an interactive map and a software in which all data could be viewed together would be useful in the study.

4. CONCLUSIONS

In order to determine the soundscape of historical areas, it should go through a comprehensive determination and evaluation. Understanding historical soundscapes is important to understanding these areas and past lives. In these regions where people from many disciplines work together, it will be useful for other studies to determine the acoustic effects of the existing data. In most of the archeological studies, a way is followed to protect the concrete elements of the region. The concept of conservation, which includes the preservation of buildings and objects belonging to the period, should change over time and the concept of "heritage" should be considered holistically. And that sounds should be included in this understanding of protection.

5. REFERENCES

- [1] M. Hatala and R. O. N. Wakkary, "Ontology-Based User Modeling in an Augmented Audio Reality System for Museums," pp. 339–380, 2005.
- [2] M. Sikora, M. Russo, J. undefinerek, and A. Jurčević, "Soundscape of an Archaeological Site Recreated with Audio Augmented Reality," *ACM Trans. Multimed. Comput. Commun. Appl.*, vol. 14, no. 3, Jul. 2018.
- [3] G. Eckel, "Immersive audio-augmented environments: the LISTEN project," in *Proceedings Fifth International Conference on Information Visualisation*, 2001, pp. 571–573.
- [4] Ö. Gök Tokgöz and A. Özçevik Bilen, *Kaybolan Sesler: Erken Cumhuriyet Dönemi Eskişehir Fabrikalar Bölgesi İşitsel Peyzajı*. 13. Ulusal Akustik Kongresi Ve Sergisi, Dicle Üniversitesi, Diyarbakır, 2019.
- [5] H. B. Fırat, M. Masullo, C. Karadoğan, and L. Maffei, "The soundscape reconstructions of the early 20th century vendor cries in streets of Istanbul and Naples with two 3D sound spatialization approaches," in *InterNoise, 23-26 August*, 2020.
- [6] P. Jordan, "Historic Approaches to Sonic Encounter at the Berlin Wall Memorial," *Acoustics*, vol. 1, no. 3, pp. 517–537, 2019.
- [7] P. Jordan and A. Fiebig, "New descriptors for capturing perceptions within historic soundscapes," *InterNoise e-Conference, Seoul, South Korea*, pp. 3489–3496, 2020.
- [8] M. R. Schafer, *The Soundscape: Our Sonic Environment and the Tuning of the World*. Rochester: Destiny Books, 1994.
- [9] P. Jordan, "Soundscapes in Historic Settings-A Case Study from Ancient Greece," in *InterNoise 2016, Hamburg Germany*, 2016.
- [10] A. M. Mansel, *Side:1947-1966 Yılları Kazıları ve Araştırmalarının Sonuçları*. Ankara: Türk Tarih Kurumu Yayınları, s. 1., 1978.
- [11] F. Alanyalı Soykal, "Side -Kaybolan Bir Kentin Yeniden Keşfinin Hikâyesi," *Mediterr. J. Humanit.*, vol. VI, no. 2, pp. 17–28, 2016.
- [12] Ö. Gök Tokgöz, "Eskişehir Sanayi Mirasının Kentin İşitsel Peyzajındaki Yeri, Dönüşümü ve Etkileri," *Anadolu Üniversitesi*, 2019.
- [13] P. Jordon, "An Approach to Mapping Past Activities Through Sound at Mount Lykaion's Sanctuary of Zeus," *KLEOS Amsterdam Bull. Anc. Stud. Archaeol.*, vol. 5, pp. 9–30, 2020.
- [14] A. Ficker, J. Aalbers, A. Jacobs, and K. Bijsterveld, "Sounds Familiar Intermediality and Remediation in the Written, Sonic and Audiovisual Narratives of Berlin Alexanderplatz," in *Soundscapes of the Urban Past*, K. Bijsterveld, Ed. Bielefeld: transcript verlag, 2013, pp. 77–115.
- [15] International Organization for Standardization, "ISO 12913-1:2014 Acoustics — Soundscape — Part 1: Definition and conceptual framework," Geneva, Switzerland, 2014.
- [16] H. S. Alanyalı, "Side 2013 Yılı Kazı ve Araştırmaları. ANMED," 2014.
- [17] International Organization for Standardization, "ISO / TS 12913 - 2 : 2018 Acoustics — Soundscape — Part 2: Data collection and reporting requirements," <https://www.iso.org/standard/75267.html>, Geneva, Switzerland, 2018.
- [URL1] <https://antalyacityzone.com/images/cityguideplaces/sideantik-tiyatro/sideantikkenti1555339086.jpg>
- [URL2] <https://www.rehbername.com/UserFiles/Image/images/ocak%202021/Side%20Antik%20Kenti%20Gezi%20Rahberi/Nymphaeum%20Side.jpg>
- [URL3] <https://www.rehbername.com/UserFiles/Image/images/ocak%202021/Side%20Antik%20Kenti%20Gezi%20Rahberi/S%C3%BCtunlu%20Cadde%20Side%201.jpg>
- [URL4] <https://www.flickr.com/photos/galpay/4145740743>
- [URL5] <https://www.rehbername.com/UserFiles/Image/images/ocak%202021/Side%20Antik%20Kenti%20Gezi%20Rahberi/Apollon%20Tap%C4%B1na%C4%9F%C4%B1%20Side%201.jpg>