

Soundscape archaeology

Subjects: [Music](#) | [Archaeology](#) | [Anthropology](#)

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Through an approach that aims to recognise and investigate the religious and public spaces of the past as “embodied spaces” and “sensory artefacts”, we can raise hypotheses on the sound experience in the ancient world and on the complex relationship between spaces and social interactions, making use of the potential provided by the application of 3D technology to virtual acoustics.

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archaeoacoustics

sensory archaeology

digital sound studies

1. Introduction

As something that does not tend to leave direct material traces, sound is not often considered in the archaeological field. However, the relationship between sound and the spaces where life took place in the ancient world is a fundamental aspect of understanding the past. Today, this relationship can be investigated using a new approach in the study of material evidence through technology ^[1]. If we consider sound as an essential component of spaces and places of religious, social, and daily life activities, it seems surprising that important public spaces in antiquity, such as sacred or theatrical ones, were studied almost exclusively with a focus on their visual aspects ^[2]. Disregarding the function and role of sound in these places has hitherto prevented a broader understanding of how individuals or groups of individuals may have manifested and experienced their identity and status in the environment and soundscape that surrounded them ^[3].

Through an approach that aims to recognise and investigate the religious and public spaces of the past as “embodied spaces” and “sensory artefacts” ^{[4][5]}, we can raise hypotheses on the sound experience in the ancient world and on the complex relationship between spaces and social interactions, making use of the potential provided by the application of 3D technology to virtual acoustics. Furthermore, taking into account sound features and the way sound was propagated in spaces, 3D technology applied to virtual acoustics can provide a broader perspective on the use of spaces in the past, allowing us to explore the connection between auditory space and acoustic space ^[6] and opening up new scenarios in research. Taking into account the interweaving of relationships between sound and places, space, and the body as well as the relationships between sound and multisensory interaction in a virtual environment, it will be possible to provide new tools for analysis and evaluation of sonic heritage as a further instrument of knowledge of the past ^[7].

In the current scientific debate on these issues, new approaches and methods related to the use of technology and virtual acoustic analysis of archaeological sites have been fundamental in providing useful data for interpreting the

sonic world of the past. In terms of the research carried out by some European researchers, the survey has focused on a number of crucial issues. Firstly, research has been carried out by researchers from different disciplinary fields who focused on understanding the relationship between sound space and archaeological space and on how sound could influence the cultural, religious, and social aspects of the ancient world.

Moreover, researchers focused on analysing the acoustics and sound qualities of ancient spaces and how their sonic features could influence the auditory experience in a given place. In addition, the performative spaces of the past—in many cases, in close relationship with religious buildings—have been investigated in relationship with the sound qualities of the natural environment in which they were immersed in order to explore how the surrounding soundscape may have influenced religious experiences in antiquity. Finally, the contribution of European researchers to this developing field of study has provided many solutions with regard to 3D reconstructions of buildings and the auralisation of sound in the related spaces.

These studies made it possible to propose new hypotheses on how sounds were perceived in ancient societies by individuals who, as listeners or as participants in social events, were the protagonists of performances that took place in those locations. It worth noting that research has been conducted by researchers and their research groups who, through an interdisciplinary and multidisciplinary (and sometimes transdisciplinary) approach, analysed the acoustic and sound features of important archaeological sites through virtual acoustic analysis as well as through the 3D reconstruction of spaces and musical instruments in order to reproduce ancient sounds. Thanks to their work, new tools for exploring soundscapes of the ancient world that also take into account sensory aspects have emerged. It is a sonic heritage that can further reveal aspects of life in the past and of the sound environment in which these sounds were created: thanks to the use of special software, which allows us to investigate research themes never previously addressed, new scenarios on soundscape studies, with the ancient world as the object of investigation, can be opened up .

| 2. Research

The study of sonic heritage through digital technology and virtual acoustic analysis is proving to be invaluable in overcoming disciplinary barriers and fostering the inclusion of the sound experience in the archaeological field. Thanks to this work, scholars are laying the foundations for a careful study of understanding the past, taking into account acoustic aspects, sound perception, and the behaviour of sound in buildings of the ancient world. Furthermore, whilst this research is providing stimuli for the affirmation of new research fields, such as sensory archaeology , auditory archaeology , and digital sound studies , it is important to underline how these investigations make use of 3D reconstructions and of the virtual acoustics and spectrograms that have highlighted the non-randomness of the choice of places and spaces for the construction of buildings, performative spaces, and even sacred places.

Through the intersection of data and the contextualisation of archaeological evidence as well as the comparison with written and figurative sources, these approaches, methods, and ‘disciplinary hybridization’ can allow for an ever-wider knowledge of the function of sound in ancient communities and of sound interaction in the places,

spaces, and buildings frequented by the human beings who preceded us. Without doubt, a “soundscape archaeology” approach can enable the intersection of sensory sonic concerns with sonic heritage preservation and management, offering new insights for understanding the past.

References

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