How we hear sounds, the environments in which we hear them, and the functions we attribute to musical listening are topics researched in a vast array of disciplines, ranging from acoustics to music psychology and sociology. *Spaces Speak, Are You Listening?* is an ambitious book which draws on these disciplines and many others to present a neglected idea: that our experience of a space is affected as much by its acoustic attributes as by its visual characteristics.

In Chapter 1 the authors outline the central concept of 'aural architecture', demonstrating the ways in which the acoustic features of a given space affect our perceptions and experiences of our surroundings. The reverberant acoustics of a cathedral, for example, '[convey] a sense of awe and reverence' (p. 3), while the opulent furnishings of an expensive restaurant dampen sound, helping to create a feeling of privacy. Comparisons to visual experiences are made frequently: although aural and visual impressions often complement each other, in some cases the aural architecture of a space can contrast vastly with its visual counterpart. Throughout the book the concept of aural architecture is contextualised through detailed exploration and discussions of auditory spatial awareness, using examples of subcultures of those with enhanced auditory skills (for instance, blind individuals and musicians) to highlight the relative neglect of these skills in mainstream society. In turn, Blesser and Salter make evident the lack of recognition of aural architecture in both academic discourse and in the majority of architectural practice.

Chapter 2 focuses explicitly on auditory spatial awareness, notably by exploring the use of sounds in the past as a means of communicating information to others (e.g. through the use of chiming clocks and bell towers) and as a means of creating social cohesion within communities. The effects of changing technology are also considered, with discussion of the now prevalent use of headphones in the public sphere as a means of demarcating 'public' and 'private' space (see also Bull, 2005). Chapter 3 ('Aural Spaces from Prehistory to the Present') charts the 'history of aural architecture' (p. 67), noting the importance that has been attributed at various stages in history to 'spaces' which enable sounds to be heard by as many people as possible, such as Greek amphitheatres and radio broadcasts. Chapters 4 and 5 specifically address musical spaces, with the former providing insight on factors that need to be considered in concert hall design. Interestingly, the authors acknowledge that these considerations are not exclusively acoustic, suggesting that visual information plays a strong role in engendering 'social cohesion' in musical spaces:

> a concert hall is expected to be visually elegant, and to enhance social and visual communications among the participants, especially between the musicians and the audience. Sight lines are important. The organic vitality of a shared emotional experience creates social cohesion (p. 147).

Chapter 5 ('Inventing Virtual Spaces for Music') addresses the role of electroacoustic music in the
manipulation of virtual space, thereby creating aural architectures that would be impossible to experience otherwise. The chapter also addresses the pioneering use of 'surround sound' by filmmakers, bringing to light some educational consequences of the frequent association between aural and visual stimuli present in the activities in which children often engage, in turn highlighting further consequences for their expectations of a musical experience:

a generation that grew up with television, movies, computers, and video games has an elevated need for 'eye candy', something to occupy vision while listening. Thus musical space has become only one of the many spaces in a total 'audio-video' environment (p. 205).

Chapter 6 ('Scientific Perspectives on Spatial Acoustics') describes in detail the difficulties involved in accurately predicting the acoustic properties of a concert hall design, while Chapter 7 ('Spatial Innovators and Their Private Agendas') focuses on the specific potential difficulties of working as an aural architect, whether in an academic or commercial capacity. Chapter 8 considers auditory spatial awareness from an evolutionary perspective, and returns to the theme of social cohesion, arguing that 'aural architecture has its roots in binding rituals' (p. 354); a statement which draws interesting links with Small's (1998) views on modern concert-going. The concluding chapter reasserts the fact that, for many spaces, a single 'aural architect' does not exist; rather, the aural architecture of a space is determined by the actions of many different individuals, including those who make use of the space.

Given both the scale of the book and its breadth of scope, a section of the introduction providing a summary of each chapter and an indication of how the chapters relate would have been useful in providing a clear sense of the narrative thread. The book impressively brings together findings from a diverse range of disciplines to argue the case for aural architecture as a new discipline, but I occasionally wondered whether the central interdisciplinary premise is taken too far in trying to cater for the needs of every different type of reader. For example, some of the detailed sections on the design of reverberators in Chapter 6 ('Scientific Perspectives on Spatial Acoustics') may not be of great interest to 'those with a love of music' whom the authors cite as one of their three main intended readerships (p. 8). Conversely, the pace of the discussion was at times slowed by very general outlines of concepts or topics, which were presumably an attempt to provide a reader of any discipline with enough background knowledge in a given area before its relevance to the concept of aural architecture was explained.

The ready use of anecdotes and analogies was a useful strategy in explaining a wide range of concepts to readers with different areas of knowledge, although the repetitive use of particular anecdotes could have been avoided. Frequent references are made to the concert hall scenario when explaining acoustic concepts and terminology; these instantly helped to bring the topic of discussion to life and will be of particular use to readers with a background in music. I felt that more room could have been devoted to the practical applications of aural architecture as a concept: it was disappointing that discussion of how this knowledge might improve the spaces in which we live, travel and work was limited to an anecdotal paragraph in the final chapter. However, Spaces Speak, Are You Listening? makes a novel contribution to what will no doubt be a developing field, and
provides a firm base on which subsequent work can be built, making stimulating reading for those interested in acoustics, electroacoustic composition, and the history and current practice of auditorium and concert hall design.

References


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