

David T. Bradley, Erica E. Ryherd, and Lauren M. Ronsse, eds. *Worship Space Acoustics: 3 Decades of Design*. New York: ASA Press, 2016. 346 pages, \$44.95.

Worship Space Acoustics: 3 Decades of Design belongs on a coffee table, with its generous shape (9 x 11.5 inches), its myriad drawings, and its elegant multi-colored plates. The coffee table would not be in a private home, however, but in cathedrals, auditoriums, chapels, houses of worship, meditation halls, meeting houses, mosques and synagogues, wherever a community of faith is searching for a way to create holy human space. Its editors, David T. Bradley, Erica E. Ryherd, and Lauren M. Ronsse have provided a series of architectural acoustic treatises that document worship spaces developed in the last 30 years as part of the work of the Acoustical Society of America. The ASA's mission is "to increase and diffuse the knowledge of acoustics and promote its practical application." This book fulfills its mission by offering six succinct essays ranging from the history of ecclesiastical design to the holiness of acoustics. Its core of images and data plots document what happens when knowledge of acoustics is put into practice for sacred space.

Homiletics isn't included in the list of the fields that have a vested interest in this book: engineering, physics, signal processing, architecture, bioacoustics, noise control, sound and vibration, oceanography, aeroacoustics, and macrosonics. Music and speech, however, are the primary forms of communication that the book's spaces and sciences serve. Paul's question ". . . and how shall they hear without a preacher?" (Romans 10:14, KJV) has been replaced by "Why can't we hear our preacher?"

It's complicated. *Worship Space Acoustics* examines 67 worship spaces from 12 major religions located in 5 countries. Each worship space comes with full-page floor plans, architectural drawings, acoustical data plots, photographs, and computer-generated rendering. The diversity extends to size as well. If a worshiping community seats 100, there are examples; if the gathering holds 5,000, there are examples. Each case study documents the community's strengths and struggles with sound and space, making the narratives accessible to a wide range of readers.

Designed as a primary resource and reference, with appendices that include a glossary of key terms, and a design overview with a summary of the design process for each of the worship spaces, the book is written by professionals intimately linked to the spaces investigated: an audio systems designer, music director, acoustical consultant, architect, and a builder/owner. Consider two essays that have been selected below to showcase the conversation.

Gary Siebein, a professor of architecture, opens his essay, "The Soundscape of Worship" with a biblical passage, 1 Kings 19:9, 11-13. He uses the text to pose a primary question to any community seeking to reform their worship space: "What is one listening to and for when they attempt to communicate with their god in worship spaces?" (4) He extends the acoustical implications of this question by pointing to the obvious: who is doing the listening makes a difference in what is heard. The soundscape of worship is inhabited by the worship leader, the congregation, the music leader, the choir, and the technical staff. They have different locations in the soundscape, different acoustical values, and even distinct acoustical identities. Those competing differences require skilled acoustical and architectural negotiations so that this holy human communication can take place. Siebein uses Martin Buber's understanding of "I-Thou" as the way this dialogical relationship is "formed though tangible and intangible communication through a variety of media (12).

Dan Clayton outlines the complications of these differences in his “Audio for Worship Spaces” essay. “Traditional worship music, plus congregational singing and responses, may be well supported by the warm and responsive natural acoustics of a reverberant building. Sermons, prayers and scripture readings, however, are best served by a space with little reverberance which favors clarity of the spoken word” (28). Clayton underscores how values such as reverberance, responsiveness, spaciousness, intimacy, and clarity require a balance of natural room acoustics and sound systems, enhanced by architectural design.

All the essays recognize the threat that noise pollution creates when a community is seeking a sense of what Mark K. Williams calls “The Holiness of Acoustics.” What contaminates a space and what makes a place holy? How do we recognize where we are? His closing summary bears repeating “...when we walk into it our conversation is hushed, and we know in our core that we have entered into a holy place set apart for coming before our Creator God... who is not us” (36).

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