

Arcane Methods in Architectural Acoustics

by

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Abstract

This document presents a critical examination of the Enlightenment-era European conceptions, misconceptions, fancies, and accomplishments in architectural acoustics. It focuses on specific contributors and their discoveries in the nascent art. The key figures studied are German polymath Athanasius Kircher who offered unprecedented examinations of acoustical phenomena, his English rival Sir Samuel Morland, inventor and architect Sir Robert Hooke, and composer Thomas Tallis. Ancient Roman predecessors Marcus Vitruvius Pollio, the architect responsible for the tome *De Architectura*, and philosopher Lucretius are looked at as well as 19th and 20th century descendants and dissidents among whom are the founders of modern acoustical theory, Wallace Sabine, Hermann von Helmholtz, and John Tyndall.

Included in this document are studies of historical trends in the development of physical acoustics that would serve as a basis to contemporary theory. We explore the contrast between the concepts of the aforementioned to those of Sir Francis Bacon, Christiaan Huygens, and Sir Isaac Newton.

This study reveals that the historical extent of the knowledge of architectural acoustics is at once more sophisticated and more arbitrary than is generally considered.