

Collected Papers on Acoustics
Wallace Clement Sabine
Published in 1921

Table of Contents

Preface to Peninsula Publishing Edition	The Correction of Acoustical Difficulties
Preface to Dover Edition	Theatre Acoustics
Reverberation	Building Material and Musical Pitch
The Accuracy of Musical Taste in Regard to Architectural Acoustics, The Variation in Reverberation with Variation in Pitch	Architectural Acoustics
Melody and the Origin of the Musical Scale	Insulation Sound
Effects of Air Currents and Temperature	Whispering Galleries
Sense of Loudness	Appendix
	On the Measurement of the Intensity of Sound and on the Reaction of the Room upon the Sound

Preface

This volume aims to contain all the important contributions to the subject of acoustics from the pen of the late Professor W. C. Sabine. The greater part of these papers appeared in a number of different architectural journals and were therefore addressed to a changing audience, little acquainted with physical science, and to whose members the subject was altogether novel. Under these circumstances a certain amount of repetition was not only unavoidable, but desirable. Little attempt has been made to reduce this repetition but in one case an omission seemed wise. The material contained in the author's earliest papers on acoustics, which appeared in the *Proceedings of the American Institute of Architects* in 1898, is repeated almost completely in the paper which forms the first chapter of this volume; it has, therefore, been omitted from this collection with the exception of a few extracts which have been inserted as footnotes in the first chapter.

No apology is made for the preservation of the paper from the *Proceedings of the Franklin Institute*, for, though much of the material therein is to be found in the earlier chapters of this volume, the article is valuable as a summary, and as such it is recommended to the reader who desires to obtain a general view of the subject.

In addition to the papers already in print at the time of the author's death the only available material consisted of the manuscripts of two articles, one on Echoes, the other on Whispering Galleries, and the full notes on four of the lectures on acoustics delivered at the Sorbonne in the spring of 1917. Of this material, the first paper was discarded as being too fragmentary; the second, after some slight omissions and corrections in the text made necessary by the loss of a few of the illustrations, forms Chapter 11 of this volume; an abstract of so much of the substance of the lecture notes as had not already appeared in print has been made, of which part is to be found in the form of an Appendix and part is contained in some of the following paragraphs.

The reader may often be puzzled by reference to works about to be published but of which no trace is to be found in this volume. It is a melancholy fact that these papers were either never written or else were destroyed by their author; no trace of them can be found. The extent of the labors of which no adequate record remains may best be judged from the following extracts taken from the notes on the Paris lectures just mentioned.

"On the one hand we have the problem (Reverberation) which we have been discussing up to the present moment and on the other the whole question of the transmission of sound from one room to another, through the walls, the doors, the ceiling and the floors; and the telephone transmission, if I may call it, through the length of the structure. It is five years ago since this second problem was first attacked and though the research is certainly not complete some ground has been covered. A quantitatively exact method has been established and the transmission of sound through about twenty different kinds of partitions has been determined.

© Acoustical Society of America