

Acoustics and the Performance of Music, Fifth Edition

Jürgen Meyer

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As per the author, this is a "...manual for Acousticians, Audio Engineers, Musicians, Architects and Musical Instrument Makers." Surprisingly enough, the book does contain material useful for any of the above professions.

A strong point of this book is that the author has chosen not to bury the reader into formulas, unnecessary for the comprehension of the text. The abundance of easy to understand graphic illustrations help the reader go through the relatively complex subjects. The writing is easy to read, but the content is quite comprehensive. The quality and quantity of illustrations (some of them color plates) are exceptional.

The book is divided into 9 chapters. The first is an Introduction to acoustics, equally divided between the physics of sound and the sound perception. It includes related subjects such as the cocktail party effect as well as masking. The second chapter deals with the frequency and the time structure of the sound, including concepts such as reverberation and harmonics. The third and fourth chapters deal with the tonal and the directional characteristics of musical instruments. The author examines in depth the different groups—brasses, woodwinds, strings, percussion, as well as the human voice as individuals and as a choir.

The last 5 chapters deal with the acoustical environment. In Chapter 5—Room Acoustics, the author examines some basic concepts, such as reflection, refraction, reverberation as well as direct and diffuse fields. Old and new performance spaces (concert halls and opera houses), where their characteristics are analyzed and compared, are the subject of Chapter 6.

Chapter 7 deals with a subject not often found in the literature: the seating arrangements of the orchestra and its influence for the perception of the quality of the sound in the hall. As in previous chapter, the author includes the human voice as another instrument of the orchestra.

The short Chapter 8 (10 pages) deals with instrumentation and playing techniques. The final Chapter 9 is dedicated to the acoustical problems in an opera house that are many, starting with the orchestra in the pit, the pit itself, the balance between singers and orchestra, etc.

There are 11 pages of references, many of them in German, going as back as the early 1940's and as modern as the mid 1990's. A well written subject index helps find subjects of interest to the reader. There is also a composer-composition index at the end of the book.

In summary, this is a highly recommended valuable book for professionals as well as for students interested in musical performance.

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