



Horns, Strings, and Harmony (Dover Books on Music)

By Arthur H. Benade

Download now

Read Online ➔

Horns, Strings, and Harmony (Dover Books on Music) By Arthur H. Benade

"A fascinating excursion into an area too often ignored by the musical practitioner." — *Music Library Association Notes*.

If you've ever wondered how a musical instrument produces the sound it does, this book explains the physics of musical instruments in an engaging and understandable way. Dr. Benade was a nuclear physicist, flutist, and science educator with a special ability to explain complex ideas in a simple, straightforward manner. In this book he brings that ability to bear in elucidating the ways in which music is formed by many different kinds of musical instruments.

Dr. Benade first explores simple and complex vibrating systems and the ear's reception of sound. He then describes the fundamentals of the piano, violin, trumpet, bugle, trombone, oboe, clarinet, flute, saxophone, and many other instruments, demonstrating the sound-making capacities of each. For mechanically inclined readers who are interested in constructing basic instrumental models, Dr. Benade demonstrates how to build a working trumpet, flute, and clarinet.

Enhanced with clear diagrams and easy scientific models, *Horns, Strings, and Harmony* is a book that will increase the musical enjoyment and understanding of all musicians, music lovers, and amateur scientists.

"The book is commended not only to the 'young person' who seeks to know some physics of musical instruments but also to those who would like to review in simple outline the basic physics of what happens within a musical instrument." — *Journal of the Acoustical Society of America*.

↓ [Download Horns, Strings, and Harmony \(Dover Books on Music\) ...pdf](#)

📄 [Read Online Horns, Strings, and Harmony \(Dover Books on Musi ...pdf](#)

Horns, Strings, and Harmony (Dover Books on Music)

By Arthur H. Benade

Horns, Strings, and Harmony (Dover Books on Music) By Arthur H. Benade

"A fascinating excursion into an area too often ignored by the musical practitioner." — *Music Library Association Notes*.

If you've ever wondered how a musical instrument produces the sound it does, this book explains the physics of musical instruments in an engaging and understandable way. Dr. Benade was a nuclear physicist, flutist, and science educator with a special ability to explain complex ideas in a simple, straightforward manner. In this book he brings that ability to bear in elucidating the ways in which music is formed by many different kinds of musical instruments.

Dr. Benade first explores simple and complex vibrating systems and the ear's reception of sound. He then describes the fundamentals of the piano, violin, trumpet, bugle, trombone, oboe, clarinet, flute, saxophone, and many other instruments, demonstrating the sound-making capacities of each. For mechanically inclined readers who are interested in constructing basic instrumental models, Dr. Benade demonstrates how to build a working trumpet, flute, and clarinet.

Enhanced with clear diagrams and easy scientific models, *Horns, Strings, and Harmony* is a book that will increase the musical enjoyment and understanding of all musicians, music lovers, and amateur scientists.

"The book is commended not only to the 'young person' who seeks to know some physics of musical instruments but also to those who would like to review in simple outline the basic physics of what happens within a musical instrument." — *Journal of the Acoustical Society of America*.

Horns, Strings, and Harmony (Dover Books on Music) By Arthur H. Benade Bibliography

- Sales Rank: #362346 in Books
- Brand: Dover Publications
- Published on: 1992-12-15
- Released on: 1992-12-15
- Original language: English
- Number of items: 1
- Dimensions: 8.50" h x .57" w x 5.43" l, .66 pounds
- Binding: Paperback
- 288 pages

 [Download Horns, Strings, and Harmony \(Dover Books on Music\) ...pdf](#)

 [Read Online Horns, Strings, and Harmony \(Dover Books on Musi ...pdf](#)

Download and Read Free Online *Horns, Strings, and Harmony* (Dover Books on Music) By Arthur H. Benade

Editorial Review

About the Author

The Science of Sound

Arthur H. Benade developed his interest in the acoustics of musical instruments growing up in Lahore (British India, now Pakistan) where his father was an educator. His interest in acoustics continued to grow as he earned a PhD in Physics at Washington University in St. Louis and joined the faculty of Case Institute of Technology, now Case Western Reserve University in Cleveland, Ohio, as a nuclear physicist.

The turning point came when the Physical Science Study Committee commissioned him to write the influential concise text, *Horns, Strings and Harmony*, which Anchor Books launched as a mass market-sized paperback in 1960 and which Dover reprinted in 1992. Known to have inspired generations of teachers, this clear and thoughtful study has sold more than 150,000 copies in all editions and has been translated into several languages. In the decade following the appearance of *Horns, Strings and Harmony*, Benade completed his more extensive text, *Fundamentals of Musical Acoustics*, first published by Oxford University Press in 1976 and reprinted by Dover in 1996.

In addition to his two books, Benade wrote more than 100 technical papers, contributed to many symposia, and lectured on acoustics all over the world. His range was far-reaching. Titles of his scholarly papers include "Mathematical Theory of Woodwind Finger Holes," "Resonance-Absorption Cross Section of a Pipe Organ," and "Spherical-Wave Approximation in Horns: Measured and Calculated."

Arthur Benade died in 1988 at the age of 62, one of the twentieth century's seminal figures in the world of acoustical research.

Users Review

From reader reviews:

Scott Ridgway:

Do you have favorite book? If you have, what is your favorite's book? E-book is very important thing for us to find out everything in the world. Each publication has different aim or even goal; it means that publication has different type. Some people sense enjoy to spend their time for you to read a book. They are really reading whatever they have because their hobby will be reading a book. What about the person who don't like reading through a book? Sometime, man feel need book when they found difficult problem or perhaps exercise. Well, probably you will need this *Horns, Strings, and Harmony* (Dover Books on Music).

Athena Thornton:

Have you spare time for any day? What do you do when you have far more or little spare time? Yep, you can choose the suitable activity with regard to spend your time. Any person spent their own spare time to take a stroll, shopping, or went to typically the Mall. How about open as well as read a book entitled Horns, Strings, and Harmony (Dover Books on Music)? Maybe it is for being best activity for you. You already know beside you can spend your time with your favorite's book, you can smarter than before. Do you agree with their opinion or you have additional opinion?

Donald Ventura:

Book is actually written, printed, or illustrated for everything. You can learn everything you want by a book. Book has a different type. To be sure that book is important issue to bring us around the world. Close to that you can your reading expertise was fluently. A guide Horns, Strings, and Harmony (Dover Books on Music) will make you to become smarter. You can feel a lot more confidence if you can know about almost everything. But some of you think that will open or reading some sort of book make you bored. It isn't make you fun. Why they can be thought like that? Have you searching for best book or appropriate book with you?

Mattie Priest:

The e-book untitled Horns, Strings, and Harmony (Dover Books on Music) is the reserve that recommended to you to study. You can see the quality of the publication content that will be shown to you actually. The language that publisher use to explained their way of doing something is easily to understand. The author was did a lot of exploration when write the book, hence the information that they share to your account is absolutely accurate. You also could get the e-book of Horns, Strings, and Harmony (Dover Books on Music) from the publisher to make you far more enjoy free time.

Download and Read Online Horns, Strings, and Harmony (Dover Books on Music) By Arthur H. Benade #I41ZPXTVDE8

Read Horns, Strings, and Harmony (Dover Books on Music) By Arthur H. Benade for online ebook

Horns, Strings, and Harmony (Dover Books on Music) By Arthur H. Benade Free PDF d0wnl0ad, audio books, books to read, good books to read, cheap books, good books, online books, books online, book reviews epub, read books online, books to read online, online library, greatbooks to read, PDF best books to read, top books to read Horns, Strings, and Harmony (Dover Books on Music) By Arthur H. Benade books to read online.

Online Horns, Strings, and Harmony (Dover Books on Music) By Arthur H. Benade ebook PDF download

Horns, Strings, and Harmony (Dover Books on Music) By Arthur H. Benade Doc

Horns, Strings, and Harmony (Dover Books on Music) By Arthur H. Benade Mobipocket

Horns, Strings, and Harmony (Dover Books on Music) By Arthur H. Benade EPub

I41ZPXTVDE8: Horns, Strings, and Harmony (Dover Books on Music) By Arthur H. Benade