



# The Universal Sense: How Hearing Shapes the Mind

*Seth S. Horowitz*

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Every day, we are beset by millions of sounds-ambient ones like the rumble of the train and the hum of air conditioner, as well as more pronounced sounds, such as human speech, music, and sirens. How do we know which sounds should startle us, which should engage us, and which should turn us off?

Why do we often fall asleep on train rides or in the car? Is there really a musical note that can make you sick to your stomach? Why do city folks have trouble sleeping in the country, and vice versa? In this fascinating exploration, research psychologist and sound engineer Seth Horowitz shows how our sense of hearing manipulates the way we think, consume, sleep, and feel.

Starting with the basics of the biology, Horowitz explains why we hear what we hear, and in turn, how we've learned to manipulate sound: into music, commercial jingles, car horns, and modern inventions like cochlear implants, ultrasound scans, and the mosquito ringtone. Combining the best parts of *This is Your Brain on Music* and *The Emotional Brain*, this book gives new insight into what really makes us tick.

## The Universal Sense: How Hearing Shapes the Mind Details

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## From Reader Review The Universal Sense: How Hearing Shapes the Mind for online ebook

### P.J. O'Brien says

I really liked this book, especially as I got towards the end, though there were gems of insights and new ideas all the way through. But the closing chapter's idea of brain songs, the music of mental activity, and the earlier exploration of what the definition of music could be that everyone could agree on, really grabbed me.

For those who don't like the more technical stuff, I'd suggest reading it from back to front or just picking chapters out at random that sound intriguing. I did read it straight through, but had to review some sections several times since I have no training or expertise in this area. But I found it really fascinating. I could have pulled out several very nice ideas and phrases, but will sum it up with this from near the end:

*"But the brain is no more the mind than the seed is the sunflower. It is the place from which the mind grows, develops, emerges, functions, and eventually fades."*

Essentially, our understanding of the brain and its function has changed over time as technological innovations informed our understanding of reality and science. Our ideas of the nature of sound and what it means to listen have expanded as well. I've come away with a profound appreciation of my ears, my mind, and our place in the universe.

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### T.A.V says

It was way too technical (Yes, even for an audio engineer) as the technical data covered extreme extent of biological, neurological and animal related data as well.

To me it was more like a textbook, opposed to what I expected after reading the description.

I recommend it to someone who wants a very deep study on the subject, or someone interested in deep research on this topic.

The author is really very intelligent, has deep knowledge and experience on the subjects, he really amazed me by the level of study he has done.

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### Sarah says

I found this book really interesting (surprise, surprise). He goes into aspects of sound and hearing, in both the human and animal world, in ways that I hadn't thought about before. As you know, I'm not big into non-fiction, but this kept my interest in small doses. I'd read a chapter, move on to something else, and then come back to it when I felt the urge. If you're not a hearing nerd, don't pick it up.

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### **Edward Ferrari says**

I would say: reassuringly technical and surprisingly readable; the first non-fiction that's made me laugh out loud for a while!

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### **Natalie says**

Way too technical for the casual reader.

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### **Turóczki Levente says**

It is an amazing book about hearing and sensing sounds and voice.

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### **Dennis Ross says**

This is a really good book for anyone interested in neuroscience in general or hearing in particular. The author really understands sound, as in music, noise, and as an emotion. I learned a lot and enjoyed the book. I am passing it on to a neurologist friend.

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### **Shannon Kirk says**

Awesome book I used for research to weave some sound science into a thriller. Love this book.

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### **Cassandra Kay Silva says**

This book will hit non fiction lovers well, with a lot of interesting thoughts on hearing and sound communication in various species and ourselves. The author is very in love with his subject matter and this comes across on every page. I think he has the ability to connect and excite the audience in regards to sound as his experience with various sound experimentation and creation are wide. This was wonderful, and chock full of information and an emotional twinge that I found very engrossing.

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### **Benjamin Thomas says**

#### **Very Informative Read**

Seth Horowitz does a marvelous job describing the universal and mysterious sense of hearing. From bats,

frogs, psychacoustic response, Sonic weapons, and scientific predictions, it covers a lot of ground.

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### **Stef says**

When I saw this book reviewed in Publishers Weekly I immediately ordered it for the library. I was really excited about a book that might possibly talk about some of the issues and situations I've experienced growing up with a deaf parent. Unfortunately, this book doesn't ever touch on what it means for a human to be deaf and how the loss of hearing can impact a person's life. Horowitz, who is a professor at Brown, does talk about how certain animals experience deafness (particularly frogs and bats), but he focused more on his study of how animals and humans experience sound for advertising, and how certain sounds can have certain effects on different people.

After I got over my initial disappointment that the book wasn't what I was expecting, I began to realize that Horowitz is a very funny writer. There are moments when he drifts in the realm of TMS (too much science) and I tended to skim those sections. The real gems in this book are his footnotes. He will be talking about having to stalk male bullfrogs in swamps only to footnote his statement with "my doctor has told me I have the only recorded allergy to frog urine: Frog 1 Scientist 0". Horowitz also must have spent much of his youth tormenting people with sounds if any of his experiments with nausea inducing rock music can tell you anything about him as a scientist.

If you are interested in why human lose their hearing, or why are scary movie soundtracks just so damn scary? Then this is the book to pick up. I'm not sure if I agree with the tagline "a must-read for anyone with ears" because it specifically ignores talking about the group of adults and children who cannot hear yet still have ears. Yes I will admit that there is some information about advances with cochlear implants and the research into regrowing the hair cells in your ears that regulate sound waves, but nothing about the experience of deafness itself.

Personally I think this is a big hole because if there are some people who have never heard at all, then hearing really isn't a "universal sense" and it begs the question: is there really a sense that everyone and every animal can experience? I know that there are people out there who have never seen, but there are animals that have evolved without eyes. There are people who cannot smell, not sure about the animal counterpart to that however, and whether due to accident or genes people who cannot touch or taste (I do not have these senses on one half of my mouth because of an accident during my wisdom tooth removal). In all, I think this book was very interesting for what it was, but disappointing because of what it wasn't.

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### **Melanie says**

This book was a blend of psychoacoustics (almost textbook in explanation) and descriptions of types of sound (sound as a weapon, sound in space, music). It almost felt as if it was written by two different authors as the writing style changed to be more conversational about half way through. Interesting.

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### **Tina Myers says**

Mr. Horowitz presents an interesting and often engaging explanation of the sense of hearing. He is clearly

excited about his field of research and endeavors to convey that excitement to his readers. The book and much of the material covered is quite technical. The illustrations provided for the experiments that were presented were not illuminating. The work would have been better served by inclusion of basic anatomical diagrams to help the reader get a sense of what was being discussed. Not having a neuroscience background, I wanted to know and see where the amygdala is placed in relationship to the medial geniculate. Even a diagram of the human ear would have been helpful when reading, "...the signals get segregated by frequency, phase, and amplitude, passed through the trapezoid body to the left and right superior olive to determine where the sound is coming from," p 99. This book, though fascinating and often humorous, fails to reach the broadest audience possible by remaining steadfastly in an academic realm. Ultimately, this is a shame for a subject like the universal sense.

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### **Erin says**

Pretty technical, don't think I would have enjoyed it at all if I didn't have the background in sound/hearing education that I have. Some really interesting stuff sprinkled throughout though.

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### **Jenny says**

I found this book very interesting. Parts of it did get pretty technical, but overall I still found most of it comprehensible and fascinating. A few things I found interesting:

- \*frogs become temporarily deaf as they transition from tadpole to adult frog...as their brains are rewired to go from hearing underwater to hearing on land.
- \*frogs can regrow hair cells that allow them to hear while humans can't ...which leads to important implications if we can figure out how to help humans regrow their hair cells
- \*the whole chapter on music was fascinating and particularly reading about percussionist Evelyn Glennie
- \*the way an absence of sound affects us
- \*why nails on a chalkboard is such an almost universally hated sound
- \*the concept of the brain singing...and how scientists are trying to figure out the human mind

I felt that while some parts did get pretty technical, Horowitz had a sense of humor and an ability to make this subject quite fascinating. In addition, I read this as a library book and someone else had underlined various passages and written comments. Because the prior reader obviously believed in sound being used for mind control, I found reading their comments fairly entertaining as well. (Shame on them for marking up a library book! But their comments provided me with additional entertainment.)

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