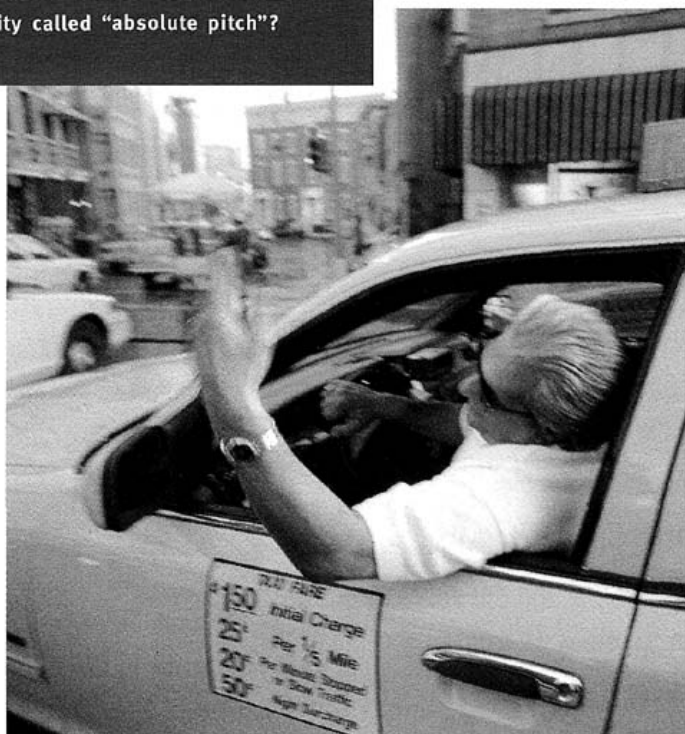


In all cultures, throughout history, music has accompanied human life. But what is it we hear, sometimes with great appreciation and skill, sometimes not? Is it only training that separates the opera fan from the “tin ear”? What about that mysterious ability called “absolute pitch”?

by Daniel J. Levitin, Ph.D.



In Search of the Musical Mind

McGill University psychologist and former professional musician Daniel J. Levitin explores the brain's complex systems for processing music and asks whether music may be a unique human evolutionary adaptation that serves some basic and ancient functions. With a nod to Herman Melville, join him as he sets out for "The Great White Hall."

As I strolled down a nondescript back street not far from Carnegie Hall, I heard a taxi horn blare. Not an uncommon sound in Manhattan, mind you, but the accompanying response caught me by surprise. Seemingly before the horn blare even ended, I heard an authoritative voice call out “E-flat.” I

turned to see a black-tied and -tailed young man, carrying under his arm what appeared to be a violin case. His companion, a woman with a case about the size of a flute, added, "But ten cents sharp!" I saw them enter the back door of a large building, not realizing it was The Great White Hall itself.

Hurrying around to the front of the hall, I lucked on a single ticket for the evening's performance of *The Rite of Spring*. I had played this piece as the bass clarinet player in our high school orchestra, but I had never heard it from a vantage point that would afford me the opportunity to distinguish something other than my own

If we all hear things the same, it is difficult to account for why one man's Madonna is another man's Mozart. Yet if we all hear things differently, how to explain that certain pieces are popular with almost everyone?

part mingled in with the staccato sounds of the trombones, whose bells were always directed, menacingly, at the back of my skull.

Once inside the hall, I listened carefully to the conversations of the audience around me. "I hope they don't take it too fast—I saw Cincinnati do it last season, and they had way too much tempo!" "Do you think there'll be an intermission? I can't see the program—they have to have an intermission, don't they?" "I love the opening movement. It really makes me think of springtime when I was a little girl, lying in

the wildflower meadows." The man next to me said to his wife, "This isn't one of those atonal pieces, is it?" A pair of teenagers, covered with body piercings and henna tattoos, compared Stravinsky to their favorite metal band, Metallica: "Listen to his use of modes—it's very Goth!" A young woman offered enthusiastically, "I love the part where the timpani play," and her companion answered "Which ones are the timpani again?" Then he whispered to her, thinking no one else could hear, "How can you hear one instrument when so many are playing?"

Seven audience members, and each heard something very different in the same complex piece of music: not surprising. But even listening to a few simple, isolated tones, few of us could replicate the precision with which the two musicians named the sound of the taxi horn.

Years ago, my undergraduate adviser, Roger Shepard, conducted a study in auditory perception at the Bell Telephone Laboratories in Murray Hill, New Jersey. When Roger played his co-workers a semitone—the smallest interval in Western music, equal to the distance between two adjacent keys on a piano—he found that half the people could not tell him whether he had played the same note twice in a row or two different notes. A semitone opens the well-known piano piece by Beethoven "Für Elise," which is heard throughout the Western world with great frequency at children's piano recitals. Its first five notes form a repeating pattern of a note followed by a (semitone) step down, then back to the first note. If half the people listening to (and presumably enjoying) "Für Elise" cannot

