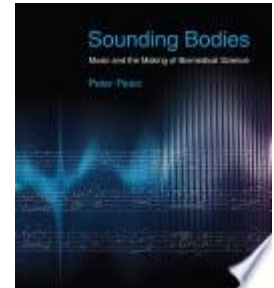




Peter Pesic. *Sounding Bodies: Music and the Making of Biomedical Science.* Cambridge: MIT Press, 2022. 408 pp. \$55.00, paper, ISBN 978-0-262-04635-0.



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Pythagoras’s acousmatic veil feels like an appropriate place to begin a review regarding the intimate connections between the seemingly disparate fields of biomedical and music history. According to the tale, frustrated Pythagoras opted to teach behind a sheath, believing that the lack of visual distraction would force his followers to heed his lessons more closely. Regardless of the veracity of this anecdote, the apocryphal story provides a compelling example of how depriving one sense can enhance attention to another.[1] And by directing readers to “listen” to medical history instead of look—to focus on the sounds of the body instead of only its visual aspects— Peter Pesic’s monograph *Sounding Bodies: Music and the Making of Biomedical Science* veils a domineering optically oriented historical approach to reveal some of the groundbreaking insights that emerge when readers tune into the echoes of history.

Pesic’s meticulous research and deft use of many methodologies, including music theory analysis and cultural history, builds to a compelling case for listening to medical history. From the har-

monic proportions that, according to the ancient Greeks, governed the movement of celestial bodies to more recent technologies that make the inner caverns of the human body acutely audible, the author’s ambitious monograph illuminates the long-standing and often ignored connection between sound, music, biology, and medicine. While occasionally the argumentative throughline of individual chapters gets lost amid the wealth of primary sources and observations, overall, the text is highly engaging and useful for anyone excited about novel historical projects. The book will be particularly helpful for those interested in an interdisciplinary approach to teaching either medical or music history.

Pesic provides a compelling collage of fascinating facts and case studies that, together, build into a convincing and even poetic narrative about the relationship between biology and sound throughout Western history. The book is divided into four sections, each of which is distinguished both by chronology and by thematic focus. Section 1 covers ancient Greece through the seventeenth

century. It explores relationships between music, biology, and medicine, including an argument about Pythagoras's influence on ancient medicine. The second section describes a "sonic turn" in medicine and biology in which scientists transitioned from an understanding of the body grounded in humorism to a model in which bodies are comprised of resonating fibers. Pestic suggests this new model ushered in "a revival of Herophilus's ideas that sought to notate the literal music of the pulse, then learned how to hear the body's actual sounds" (p. 109).

Analyses of musical manifestations of mental illness during the eighteenth and nineteenth centuries dominate the rather short third section. This section, including a chapter about a court composer's attempt to evoke the madness of the Spanish Hapsburgs and another that discusses the Mozart family's relationship with the infamous hypnotist Anton Mesmer, relies heavily upon analyses of musical scores and eloquently demonstrates the reciprocal influence of biomedicine and music during this period. Finally, section 4 features various contemporary technologies in the biomedical sciences that rely on sonic information, including ultrasound and echolocation. The author argues that these innovations represent a "rhythmic turn," following the earlier sonic turn, "in which the universal language of the nerves turned out to be a binary, all-or-nothing code whose changing rhythms—and frequencies—encode all bodily motions, sensations, and mental states" (p. 4).

One of the most successful aspects of the book is the way in which Pestic traces both the influence of sound on medical practice and the influence of scientific advancements on music-making. For instance, in chapter 9, Pestic recounts how French physician René Laennec's penchant for performance partially inspired his highly musical attunement to the body. Laennec, inventor of the stethoscope, relied on percussive techniques and close listening in his approach to patient care. Though

standard musical training did not, in isolation, "prepare the physician to cope with the noises of the body," Pestic compares the resonant sounding body to a complex musical instrument featuring new timbres and inspiring new auscultation techniques (p. 161). Moreover, in chapter 8, Pestic discovers implications for performance practice in François-Nicolas Marquet's records of an irregularly thudding pulse. Examining a document in which Marquet overlays a pulse against a minuet—a dance form characterized by its 3/4 time signature and associations with the European upper classes—the author deduces that contemporaries must have heard the elegant dance form "in one" (p. 140).

Pestic crafts a history that effectively emphasizes how interpersonal and political relationships shaped musical and biomedical knowledge. Indeed, he sets up a strong historical story, striking a satisfying balance between detail and breadth. Readers get the sense that knowledge is political, moving with migrating bodies and conquering armies as well as circulating scholarly manuscripts. Yet Pestic also focuses on the interpersonal dynamics that gave rise to some of the most interesting sonically centered medical interventions in Western history. For instance, Pestic notes that Gaspard-Laurent Bayle's own case of consumption impacted the way in which Bayle, and his friend Laennec, approached their study of the disease. Desperate to cure himself of the condition, Bayle listened frequently to the sound of his own chest.

The gripping historical narrative is peppered with vivid descriptions of fantastical events. I was especially captivated by Pestic's colorful portrait of the people of Renaissance Strasbourg dancing day and night until keeling over from exhaustion—all with the goal of banishing the melancholia purportedly provoked by the venom of a tarantula. Additionally, I was fascinated by Pestic's musicological analysis of Gaetano Brunetti's 1781 symphony *Il Maniatico* in chapter 10. The composer's accompanying program notes for this symphony

offer a narrative—they detail a melancholic and obsessive individual, the titular “maniac” voiced by the cello, and his community of friends who desperately strive to “free him from his delusion, offering him an infinity of other ideas, in the form of various musical motifs” (Brunetti, quoted on p. 177). Indeed, Pesic outlines various ways in which Brunetti musically manifested mania in his textless orchestral piece, including an obsessively repetitive motive voiced by the cello, frenetic strings desperate to wrench the “maniac” away from his malady, and many lamenting sigh figures—distinctive falling second gestures that visually resemble falling tears.

Even more interestingly, Pesic identifies in Brunetti’s piece what he believes to be a subtext unable to be expressly voiced in the restrictive climate of an eighteenth-century royal court. He suggests that the music evokes the *specific* mental illness of Spain’s mad monarch, Carlos III. Although the composer’s program notes make no direct mention of real people, Pesic contends that various aspects of the music—including a possible caricature of Brunetti’s musical contemporary Luigi Boccherini—clued the king’s son, the future Carlos IV, into the hidden program without risking the consequences of a more direct allusion. Furthermore, Pesic suggests that the ending, in which all of the instruments joyfully parrot the supposedly “cured” cello’s obsessive motif, illustrates the madness and obsession undergirding the classical style as a whole. This interesting case study evokes the gesturally sensitive musicological works of other contemporary scholars, including Mary Ann Smart and particularly Elizabeth Le Guin, who wrote extensively about affect, the body, and baroque cello music.[2] Pesic could benefit, perhaps, from engaging with this body of literature more directly.

While histories often lack the sensory detail that gives texture to records of human experience, Pesic renders the historical body audible, exploring its full sonic and sensory complexity. Ample

supplementary figures, including musical score examples, images of treatises, and even snippets of audio (accessible in digital editions) ground readers in the soundscape of Pesic’s sonically rich historical text. In some instances—especially in sections in which the author engages in intensive musical analysis—I would have appreciated more annotation of the musical text itself as a way of visually directing readers toward specific observations about the music. As Pesic shows, many in the medical profession are also highly accomplished musicians, but more annotation would be especially beneficial for those readers who may have some musical knowledge but lack familiarity with the conventions of more advanced music theory.

The monograph straddles a fascinating, but rather niche, line between musicology and biomedical history. Pesic delves into tonal analyses of classical compositions in some chapters while exploring the intricacies of biomedical technologies in others. Consequently, it is difficult to find the balance of explanation necessary to readers who may have one, but not both, of these specialties. While I think Pesic handles this very well in most cases, in some instances, he could have been clearer. For instance, terms like “mechanism” need no explanation to those versed in medical history (p. 188). But for musically trained readers with less exposure to this field, some elaboration on such terms might be useful. Similarly, some of the musical language might be better contextualized for readers lacking advanced training in music theory. Additionally, with the deluge of historical information, occasionally I wished the author were clearer about the importance of his interesting connections between sound and biomedical science beyond the fact that they exist. Nevertheless, overall, Pesic adeptly creates comprehensible connections between distinct disciplines.

Readers approaching Pesic’s book with skepticism about the long-standing intertwinement of music, medicine, sound, and biology will be thoroughly convinced of the strength of this relation-

ship by the end. The author’s nuanced, wide-ranging, and deeply interesting research has resulted in an entertaining and informative read. I highly recommend this book for those with any interest in sound studies or biomedicine, but I especially recommend it for educators. And for those who have little experience reading about sound and science, I believe Pesic’s piece can easily inspire readers to delve deeper into a burgeoning field of inquiry.

Notes

[1]. Brian Kane, “Myth and the Origin of the Pythagorean Veil,” in *Sound Unseen: Acousmatic Sound in Theory and Practice* (Oxford: Oxford University Press, 2014), 45–72.

[2]. Mary Ann Smart, *Mimomania: Music and Gesture in Nineteenth-Century Opera* (Berkeley: University of California Press, 2004); and Elizabeth Le Guin, *Boccherini’s Body: An Essay in Carnal Musicology* (Berkeley: University of California Press, 2006).

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