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This Is Your Brain on Music: Understanding a Human Obsession

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Daniel Levitin's *This Is Your Brain on Music* was written for the general reader, and it is to his credit that many parts of this book are interesting and stimulating. I can see how it might help to communicate what Levitin calls the "neuroscience of music" to a broader audience: it contains some very clear and well-informed explanations of a range of musical phenomena, their underlying psychological processes and possible neural correlates.

The most interesting and balanced chapters are "What makes a musician" (dealing very sensitively with the genetic and environmental sources of musical skill) and "The music instinct" (dealing with the ritualistic and performative aspects of music's evolutionary value). The latter (the final chapter) really grapples with the active and social function of music as it is made and perceived but refers to little neuroscientific work.

Levitin's brief discussion of mirror-neurons here (Giacomo Rizzolatti, Leonardo Fogassi and Vittorio Gallese; applied to auditory perception by Valeria Gazzola) and speculation on their potential role in music perception is for me the beginning of a story, not an end: the link between perception and action that they seem to substantiate is one of the most exciting discoveries in recent psychology. They are yet to be comprehensively investigated in relation to music, however, and the interested reader should look at recent work by Istvan Molnar-Szakacs and Katie Overy.

Levitin often plays at being the excited newcomer, a rhetorical device that might put some readers off. I found that I often wanted fewer anecdotes and more attention to detail. This is more than just a stylistic point: I was disappointed by an inaccurate description of a demonstration by Peter Desain and Henkjan Honing and dismayed to find three pages (and much speculation) devoted to what I assume is Levitin's memory of an unpublished oral presentation (despite his assertion that all research in the book is published and peer-reviewed).

The choice of musical examples is refreshingly free of high-art bias but draws so strongly on Levitin's own musical canon that some readers who do not share his musical tastes may feel lost. Although his musical digressions do serve to illustrate arguments, some research that would more directly help answer the questions he poses is absent: for example, there is no reference to relevant work on rhythmic co-ordination by Peter Beek and collaborators or by Mireille Besson's team on music and general cognitive development, and although there is little neuroscientific work on musical performance, there is a considerable body of empirical psychology here to draw on.

Despite my misgivings, this is one of the better attempts I have encountered to communicate a scientific understanding of music to a lay audience. Music is worth studying with all the tools of science, and Levitin's placement of music at the centre of human experience and evolution (contra Steven Pinker) is to be applauded.

This Is Your Brain on Music: Understanding a Human Obsession

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