

David Huron, *Sweet Anticipation: Music and the Psychology of Expectation*. Cambridge, MA: MIT Press, 2006. ISBN-10: 0-262-08345-0; ISBN-13: 978-0-262-08345-4 (hardcover) \$40.00

Editor's Note: This review is written from a musician's perspective. A second review, written from a cognitive psychologist's point of view, may be found on pp. 67-70 of this issue.

David Huron is one of the top figures in music psychology. Now, with *Sweet Anticipation: Music and the Psychology of Expectation* he makes another very important contribution to the field. *Sweet Anticipation: Music and the Psychology of Expectation* is a rich work. It presents a general theory of expectations that aims to explain why musical expectations are a source of pleasure. "The idea that music making and listening are not motivated primarily by pleasure is biologically implausible," Huron writes (p. 373). Drawing from evolutionary theory and biology, Huron addresses the hedonic value of musical expectations, and goes on to evaluate them as a major source of pleasure in music listening. Huron supports his thesis that musical expectations are a source of pleasure using current theories of emotions, psychological data, and recent neuropsychological findings. He presents evidence from the work of several neuroscientists including Blood, Zatorre, Bermudez, and Evans (1999) to show the extent to which music answers to a pleasure principle.

In the introduction, Huron acknowledges the importance of Leonard Meyer's seminal book *Emotion and Meaning in Music* (1956), and explains that one of the goals of his own book is to "revisit Meyer's topic and to recast the discussion in light of contemporary findings" (p 3). According to the author, another major motivation for writing his book is to describe a comprehensive theory of expectation, and to show how this theory relates to music. Huron calls his theory 'ITPRA', an acronym for responses caused by Imagination, Tension, Prediction, Reaction, and Appraisal. For Huron, musical expectations arise from these five functionally distinct neurophysiological systems. He explains his ITPRA theory using examples from visual perception, linguistics, social behavior, ethology, and music.

The book is divided into 17 chapters: The first chapter gives us an overview of the ITPRA theory. Chapter 2 focuses on the role of surprise within the aforementioned theory of expectations. The author shows that surprise may take many different forms ranging from laughter, to awe, to fear. The third chapter discusses experimental methods used to study expectations in general. Chapter 4 focuses on how expectations relate specifically to auditory learning. Here Huron asks the reader to consider whether auditory learning is innate or learned, and describes theories of absolute pitch, and recent findings on infants' pitch perception. Chapter 5 deals with statistical properties of music such as what we find in pitch proximity, step declination, step inertia, melodic regression, and the melodic arch. Following a discussion of our heuristic knowledge of music in Chapter 6, Chapter 7 addresses the mental representation of expectation focusing on the representation of pitch, melodic intervals, and auditory events.

Chapter 8 offers a general discussion of prediction, while chapter 9 and 10 focus on the prediction of tonality and temporal events. In chapters 11 and 12, Huron looks at mental schemes in general, and then at the mental representation of expectation. Here, the author addresses semantic and episodic memory, Wittgenstein's puzzle, and schematic and veridical expectations. The rest of the book deals with our ability to create predictions, surprise, tension, and the unexpected in music. In the last chapter, Huron offers directions for future research. Among the recommendations, he suggests that: "If aesthetic philosophers are genuinely interested in understanding the phenomenon of beauty, they cannot achieve this goal without taking into account the operation of the human brain and its predilection for pleasure" (p. 374).

Does Huron succeed in convincing us that musical expectations are a source of pleasure? Yes, unquestionably. But different readers may have different opinions in deciding whether Huron's book was inspired by Meyer's *Emotion and Meaning in Music*, or actually follows it up. David Huron always considers musical expectations as psychological processes rather than aesthetic goals.

The writing style is engaging and personal. The text is illustrated with a number of musical examples. While *Sweet Anticipation: Music and the Psychology of Expectation* is valuable for musicians, I see it even more suited for music and cognitive psychologists, and for researchers in evolutionary science given the exhaustive discussions of the experimental designs and of the experimental data. This is a remarkable publication that reflects a keen vision. It casts the meaning of music within a broad, contemporary scientific scenario. [1]

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