

tion and Cognition in Kingston, Ontario (July, 2001), at which he was giving the keynote address, some 13 years after his official retirement. This address, (a version of which appears in print (Meyer, 2001) and which is among his very last publications), shows Meyer in typically creative mode, thinking deeply and originally about music, with rigour, and yet with an open-ended, even provocative stance, which inspires the reader to take a fresh look at key aspects of music and music engagement.

But, alongside almost every other researcher of our generation, I had met Meyer in print long before. My first book (Sloboda, 1985) mentions Meyer ten times. Among nonpsychologists, only Chomsky receives more mentions. And the comparison with Chomsky is completely apt, for they both transformed the intellectual landscape through what they showed us about their respective domains (music and language). Their methods involved marrying close and rigorous scrutiny of the actual materials with profound theoretical insights. They changed the way we saw things, and opened up new paths of intellectual endeavour for those who followed. Their insights were critical to other disciplines than their own, among which psychology was a principal beneficiary in both cases.

It is fair to say that without Meyer's two magisterial books (1956, 1973) I would have had neither the courage nor the route-map to venture into the field of music and emotion. My own work on this topic has been almost totally guided by two of Meyer's core insights. The first insight is that a defining characteristic of emotional response to music is its close connection to the moment-to-moment unfolding of the musical event in time. The second insight is that emotion is intimately linked to the cognitive processes of generating and testing predictions about future musical events.

The body of research literature to which I have been able to contribute has, I believe, provided broad empirical confirmation Meyer's brilliant insights. It is now firmly established that listeners' emotional responses wax and wane over the course of a musical experience in quite significant ways, but in ways that show a common pattern within members of a musical culture. It is equally firmly established that these shifts in emotional response are closely correlated with specific structural and expressive features of the music, many of which can be described in terms of the implicative relationships that Meyer proposed (e.g., Sloboda, 1991; Sloboda & Lehmann, 2001; Steinbeis, Koelsch, & Sloboda, 2006).

Despite (or perhaps partly because of) his close attention to the intricate details of musical works as composed

### *Leonard Meyer: Embracing Uncertainty*

JOHN SLOBODA  
*Keele University*

I met Leonard Meyer in the flesh only once. The occasion was a conference of the Society for Music Percep-

and performed, Meyer always understood that music, and our ways of interacting with music, are deep reflections of cultural, political, and historical trends within broader society. How music is, and how we respond to music, tells us something hugely important about the nature and direction of human society.

Meyer delivered his Kingston lecture less than two months before the event that changed the course of the 21st century: the 9/11 terrorist attacks. Yet, alone of the contributors to that conference, he was already making strong links between music, politics, war, and peace. For him, the decline in goal-directed conceptualizations of music (conceptualizations which prize adventurous personal heroism) in favor of “present oriented”

egalitarian popular and minimalist music, was a reflection of a wider cultural “decline in the valuing of personal honor, the heroic, and the risk-taking associated with them” (Meyer, 2001, p. 356). It could be seen as both prescient and ironic that the only person he chose to cite verbatim in his address was Admiral Arthur, commander of the US naval forces during the first Gulf War, who is quoted as having said, “we now have people being taught how to be cautious, not how to be bold.”

Intellectual boldness, with all its inherent risks, is what Leonard Meyer exemplified. For this, above all, he will remain in my pantheon. Our discipline has been enriched beyond measure by his work.

## References

- BHARUCHA, J. J. (1987). Music cognition and perceptual facilitation: A connectionist framework. *Music Perception*, 5, 1-30.
- BHARUCHA, J. J., & STOECKIG, K. (1986). Reaction time and musical expectancy: Priming of chords. *Journal of Experimental Psychology: Human Perception and Performance*, 12, 403-410.
- CONE, E. T. (1968). *Musical form and musical performance*. New York: W. W. Norton & Co.
- COOPER, G., & MEYER, L. B. (1960). *The rhythmic structure of music*. Chicago: University of Chicago Press.
- FRYE, N. (1958). *Anatomy of criticism; four essays*. Princeton: Princeton University Press.
- GJERDINGEN, R. O. (2007). *Music in the galant style*. New York: Oxford University Press.
- KERMAN, J. (2000). Back cover of the paperback edition of Meyer, L. B. *The spheres of music: A gathering of essays*. Chicago: University of Chicago Press.
- KRAMER, J. D. (1988). *The time of music*. New York: Schirmer Books.
- KURTH, E. (1925). *Bruckner*. Berlin: Hesse.
- KURTH, E. (1931). *Musikpsychologie*. Berlin: Hesse.
- LAKOFF, G. (1993). The contemporary theory of metaphor. In A. Ortony (Ed.), *Metaphor and thought* (2nd ed., pp. 202-251). Cambridge: Cambridge University Press.
- LERDAHL, F. (1988). Cognitive constraints on compositional systems. In J. A. Sloboda (Ed.), *Generative processes in music* (pp. 231-259). Oxford: Oxford University Press.
- LERDAHL, F. (2001). *Tonal pitch space*. New York: Oxford University Press.
- LERDAHL, F., & JACKENDOFF, R. (1983). *A generative theory of tonal music*. Cambridge, MA: MIT Press.
- LORENZ, A. O. (1966). *Das geheimnis der form bei Richard Wagner*. Tutzing: H. Schneider.
- MARKS, L. E. (2000). Synesthesia. In E. A. Cardena, S. J. Lynn, & S. C. Krippner (Eds.), *Varieties of anomalous experience: Phenomenological and scientific foundations* (pp. 121-149). Washington, DC: American Psychological Association.
- MARKS, L. E. (2004). Cross-modal interactions in speeded classification. In G. Calvert, C. Spence, & B. E. Stein (Eds.), *Handbook of multisensory processes* (pp. 85-106). Cambridge, MA: MIT Press.
- MEYER, D. E., & SCHVANEVELDT, R. W. (1971). Facilitation in recognizing pairs of words: Evidence of a dependence between retrieval operations. *Journal of Experimental Psychology*, 90, 227-234.
- MEYER, L. B. (1956). *Emotion and meaning in music*. Chicago: University of Chicago Press.
- MEYER, L. B. (1967). *Music, the arts, and ideas*. Chicago: University of Chicago Press.
- MEYER, L. B. (1973). *Explaining music: Essays and explorations*. Berkeley, CA: University of California Press.
- MEYER, L. B. (1976). Grammatical simplicity and relational richness: The trio of Mozart's G minor symphony. *Critical Inquiry*, 2, 693-761.
- MEYER, L. B. (1980). Exploiting limits: Creation, archetypes and style change. *Daedalus*, 109, 177-205.
- MEYER, L. B. (1989). *Style and music: Theory, history, and ideology*. Philadelphia: University of Pennsylvania Press.
- MEYER, L. B. (1991). A pride of prejudices. *Music Theory Spectrum*, 13, 241-251.
- MEYER, L. B. (2000). *The spheres of music: A gathering of essays*. Chicago: University of Chicago Press.
- MEYER, L. B. (2001). Music and emotion: Distinctions and uncertainties. In P. N. Juslin & J. A. Sloboda (Eds.), *Music and emotion: Theory and research* (pp. 309-337). Oxford: Oxford University Press.

- MEYER, L. B. (2002). *Thinking about music: Observations and hypotheses*. Unpublished manuscript.
- NARMOUR, E. (1974). *The melodic structure of tonal music: A theoretical study*. Doctoral dissertation, University of Chicago, Chicago.
- NARMOUR, E. (1990). *The analysis and cognition of basic melodic structures: The implication-realization model*. Chicago: University of Chicago Press.
- NARMOUR, E. (1992). *The analysis and cognition of melodic complexity: The implication-realization model*. Chicago: University of Chicago Press.
- SACHS, C. (1953). *Rhythm and tempo*. New York: W. W. Norton & Co.
- SLOBODA, J. A. (1985). *The musical mind: The cognitive psychology of music*. Oxford: Oxford University Press.
- SLOBODA, J. A. (1991). Music structure and emotional response: Some empirical findings. *Psychology of Music*, 19, 110-120.
- SLOBODA, J. A., & LEHMANN, A. C. (2001) Performance correlates of perceived emotionality in different interpretations of a Chopin piano prelude. *Music Perception*, 19, 87-120.
- SPITZER, M. (1997). Meditations on Meyer's hobby horses: Levels of motivation in musical signs. *Applied Semiotics*, 2, 41-48.
- STEINBEIS, N., KOESLICH, S., & SLOBODA, J. A. (2006). The role of musical structure in emotion: Investigating neural, physiological and subjective emotional responses to harmonic expectancy violations. *Journal of Cognitive Neuroscience*, 18, 1380-1393.
- SWINNEY, D. A. (1979). Lexical access during sentence comprehension: (Re)consideration of context effects. *Journal of Verbal Learning and Verbal Behavior*, 18, 645-659.
- ZARLINO, G. (1968). *The art of counterpoint: Part three of Le istituzioni harmoniche* (G. A. Marco & C. V. Palisca, Trans.). New Haven: Yale University Press. (Original work published 1558).
- ZBIKOWSKI, L. (1997). Conceptual models and cross-domain mapping: New perspectives on theories of music and hierarchy. *Journal of Music Theory*, 41, 11-43.



Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.