

# Computational Music Science

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# All About Music

The Complete Ontology: Realities, Semiotics,  
Communication, and Embodiment

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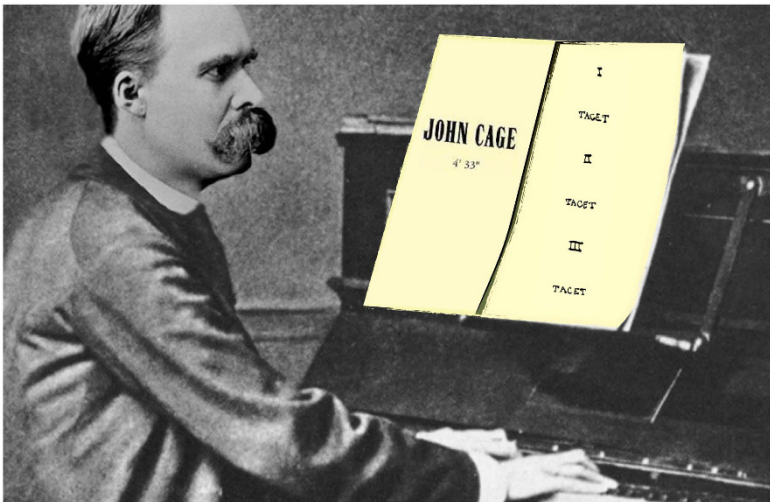
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*Ohne Musik wäre das Leben ein Irrtum*  
(Without music life would be a mistake)



Collage by Maria Mannone

Friedrich Nietzsche (1844-1900)

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## Preface



The authors Maggie O'Brien, Yan Pang, Guerino Mazzola, Maria Mannone, and Nathan Torunsky. Photo 2016 by Yunqing Fei.

The idea for this book came from Maggie O'Brien and Nathan Torunsky, two very smart undergraduate students taking Guerino Mazzola's honors course "All About Music" at the School of Music of the University of Minnesota.

When Mazzola was introducing the students to this topic, they asked whether there was a textbook, and Mazzola had to apologize for not having any easy book that would cover all of the course materials. He rethought the issue, contacted Springer's editor Ronan Nugent and eventually signed a contract with Springer and organized a course at this university where the authors could

write such a textbook, also in collaboration with PhD students Maria Mannone and Yan Pang, who had already written a Springer book *Cool Math for Hot Music* with Mazzola and therefore could contribute to this new project, too.

This book is the result of this exceptional course where all perspectives—those of undergraduate students, of PhD students, and of their instructor—could be merged to create a text, including many attractive figures and references, that would help students document the course materials.

In fact, this book is far more than just a textbook. We have paid much attention to writing in a style that would be accessible and interesting to anybody who wants to know what music is about in its most general understanding. In this sense, *All About Music* is for all who want to know about music but never could make it into this often ineffable but vital topic. The authors hope that this book in its unique architecture will open the world's sounds to those who would like to understand what music is all about.

We are pleased to acknowledge the strong support for writing such a demanding treatise from Springer's science editor Ronan Nugent.

Minneapolis, May 2016

Guerino Mazzola, Maria Mannone, Yan Pang,  
Maggie O'Brien, Nathan Torunsky.



More relaxed authors after work: Nathan Torunsky, Yan Pang, Guerino Mazzola, Maria Mannone, and Maggie O'Brien. Photo 2016 by Yunqing Fei.

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