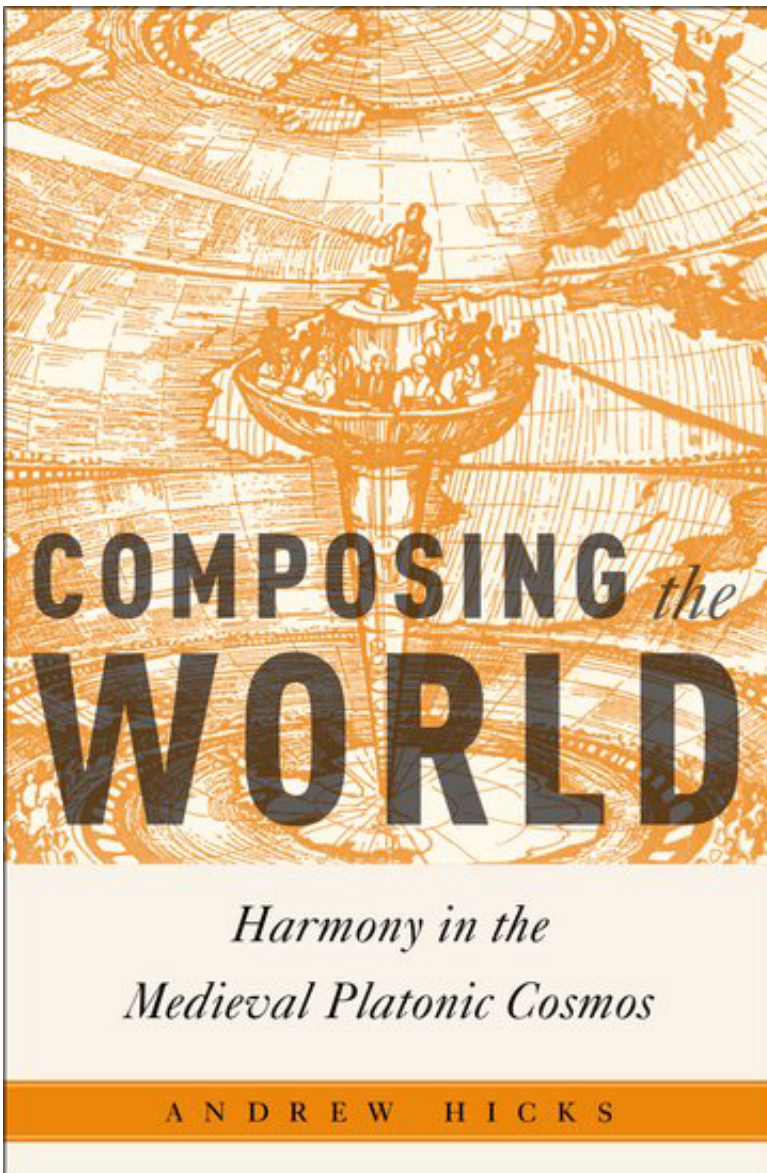


New book takes sound studies into the cosmos

January 27 2017, by Linda B. Glaser



"We can hear the universe" declared researchers at LIGO (the Laser Interferometer Gravitational-Wave Observatory) announcing the first detection of a gravitational wave last year.

By capturing a sonic translation of two black holes colliding more than a billion years ago, scientists had finally achieved what ancient scholars had long dreamed of: translating the "[music](#) of the spheres" into sound humans can hear.

In his new book, "Composing the World: Harmony in the Medieval Platonic Cosmos," Andrew Hicks argues that sound – and the harmonious coordination of sounds, sources and listeners – has always been an integral part of the history of studying the cosmos. He says that in medieval natural philosophy (what we would call physics) the cosmos is animated and choreographed according to a specifically musical aesthetic, and his book offers a new intellectual history of the role of harmony in medieval cosmological discourse.

"I've had a long fascination with the role music plays in all sorts of extra-musical contexts, the way we fall back on musical language to express complicated scientific and philosophical ideas," says Hicks, assistant professor of music and medieval studies. In his musicological studies, he discovered music theory in places he never expected, such as psychology, natural philosophy, geometry and astronomy. "All these realms come together in cosmology," he writes.

For medieval philosophers, cosmological aesthetics based on the "music of the spheres" (the idea that stars and planets make a beautiful harmony) governed the moral, physical and psychic equilibrium of the human and assured the coherence of the universe as a whole. Hicks says that these models of musical cosmology continue to be relevant to our modern philosophical and scientific undertakings. Although hearing [gravitational waves](#) was heralded by some as a "revolution" in how we

understand the universe, Hicks says this way of understanding the universe is already "deep" history, purportedly going all the way back to Pythagoras. The ancient philosopher was famously considered the only person with the strength of intellect (or perhaps purity of heart) to be able to actually hear the "music of the spheres" – music Isaac Newton reputedly described as the sound of gravity.

"Composing the World" synthesizes cosmological knowledge and tells its story across a broad range of disciplines, exploring the history of ideas in philosophy, mathematics, psychology, logic – and the ontology of sound.

"The fundamental problem of a musical cosmology is that we cannot hear the music," explains Hicks. "So you have silent, nonperceptible harmonies. Medieval scholars tried to understand them so as to better perceive their beauty, in a kind of aspirational aurality. With the advent of LIGO, now we can 'hear the universe,' though a gravitational wave is not a sound wave, and it requires translation through computers to turn the medium of gravity into sound – which raises questions about the nature of sound itself, in ways that are strikingly analogous to the music of medieval cosmology."

Hicks' new book project, tentatively titled "The Broken Harp: Musical Metaphor in Classical Persian Literature," reframes the history of medieval Persian musical culture through a sustained focus on the technical vocabulary, poetic imagery, artistic visualizations, and philosophical metaphors of music and musical experiences in classical Persian literary traditions.

Provided by Cornell University

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