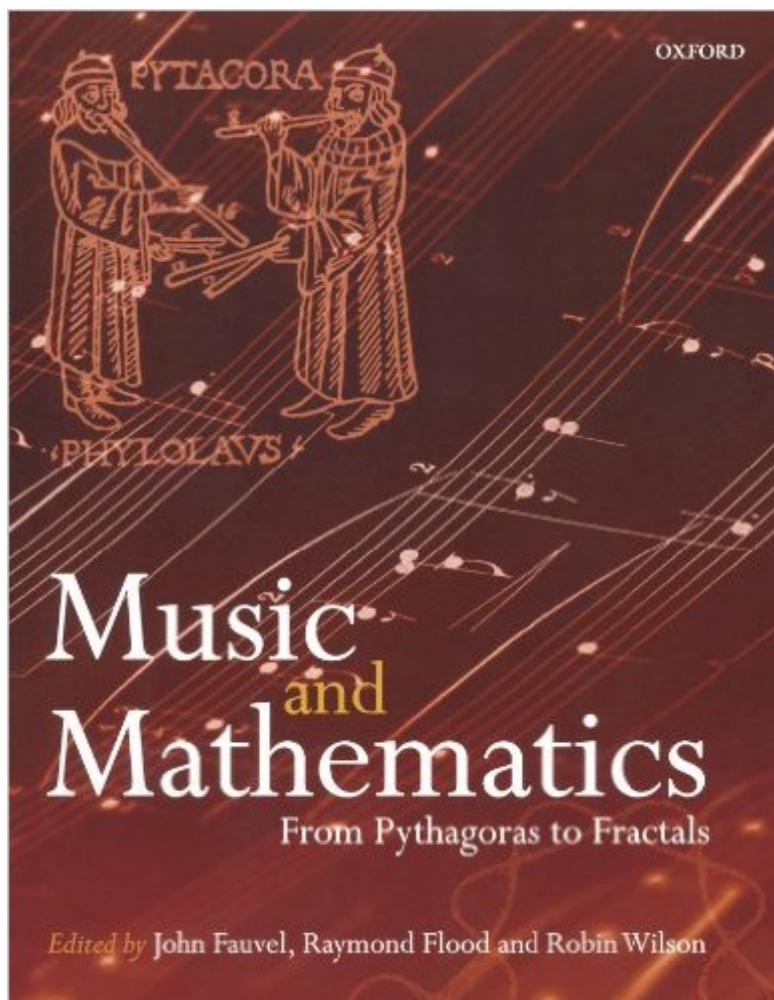


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# Music And Mathematics: From Pythagoras To Fractals



## Synopsis

From Ancient Greek times, music has been seen as a mathematical art, and the relationship between mathematics and music has fascinated generations. This collection of wide ranging, comprehensive and fully-illustrated papers, authorized by leading scholars, presents the link between these two subjects in a lucid manner that is suitable for students of both subjects, as well as the general reader with an interest in music. Physical, theoretical, physiological, acoustic, compositional and analytical relationships between mathematics and music are unfolded and explored with focus on tuning and temperament, the mathematics of sound, bell-ringing and modern compositional techniques.

## Book Information

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Average Customer Review: 4.0 out of 5 starsÂ  See all reviewsÂ  (2 customer reviews)

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## Customer Reviews

Only two chapters address fundamental mathematical-musical issues, namely decent chapters on the Pythagorean principles of consonance and scales and Helmholtz's theory of consonance. The rest of the book treats various quirky side topics, many of them trying in more or less contrived ways to force mathematical ideas (magic squares, finite projective planes, fractals, the Erlanger Programm, etc.) into a musical setting. Personally, I was amused by chapter 7 on bell-ringing: a bell-tower has a few different bells and of course "an evening spent playing unchanging rounds might be considered uneventful", so we wish to change the ringing order of our bells, but "because bells are heavy and slow" we are limited to changing the order one adjacent pair at a time, and so eighteenth century bell-ringers developed a sophisticated understanding of symmetric groups

generated by transpositions, which we can now illustrate with modern concepts and Cayley diagrams and so on, only to conclude that the ringers "had been doing 'group theory' and 'ringing the cosets' all along". That's about as good as it gets. The book as a whole suffers from many shortcomings including lack of depth (e.g., chapter 2 on Kepler's musical cosmology doesn't contain a single line of mathematics), lack of breadth (e.g., Fourier analysis is not even in the index), and lack of originality (e.g., chapter 4 consists of recycled Ian Stewart material which in turn was mostly recycled Barbour material, down to consistent misspelling of the main character's name).

Unlike the sniveling drivel written by the other reviewer on this book who makes materialistic suppositions about the quality of this book, in error no less,...this book is in fact a brilliant gem very well worth purchase. Needless to note again that I own every book ever written on Pythagoreanism, Plotinus, Neoplatonism, & there is aught that I give much praise to. Namely 98% of ALL books written on this topic are myopic "X commentator thinks this means Y, and A commentator thinks differently" equivocations. This is not one of "those miserable little books" CAF Davids. All Pythagorean number and harmonic interest is AS PER ontology/metaphysics only. The other reviewer expected/wanted/projected an existentialist/materialistic tripe book as found in the science section. This is a book, rightly so, about Pythagorean harmonics, ratios, & its corresponding arithmos-metaphysics. High praise for this wonderful book, it stands out among the common trash.

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