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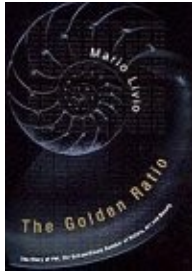
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November 2002

Reviews

## 'The Golden Ratio'

reviewed by Helen Joyce



## The Golden Ratio: The story of phi, the Extraordinary Number of Nature, Art and Beauty

Euclid defined what later became known as the Golden Ratio thus:

*A straight line is said to have been cut in extreme and mean ratio when, as the whole line is to the greater segment, so is the greater to the lesser.*

In the introduction to this book, the author quotes Einstein as saying

*The fairest thing we can experience is the mysterious. It is the fundamental emotion which stands at the cradle of true art and science. He who knows it not and can no longer wonder, is as good as dead, a snuffed-out candle.*

For Mario Livio, phi, the Golden Ratio, evokes this holy wonder, and he sets out to make us feel it too. Telling us that "the Golden Ratio has inspired thinkers of *all disciplines* like no other number in the history of mathematics", he moves from Buddhist tradition to Indian poetry, from plant and animal growth to avant-garde architecture, in this broad-ranging book.

You might wonder if one number – even such an extraordinary number as Livio claims phi is – could sustain a whole book. But Livio's breadth of knowledge of the arts is prodigious, and he moves effortlessly through history and art to find the material he needs. The protagonists are not edited out as they are in so much

## 'The Golden Ratio'

mathematical writing – Livio says that he wanted to tell a "good human interest story", and in this he succeeds.

Livio does not shy away from the subjective – he scrupulously examines claims that the ability to appreciate the Golden Ratio is hardwired into our perception of beauty – for a peep at his conclusions, read his article [The golden ratio and aesthetics](#) in this issue of *Plus*.

The Golden Ratio is beloved of numerologists and mystics, who claim that the Ancient Babylonians, the builders of the pyramids – all the usual suspects – were guided in their every action by adherence to the Golden Ratio. Livio thoroughly and entertainingly debunks these claims, going back to historical sources, and illustrating the intellectual dishonesty involved in such analyses by presenting the numerology of the TV in his kitchen!

Livio tells us that

*The entire notion of a 'surprise party' is...based on the pleasure and gratification many of us feel when confronted with...unexpected appearances. Mathematics, and the Golden Ratio in particular, provide a rich treasure of surprises.*

This is as good a definition of mathematical beauty as any I have ever seen, and serves as an excellent motto for this lovely book.

### **Book details:**

*The golden ratio: the story of phi, the the Extraordinary Number of Nature, Art and Beauty*  
(US title *The golden ratio: The Story of Phi, The World's Most Astonishing Number*)

Mario Livio

hardback – 288 pages (28 October, 2002)

Review

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*Plus* is part of the family of activities in the Millennium Mathematics Project, which also includes the [NRICH](#) and [MOTIVATE](#) sites.