

Snezana Lawrence and Mark McCartney, eds, *Mathematicians and their Gods: Interactions between mathematics and religious beliefs*, Oxford: Oxford University Press, 2015, pp. 304 ISBN: 9780198703051, £24.99

Snezana Lawrence and Mark McCartney, the editors of this collection of papers, are lecturers and scholars with a keen interest in how mathematics is pursued in the global cultural environment. The book addresses this issue by examining questions that have arisen throughout history and within different cultural contexts: How do they interact with the scientific endeavours and religious-philosophical-political beliefs in the conscience of the mathematician?

The casual reader should not be led to think, as the back-cover blurb would suggest, that this is one more book about the conundrums between science and religion. In chapter 1, *Introduction*, editor Mark McCartney dispels that first impression by clearly pointing to the real topic of the book, namely, how mathematicians from different times have dealt with the religious beliefs they happen to hold or to encounter in the environment with which they happen to interact.

Judging solely by the book's title, the reader might wonder how the two terms, Mathematics versus Religion, are related to each other and what is so special about this juxtaposition of terms. After reading this thought-engaging book, this reviewer, a mathematician and a believer himself, offers two arguments. First, Mathematics and Religion are both relatively very old in the history of mankind, as compared with similar cultural phenomena such as, say, Biology and Socialism. Second, at the level of inner consciousness, the professional mathematician quite frequently experiences a sudden moment of understanding. Before the coming of light, everything was chaotic and without meaning, then suddenly, eureka!, light comes and Truth reveals herself with authority. Mathematicians never doubt the reality and correctness of their mathematical beliefs. That type of inner security shapes their notion of what constitutes a "true" belief.

Several chapters are devoted to the history of key ideas. In chapter 2, *The Pythagoreans: Number and Numerology*, A. Gregory gives a modern account of the evolution of Pythagorean traditions concerning the meaning of numbers and regular geometric objects, from Pythagoras to Plato. A second fascinating topic is the early evolution of thought on the light archetype, which A. Chapman discusses in chapter 3, *Divine Light*, and traces from Greece and Rome to Newton. Combinatorics, another topic with a long history, is taken up by R. Wilson and J. Fauvel in chapter 5, *The Lull Before the Storm: Combinatorics in the Renaissance*. The story continues in chapter 6, *Mystical Arithmetic in the Renaissance: From Biblical Hermeneutics to a Philosophical Tool* by J.-P. Brach.

The second part of the book is devoted to mathematicians in modern times. In chapter 4, *Kepler and His Trinitarian Cosmology*, O. Gingerich depicts Kepler as a Lutheran teacher who developed his own cosmology from a trinitarian model. R. Iliffe offers an interesting and updated account of Newton's work in the field of biblical exegesis and theology in chapter 7, *Newton, God, and the Mathematics of the Two Books*. M. Mazzotti portrays a notable woman from the Italian Catholic Enlightenment (sic) in chapter 8, *Maria Gaetana Agnesi, Mathematician of God*. Later, in chapter 13, *Gödel's "Proof" for the Existence of God*, the logician C. A. Anderson relates how modal logicians struggled with Anselm's ontological argument.

Three chapters give finely detailed cultural histories of the Victorian age: M. Richards on Lewis Carroll as a logician in chapter 10, *Charles Dodgson's Work for God*; E. Lewis on two renowned Scottish scientists in chapter 11, *P. G. Tait, Balfour Stewart and The Unseen Universe*; M. Bayley on Edwin Abbot in chapter 12, *Faith and Flatland*.

Lawrence and McCartney have done an admirable job in assembling a book of remarkable scholarship on a topic which challenges readers working in science or technology. A popular conception has it that a scientist who is also a believer has a split personality with two distinct brains: one that knows "how" and the another that knows "why". The book demonstrates that this idea is utterly false. In fact, precisely because the two "books" interact, there exists a single brain capable of understanding "the how and the why". This is confirmed *ad absurdum* in chapter 9, *Capital G for Geometry: Masonic Lore and the History of Geometry*, by S. Lawrence. This essay recounts the life and work of Gaspard Monge, a French engineer, teacher, and reformer whose contributions to applied mathematics are still valid in contemporary research, and whose beliefs evolved toward a Masonic ideology in a strongly atheist environment.

Giovanni Pistone
Collegio Carlo Alberto, Moncalieri IT