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tatsächlichen Bedeutung nicht zu, und das von Beretta gezeichnete Porträt muss daher weitgehend Hypothese bleiben. Doch seine Hypothese ist mit viel Scharfsinn und Überzeugungskraft vorgetragen ; und sie verdient es, übersetzt und international diskutiert zu werden.

CHRISTOPH LÜTHY

FLAVIA MARCACCI, *Galileo Galilei. Una storia da osservare*,. Rome : Lateran University Press, 2015. Pp. 134. ISBN 978-88-465-1027-3. Price € 13.60.

In this slim but elegantly written volume, Flavia Marcacci, who teaches history and philosophy of science in Rome, provides an excellent introduction to Galileo that will be not only be enjoyed by the general reader but will be useful to undergraduates. She has both scholarly and sensible things to say about the way Galileo studies have evolved, and about the lessons to draw from Galileo's clash with the official Church.

It is not so long ago that Galileo was presented as a clear-headed empiricist and ruthless gatherer of facts who had the mathematical skill to order and interpret his observations in such a way that laws of nature emerged. He was seen as both an antidote to medieval superstition, and an example to future generations. Experiments enabled him to find the law of freely falling bodies (it is here that the Tower of Pisa story proved useful), and to formulate the principle of inertia, according to which a body continues at rest or in steady straight-line motion, unless an outside force acts upon it. This, the most debatable discovery of all, had been valued as providing the key to the Newtonian system. The most influential spokesmen for this characterization were Ernst Mach in Europe and Edward Strong in America. With Alexander Koyré, Galileo studies were given a thoroughly paradoxical twist. By comparison with Platonist influences, empiricism was accorded a very small part in Galileo's total achievement and, hence, in the birth of modern science. Galileo now became a rationalist. In the meantime, and out of the limelight, scholars such as Pierre Duhem and Annaliese Maier claimed that whatever the character of Galileo's philosophy, as a scientist he was merely continuing a classical and medieval tradition, and that the scientific revolution had been slowly and unobtrusively gathering pace for centuries.

Where does the truth lie ? Colourful philosophers like Paul Feyerabend argued that it doesn't matter because in science, as in politics, " anything goes ". This provocative and controversial statement received much attention but philosophers and historians of science sought a middle course, arguing that Koyré went too far, and that traditional versions of empiricism, in which theories were supposedly deduced from experience, were wrong. The recovery of Galileo's laboratory notes enabled scholars to reassess his actual procedure and, for instance, Roberto Vergara Caffarelli, at the University of Pisa, has reconstructed several of the experiments that Galileo made. The current challenge is how to use our enhanced

knowledge of Galileo's education, language, style, as well as his salary to understand his science, not to supplant it. It may be interesting to know that Galileo held a court appointment but more important to realize, for instance, that he did not use algebra and never wrote an equation in his life, not even in his private papers. Nor did he use decimal fractions, which were first introduced in 1585. He adhered to the Euclidean theory of ratios and proportionality among mathematically continuous magnitudes, and this is the technique that played an important part in his analysis of motion. When he began investigating the properties of falling bodies, he could not legitimately measure speed as a kind of " ratio " of a distance to a time. In principle those entities had no ratio, properly speaking, for in Euclid's mathematics " ratio " was defined as a relation between magnitudes of the same kind, for example, two distances or two times. To express a relation between distances and times of motion, it was necessary to establish a proportionality, that is, a sameness of ratio for two distances and two times. In uniformly accelerated motions, proportionality exists between distances and the squares of the times. How Galileo came to see this is linked with discovery of the isochronism of the pendulum.

The Galileo's trial is generally considered as the prime example of the conflict between science and religion. The author stresses the efforts made by Paul John Paul II to confront the issue, and the fact that the modern Church, however belatedly, deplores such encyclicals as *Mirari Vos*, published by Pope Gregory XVI in 1832, where we find condemned, among many other things, " that absurd and erroneous proposition which claims that liberty of conscience must be maintained for everyone ". The Galileo Affair is a constant reminder that where there is no freedom there is no science and no genuine theology.

Flavia Marcacci has made a substantial contribution to the interpretation of Galileo's achievements, and to the larger implication of the role of science in the development of modern civilization.

WILLIAM R. SHEA

ÉDITIONS, TRADUCTIONS / EDITIONS, TRANSLATIONS

PAOLO D'ALESSANDRO and PIER DANIELE NAPOLITANI, *Archimede Latino. Iacopo da San Cassiano e il Corpus archimedeo alla metà del Quattrocento.* Con edizione della *Circuli dimensio* e della *Quadratura parabolae*. Edizione critica, traduzione, introduzione e note di Paolo d'Alessandro e Pier Daniele Napolitani, Paris : Les Belles Lettres, 2012 [Sciences et savoirs. Bibliothèque de science, tradition et savoirs humanistes I, 371 pp. + XXVIII].

The book under review deals with a very special spectrum of questions belonging to a major issue in the history of science. It has important implications