and Italy's physico-mathematicians, on the validity of heliocentricism when compared to scriptural passages.

But the last word in this collection of essays belongs to Michael Sharratt and George Coyne, S.J, who turn the focus back onto the Galileo Commission and Pope John Paul II's adjudication in 1992. While Sharratt laments the Church's inability to create room to manoeuvre when taking its stance on matters to do with natural philosophy, Coyne, interestingly one of the principal researchers on the Galileo Commission, asks what the Commission's results mean for the future of science and religion. Issues raised by both these authors should be of great interest to scholars studying the complexities of the relationship between science and religion since the seventeenth century. However, once again these chapters do not provide much original insight into the Galileo affair.

Amongst the many academic and popular books recently published about the different facets of Galileo's life, it is difficult to find thorough contextual analyses of the Pisan philosopher's works. This collection of essays certainly goes some way towards providing an intellectual and political context for Galileo's confrontation with the Church between the critical years of 1616 and 1633. In the process, it eloquently responds to the shortcomings in the Galileo Commission. But it misses the opportunity to explore the complex relationship during this period between the mixed mathematical sciences (including astronomy), natural philosophy and theology, and how Galileo shaped his claims within these competing disciplines in his attempt to gain credibility and support from theologians, his Medici patrons, and fellow astronomers in other parts of Europe. Nevertheless, this updated synthesis of new sources and new interpretations of the Galileo affair which have come to light in the past ten to fifteen years, is still an important contribution to our understanding of this episode in the history of early modern science.

Massimo Turatto, Stefano Benetti, Luca Zampieri, William Shea, eds. *1604-2004: Supernovae as Cosmological Lighthouses.* Astronomical Society of the Pacific Conference Series, Vol. 342. San Francisco: ASP, 2005. 512 pp. $77.00. Review by ALESSANDRO GIOSTRA, ACCADEMIA GEORGICA, TREIA.

The proceedings of the international conference, which took place in Padua on 16-19 June 2004 to commemorate the 400th anniversary of the appearance of Kepler's Supernova, are collected in this publication. Part 1 of this volume, "New Stars for a New Astronomy," contains the historical investigations by some leading researchers in the field, who aim at illustrating the importance of that celestial phenomenon for the whole history of science. SN 1604 brought about a great discussion among seventeenth-century astronomers and the contents of that debate render its appearance a pregnant event of the Scientific Revolution.

Kepler's New Star was preceded by other astronomical phenomena, such as SN 1572 and the comet in 1577, which were carefully studied by Tycho Brahe (1546-1601). The research carried out by the Danish astronomer is the subject of the paper by Owen Gingerich, "Tycho Brahe and the Nova of 1572" (3-12). Gingerich, who belongs to the Harvard Smithsonian Center for Astrophysics, reports the words expressed by Brahe in order to point out the importance of that celestial novelty: "I was led into such perplexity by the unbelievability of the thing that I began to doubt my own eyes" (3). The inquiries made by Brahe about that new celestial body were among the factors that brought about the definitive crisis of Aristotelian cosmology. Professor Gingerich succeeds in showing how the appearance of the New Star set the Danish scientist on the way of mathematical astronomy, the scientific arrangement that progressively led Brahe to conceive his own innovative conception of the structure of the universe.

Galileo Galilei (1564-1642) studied Kepler's Supernova as well, and it gave the Pisan scientist the opportunity to deliver three public lectures. Galilei's account of the celestial event, which he gave during his Paduan professorship, is illustrated by William R. Shea, Professor at the Cattedra Galileiana di Storia della Scienza at the University of Padua, in his paper "Galileo and the Supernova of 1604" (13-20). In those lectures Galilei indicated the absence of any parallax in order to prove that the new celestial body was undoubtedly beyond the Moon. Therefore, it was a clear contradiction of the incorruptibility of the celestial world, a basic principle of the Aristotelian natural philosophy. Establishing that there was no difference between celestial and terrestrial phenomena allowed Galilei to propose an innovative point of view regarding the nature of SN 1604: it was a mass of exhalations, coming from the elementary zone, which was going off into the upper celestial areas. Galilei

also relied on the possibility of calculating the annual parallax of the New Star in order to give a mathematical demonstration of the Earth's motion around the Sun. However, the actual distance of the Supernova, which he could not grasp anyway, did not allow him to achieve his aim; so, it was the first of his unsuccessful attempts to construct a proof of the Copernican cosmology. In the last section of his paper, Professor Shea deals with *Dialogo de Cecco di Ronchitti* (*The Dialogue of Cecco di Ronchitti*), a work written in the Paduan dialect. It was issued as a response to the work published by Antonio Lorenzini, an obstinate Aristotelian who had rejected any kind of mathematical evidence to preserve the traditional cosmological worldview. In that dialogue, written by both Galileo and his friend Gerolamo Spinelli, two peasants strongly criticize Lorenzini's theories to emphasize mathematical arguments as the only tool for interpreting any kind of phenomenon. William Shea's contribution manages to illustrate the main points of Galilei's investigation about SN 1604.

Anna Lombardi focuses on the relevance of the New Star in "Kepler's Observations of the Supernova of 1604" (21-29). She touches on the event's appearance in the zone of the celestial vault where the conjunction of Mars and Jupiter was occurring. This led astrologers to causally link the New Star to that planetary meeting. Kepler, however, opposed most of the theories supported by judicial astrologers and their way of investigation. His *De Stella Nova in Pede Serpentarii* (*The New Star on the Foot of the Serpent Bearer*) is the most important work on SN 1604 and it reflects the mathematical arrangement and rational reasoning of his astronomical research. He also advanced an interpretation founded upon his own pragmatic belief in the role of astrology: God has given human beings a good chance to understand the structure of the universe. Kepler was certainly among those scientists who succeeded in seizing that opportunity.

The issue of Kepler's work on the New Star marked the beginning of an intense debate with the astronomer Helisaeus Roeslin (1545-1616), which Miguel Granada discusses in his paper "The Discussion between Kepler and Roeslin on the Nova of 1604" (30-42). Roeslin acknowledged Kepler's value as a mathematician but he trusted in astrological predictions more than his colleague did. Moreover, Roeslin rejected some of Kepler's cosmological principles, such as his belief in the Copernican theory. So, the event of the New Star gave them the occasion for a discussion concerning their general questions on astronomy. From Roeslin's perspective, the New Star was

caused by the aforementioned Mars-Jupiter conjunction, and its appearance seemed to confirm the predictions he had foretold in a work regarding the conjunction's consequences, which he had written in 1597. As a Copernican, Kepler upheld the vast distance between Saturn and the fixed stars in order to establish that SN 1604 could not have been born as an effect of that planetary meeting. Their different approaches to predictions were connected with their visions of the origin of the New Star. Roeslin trusted in the divine causality and in that kind of phenomenon's fatalistic role in universal changes. Kepler, on the contrary, did not deny the possibility of such assumptions, but he did not consider them to be certainties. Thus, he remained wary of the inevitable effect of the celestial event on the emergence of "prophets and other charlatans who are encouraged by the appearance of this star to undertake some new exploit, as if the Lord God had lit this star in the darkness to light them" (38).

In the last paper belonging to the first part of this volume, Z.R. Wang, Y. Zhao, M. Li, and Q.L. Zhou focus on the observations of "SN 1604 in the East" (48-52). In China it was observed one day later, and in Korea three to four days later than in Europe. According to the yearlong Chinese observations, the "Guest Star" was "as large as a pellet bomb" (49) and it finally extinguished on 7 October 1605. The Korean records are very useful to establish the light curve of SN 1604. Both Eastern and Western observations confirm it to be a Type I Supernova. Indeed, it reached the maximum brightness in a few days; then, it maintained that apparent luminance for some days before it started to diminish, growing fainter more rapidly in the first days of diminution.

The essays in the first part of this publication make it a good introductory treatise for students interested in getting a deeper understanding of the discussion on SN 1604. The relevance of that appearance for the whole history of scientific thought could not allow that anniversary to pass unnoticed. Padua was a research centre of great importance at that time and the debate on the New Star confirmed its fame. Therefore, the June 2004 Paduan conference served as the best way to remember that debate as a crucial moment in modern cosmology.