Ilaria Ampollini, *Cronaca di una cometa non annunciata. Astronomia e comunicazione della scienza nel XVIII secolo*, Roma: Carocci, 2019, pp. 200, 21€, ISBN: 9788843093830.

In 1773, Jérôme Le Français de Lalande published *Mémoire sur les comètes*, an essay on comets in which he reviewed those comets that could touch the earth's orbit or collide with it. In this essay he did not refer of any imminent danger, but he asserted the probability that such an event could happen, in a historical period in which this type of calculation was not yet well understood. Lalande was well known because he popularized his papers to the general public. So, the *Mémoire* was soon read by non-experts too and, complicit a suspect of censure about one of his speeches at a conference, its content was misinterpreted, and "*terreur panique*" (panic terror) broke loose. People were convinced that a comet was going to impact on Paris. There were desperate people that spent sleepless nights scanning the sky. Many left the city and moved towards the Swiss mountains, scared about the sea uplift; also for this reason, some took advantage of the situation by selling diving-suits or giving swimming lessons. To keep people calm, Lalande printed the *Réflexions sur les comètes qui peuvent approcher de la Terre*, in which he deleted calculation charts present in *Mémoire* but added the comet tracks tables. This choice was criticized bitterly by the rest of scientific community because it sharpened the sense of fear of the population. For this reason he was accused of creating panic voluntarily, craving for fame. In the meantime panic spread all over Europe, and persisted in the following years every time a real comet transit was foretold. Even Napoleon was forced to intervene in 1798 to calm down the people's fears.

The author of *Cronaca di una cometa non annunciata*, Ilaria Ampollini, analyses events that have the astronomer and astronomy historian, Jérôme Le Français de Lalande, as the main character. He was engaged in the study of planets' orbits, Saturn rings and Jupiter satellites, eclipses, and other celestial phenomena. He was well known in French *salons* and academic circles, so as in London and Berlin communities such as the Royal Society and the Berlin Academy. Though "not having renewed the astronomy history as Copernic and Kepler did" as his disciple Delambre wrote, Lalande stood out for the passion and dedication with which he held the role of teacher and scientific popular author.

The author describes how there were conflicting opinions on the figure of Lalande: was the astronomer's choice in the *Réflexions* due to his passion or for love of fame? Ampollini delves into the subject and shows how this episode cannot be treated as a simple historical anecdote. On the one hand, widespread panic led to open new debates between various scientists and to push towards the knowledge of comets, looking at their tracks, modifying and fixing calcu-

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lations; on the other hand, it gave important material for reflections on the relationship between science and theology. Many were called to question the linkage between the divine providence and the comets' transit. Several scientists and intellectuals reached the conclusion that the collision of a comet with the surface of the earth was hardly possible, but following a personal lines of thought, putting forward different philosophical and scientific arguments.

Ampollini's book shows us new conceptual intermingling by focusing on the lively scientific imagination of the 18th century. She outlines the path followed by Lalande to write *Mémoire* and she evaluates the influence of former or coeval books and authors. Indeed, Ampollini pays special attention to the social effects of scientific communication.

Cronaca di una cometa non annunciata also helps reflections on contemporary issues such as the need to understand the role of scientific communication and the relevance of the kinds of language used to address the general public. The authors of the *Histoire de l'Académie royale des sciences* (1773) wrote in fact that the origin of the short-circuit of the communication between scientists and the public would have been a misunderstanding of an expression by Lalande. On the basis of his calculation he stated that "*il n'est pas impossible*" (it is not impossible) that a comet could impact the Earth. But this expression takes a different meaning whether considered in the scientific or in everyday parlance. If from a scientific point of view it indicates that the physical and mathematic impossibility of an event has not been proved, in the common language it is rather used as synonym of "not very probable". Ampollini closes her book by arguing that it would be stimulating to investigate how the communication of probability and risk has been articulated in the decades immediately after Lalande's heyday, and to promote a historical approach to scientific communication allowing a dialogue on problems that haunted modern history until the present day.

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