

Biographical Encyclopedia of Astronomers

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Hevelius, Catherina Elisabetha Koopman

Baptized Danzig (Gdańsk, Poland), 17 January 1647

Buried Danzig (Gdańsk, Poland), 23 December 1693

Catherina Hevelius assisted her husband, Danzig brewer and politician Johannes Hevel, with his astronomical observations, data reduction, and atlas engraving, and published their important work after his death. The daughter of a wealthy Dutch merchant, Nicholas Koopman, and his wife Joanna (*née* Mennings), Catherina Elisabetha was well educated for a young woman of her time. In the course of acquiring that education, she apparently developed a strong interest in astronomy before the age of 16 and may have visited the Hevelius household and observatory. Hevelius's first wife, Katharina (*née* Rebeschke), also the daughter of a wealthy Danzig citizen, had managed her husband's household and helped with the brewery business to provide him with time for civic involvement and astronomy, but she was not interested in astronomy. Katharina died in 1662

After her marriage to Johannes in 1663, Catherina Elisabetha referred to herself as Elisabetha, likely out of respect for his first wife. It seems possible that, as feminist historians of science assert, Elisabetha married Hevelius, 36 years her elder, in order to further her own interest in astronomy, but it also seems likely that her interest was welcomed by the older astronomer. Elisabetha not only managed the Hevelius household but also acted as his assistant in making and reducing observations, compiling a catalog, and preparing an atlas reflecting those results. In addition to all this, whereas Johannes's first marriage was childless, Elisabetha bore him three daughters, all of whom lived to adulthood, and one son who died in infancy

In September 1679, a fire destroyed the Hevelius home and observatory in Danzig while the family was at their country home. All of the astronomical instruments were destroyed, though some of his valuable library and correspondence were preserved. Most 68-year-old individuals would find such a catastrophe had ended their working career when it destroyed the fruits of their labor. With Elisabetha's help, however, Johannes restored his observatory within 2 years and continued to work, albeit with reduced capacity, until his death in 1687.

By then, Elisabetha had worked with her husband for 24 years. She edited and published two of his great works posthumously. One was a catalog of their observations of 1,564 stars (*Prodromus astronomiae*, 1690), while the other was an atlas of 56 plates showing individual constellation figures (*Firmamentum Sobiescianum, sive Uranographia*, 1690). In the atlas, a number of new constellations had been invented by the Heveliuses, the most famous of which was the small constellation of Scutum Sobieskii, or Shield of Sobieskii, with which they honored the Polish king and acknowledged the substantial financial assistance he provided for the reconstruction of their home and observatory. John North comments that it is possible that some of the plates for the atlas had been engraved by Johannes before his death, but that leaves open the question of the remainder of the plates, including the addition of the new

constellations. P. V. Rizzo attributes the new constellations to Elisabetha on the basis of such logic, but there is no evidence to support that view.

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Selected References

MacPike, Eugene Fairfield (1937). *Hevelius, Flamsteed and Halley: Three Contemporary Astronomers and Their Mutual Relations*. London: Taylor and Francis

North, John D. (1972). "Hevelius, Johannes." In *Dictionary of Scientific Biography*, edited by Charles Coulston Gillispie. Vol. 6, pp. 360-364. New York: Charles Scribner's Sons

Rizzo, P. V. (1954). "Early Daughters of Urania." *Sky & Telescope* 14, no. 1: 7-9.

Schiebinger, Londa (1999). "Maria Winkelmann at the Berlin Academy: A Turning Point for Women in Science." In *History of Women in the Sciences*, edited by Sally Gregory Kohlstedt, pp. 39-65, esp. 59-60. Chicago: University of Chicago Press.