



Johannes Hevelius used several tools to help him study the stars. One of his devices is depicted in this illustration from a German-language book.

Translated into English, the caption says:

Hevelius' quadrant. [Peter] Crüger's large azimuthal quadrant, completed by Hevel [Hevelius] 1644, according to Hevel's Machina Coelestis.

In other words ... this was the instrument which Hevelius had inherited from Peter Crüger which he used to study the heavens. And ... he did it with the naked eye.

Influential astronomers of the day, like Edmond Halley (a rising star at the Royal Society in London), could not believe that Hevelius was really able to get accurate readings with the naked eye ... even if he *did* use a large azimuth quadrant. To test the situation, Halley traveled to Danzig (now Gdansk) where Hevelius lived and worked.

In the spring of 1679, Halley personally conferred with Hevelius. The two men decided to compare notes after using their preferred methods to study the stars. Halley used a telescope, mounted on a quadrant, while Hevelius used his own eyes coupled with his azimuthal quadrant (the instrument we see in this drawing).

Halley was stunned at the accuracy of Hevelius' observations. He told [John Flamsteed](#):

*...as to the distances measured by the Sextans, I assure you I was surpriz'd to see so near an agreement in them, and had I not seen, I could scarce have credited the Relation of any...so that I dare no more doubt of his Veracitye [veracity]. (Edmond Halley to Flamsteed during June of 1679, quoted by Derek Jensen in *The Science of the Stars in Danzig from Rheticus to Hevelius*, at page 246.)*

Unfortunately for Hevelius a tragedy occurred at his home not long after Halley's visit.

At the end of the summer of 1679, Hevelius and Elizabeth (his wife) decided to take a short break outside Danzig's city walls. Their home remained staffed with some servants.

On September 26, one of the servants left a glowing candle in the stable. The lighted candle caused a fire which quickly engulfed the Hevelius estate. All of his instruments were destroyed in the fire, including his azimuth quadrant.

While the offending servant "passed tiptoe through the front house without saying a single word about it" - after the fire started - other household members saved the majority of Hevelius' books by throwing them through the library windows to the ground outside.

Click on the image for a better view.

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Hevelius and His Naked-Eye Azimuth Quadrant

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