Kevin J Kilburn describes how a recently discovered 18th century star atlas can shed new light on old supernovae. Four historical supernovae and several novae are shown in Uranographia although Bevis did not know that these objects had a similar origin. To him they were either unresolved nebulae or “extinct stars”; what we would now call novae, or bright variables, no longer visible. Perhaps he included them in Uranographia in case they reappeared.

In 1731, Bevis discovered the Crab Nebula, perhaps the most famous supernova remnant. Charles Messier did not make his own independent discovery until 1758, giving it the now-familiar designation of M1. The precedent was brought to Messier's attention: Bevis sent him a proof copy of Uranographia some time before Messier published his first list (Mémoires de l'Académie 1771). Although not published in or around 1750 as intended, Uranographia was the first major star atlas to depict the Crab Nebula. After the discovery, the Manchester Astronomical Society bought a modern facsimile of Atlas Celeste, a compilation of several incomplete Bevis atlases. This atlas, probably one of only three almost complete atlases compiled before Neale's bankruptcy in 1749 and auctioned in 1785, contains one of only two surviving sets of the star charts, some incomplete, as Atlas Celeste. Manchester's copy of Atlas Celeste is one of fewer than 20 copies and it is the most complete of these “ghost books”.

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Here I present findings regarding Bevis’s supernovae. Four historical supernovae and several novae are shown in Uranographia although Bevis did not know that these objects had a similar origin. To him they were either unresolved nebulae or "extinct stars"; what we would now call novae, or bright variables, no longer visible. Perhaps he included them in Uranographia in case they reappeared.

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consistent with the HII-rich shell of an expanding and slowly fading SNe II-P outburst.

Here is my summary and interpretation of what Bevis says of Tycho’s Star. At its first appearance, the star was brighter than Jupiter and as bright as Venus. On the morning of 6 November 1572, Venus was shining at magnitude –4.6, opposite Cassiopeia in the sky and at the same altitude as the supernova. Through November the star was visible in daylight. It faded a little in December, to match Jupiter, which was then at magnitude –2.3. The star was losing its brilliance and becoming cream coloured. In January 1573 it became less bright than Jupiter, but brighter than Sirius, and it matched Sirius for February and March. Jupiter was still well placed in the evening, shining at –2.2 during January, Sirius and the stars of Orion and Taurus were also available for comparison. Even allowing for atmospheric extinction, Sirius had an apparent magnitude in negative figures during February and March. The nova maintained comparability with Sirius during this time. It was also deepening in colour through yellowish to red.

From April to May the star became around second magnitude and faded daily. There fading must have been very rapid if it was discernable on a day-to-day basis. As its brightness faded through June, July and August, the star lost its red colour and became dirty white. September, October and November saw it as a 4th magnitude star and at the start of December, Bevis put its magnitude at the same as κ Cass, magnitude 4.2. It then faded to around 5th magnitude and vanished in March 1574.

The new light curve is shown alongside Walter Baade’s interpretation cited in *The Historical Supernovae*, by David Clark and F Richard Stephenson. Stephenson (pers. comm.) concurred that it is not known from where Bevis obtained all his information, although it is possible that it was another section of Tycho’s *Astronomiae Instauratae Progymnasmata*. Stephenson agrees that the Sirius comparisons cited by Bevis are important and ought to be included in future study of the light curve.

At the time of his death on 6 November 1771, 199 years to the day since the discovery of Tycho’s Star, Bevis’s remarkable star atlas was still unknown except to a very few. Even in 1786, with the sale of the enigmatic “ghost books”, few astronomers would have access to his magnificent work, whose obscurity has continued to the present. Only 300 years later can we begin to appreciate its importance.

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Acknowledgments and references
Atlas Celeste Archival facsimiles 1987 Norwich with thanks to Mr Crispin de Boos.
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April 2001 Vol 42

Uranographia Britannica

Tycho’s Star according to Bevis

In the year 1572, a phaenomenon arose in this constellation [Cassiopeia], so very extraordinary, as greatly to excite the curiosity of the astronomers, and the amazement of all beholders. It was a star, which seemed to have blazed out all at once with prodigious splendour.

Wolfgang Schulerus was perhaps the first among the astronomical Literati, who happened to cast his eye upon it, the 6th of November, about 6 o’clock in the morning, at Wittenburg, and believed it to be a comet. He attempted to find its position in the heavens, but his observations were very inaccurate. It was seen by Paulus Hainzelius at Ausberg, on the 7th, and Cornelius Gemma saw it at Lovain on the 9th. Tycho Brahe saw it not before the 11th of November, in the evening, after sunset, at Copenhagen, not far from the zenith, and was so surprised at the sight, that he could hardly believe his eyes.

Hieronymus Munosius, according to Gemma’s translation of his book, which was written in Spanish, says, he was very certain, that it was very extraordinary, as greatly to excite the curiosity of the astronomers, and the amazement of all beholders. It was a star, which seemed to have blazed out all at once with prodigious splendour.

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