Three Interesting 15th and 16th Century Comet Sightings in Kashmiri Chronicles

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Abstract

This note is about three interesting 15th and 16th century sightings of comets in Kashmiri chronicles. We provide reasons for their identification as the 1468 S1, 1531 (Halley’s), and 1533 M1 comets.

Introduction

Indian chronicles have not been properly studied for their astronomical references. In particular, the reports of great comet sightings can help with chronological questions and also provide information that is useful to the astronomer. Here we consider the medieval Kashmiri chronicles, in particular the continuation of the Rājatarāṅgini by Śrīvara and Prājyabhaṭṭa and Śuka, for their comet references. For those who cannot read the original Sanskrit, one may consult Jogesh Chunder Dutt’s English translation (Dutt, 1898).

As background, Kashmir has a long tradition of historical writing. The Rājatarāṅgini of Kalhana (Stein, 1900) gives an account of kings from their mythical beginnings until 1150. Jonarāja, Śrīvara, Prājyabhaṭṭa and Śuka bring the narrative forward to the time of the incorporation of Kashmir in the Mughal Empire by Akbar in 1586.

The dates in the Kashmiri texts are by the Laukika (Saptarṣi) calendar. This calendar begins with 3076 BC, the year starting in March-April (Kak, 2000). The equation of conversion is, therefore,

\[ 4500 \text{ Laukika} = 1424-5 \text{ AD} \]
Comets are a commonly discussed subject in the Indian literature. One of the longest chapters in Varāhamihira’s encyclopaedic Br̥hat Samhitā (505 AD) is on comets (Bhat, 1981). A background to Indian astronomy and its relationship with Mesopotamian and Greek astronomy is available elsewhere (Kak, 2003a, 2003b).

The Comet of 1468

The reign of the good king Zain-ul-abidin (Jainollābhādīna in Sanskrit chronicles), or Badashah, who ruled from 1420 to 1470, is described in the books by Jonarāja and Śrīvara. Jonarāja died in 1459 and the subsequent account by Śrīvara, who was the king’s minister, continues the story.

Śrīvara describes his comet in the last of the seven chapters of the book that he devoted to the king’s reign. (He has three more books describing the successors to this king.) This indicates that the comet made its visitation near the end of the king’s rule. The description sets the stage for the succession struggle between the king’s sons.

Here’s the description of the comet in Dutt’s translation:

A comet was seen at night in the north. Its long tail was of resplendent beauty. For a period of two months the comet was visible in the clear sky. [Page 153]

This is interspersed with the supposed calamitous effects of the comet. For example: “The people saw signs of a severe calamity to the country which had hitherto been happy under good government. [The comet] is the cause of the destruction of men, even as excessive rain is of embankments. The king remained anxious through fear of mischief that might happen.”

Śrīvara does not explicitly mentioned the Laukika year when speaking of the comet. But since the king died in 1470 and the succession war appears to have taken several months, the year 1468 becomes clear. The comet appears at about the winter harvesting, as its appearance comes at about the same time as the entry into Kashmir of refugees from a famine in another, unnamed country. The foreign refugees are likely to have become more numerous the following spring as the text describes. This is followed by a series of events that include the burning of the city of Suyyapura, the death of the queen, the death of the king’s nephew in the province of Sindhu, and the drama of
the struggle for power between his three sons over a period of several months. This brings us to 1470, when the king dies.

In summary, the description suggests that the comet arrived in the autumn of 1468 and it lingered for two months.

A later passage further informs us:

An eclipse of the moon and of the sun took place within a fortnight, as if meant to upset the king and thereby to destroy the kingdom in which there had hitherto been no division. [Page 154]

This provides further evidence that can date the comet.

**Confirmation of the date**

Modern tables on comets confirm that in 1468, comet S1 was first seen on 18 September with the maximum brightness date of 2 October. The comet was visible for 56 days, confirming the approximately stated period of two months by Śrīvara. The magnitude of this comet is estimated to be 1-2.

Calculations of solar eclipses reveal that soon after this period occurred the solar eclipse of 9 July 1469 centered at the latitude of 69.3N and 134.8E with a path width of 380 km and center duration of 4 minutes and 6 seconds. The lunar eclipse of July 24, 1469 (fifteen days later) confirms the other description in the text. Although the eclipses may not have been seen by Śrīvara personally, one must remember that the astronomy almanacs then, as now, provided dates for the eclipses.

**The Comets of 1531 and 1533**

The comets of 1531 and 1533 are described in the book by Prājayabhaṭṭa and Śuka. The year and the month is mentioned. The first of these is sighted in the Laukīka year 4607. The text reads:

In the year 4607, Kāca Cakrapati, intending to fight with the Mārgapatis, moved his army and a comet appeared in the west. [Page 369]
The Laukika 4607 is March-April 1531 to March-April 1532. But since the Kashmiri winters are harsh, one must assume that this movement would have occurred sometime before winter. That makes it the year 1531.

The Laukika year 4608 (1532) has continuing war and the sacking of the towns by foreign invaders from the northwest. Next,

In the year 9, in the month of Jyeṣṭha, the Mughals returned to their country, taking with them by force the wealth of the people, and by treaty the daughter of the king. In this way calamity befell the sinful people of the Satśara country [Kashmir], and a comet was seen continuously in the sky on the east and on the west...

Stars fell from the sky on the fields where the full harvest of rice was ripening, and the comet became again visible. [Page 373]

This second comet foreshadows a terrible famine, caused, no doubt, by rains that destroyed the crops. This second comet, therefore, must have been seen in the rains in July and later.

The comet 1531 was the Halley’s comet that had a maximum magnitude of 1 and was visible starting August 5 for a period of 34 days is clearly the one mentioned first.

The next comet appears to have been 1533 M1, with maximum magnitude of 0, that became visible on June 27, 1533 for a period of 83 days. We see how its arrival is coincident with the ripening rice in the fields. One may imagine that incessant rains beginning mid July, the skies remained overcast and the rice crop was ruined. When the rain stopped, the comet was seen again, for it remained visible until late September.

Discussion

We now know that another bright comet was observed in 1532, but it does not find a mention in the Chronicle. This was the comet R1 of maximum magnitude -1 that became visible on September 2 for a period of 120 days. But this omission is understandable in light of the perilous situation in Kashmir that year. According to the Chronicle, in the month of Agraḥāyaṇa in autumn, the Kāskāra king Saida Khana sent a general with twelve thousand cavalry to sack Kashmir. The reputation for barbarity of the Kāskārians (from the mountains between east Afghanistan and Chitral) being worse than that of
the Turks, the Kashmiris simply fled their homes. The Kāśkārians attacked the twin capital cities. According to the Chronicle, “Hundreds of thousands of low houses were burnt, and the brilliant city became like the ground for burning the dead, fearful to look at its charred wood. Where will kings get two such capitals in which millions had been spent in lime, wood, brick and painting?” [Page 370-1]

The Kashmiri army regrouped in the south and the battles went on, in one area, for three months. Ultimately, after many futile stands the Kashmiris submitted to the invaders.

Having fled their homes, in constant danger for their lives, attention was not given to the arrival of the new comet in the sky.

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