

Stone Inscriptions on Eclipses in Karnataka

B.S. Shylaja

Bangalore Association for Science Education
JN Planetarium, High grounds, Bangalore

M. Chidananda Murthy

Formerly with Department of Kannada, Bangalore University, Bangalore

Abstract

The solar and lunar eclipses have been documented on stone inscriptions in various parts of Karnataka, from the 9th century onwards. The records testify the knowledge of positional astronomy and also the cultural and traditional aspects prevalent in those days. The dates of these eclipse records have been verified and fixed with least ambiguity from astronomical catalogues and calculations.

Key Words : History of astronomy, Dating of eclipses

Introduction

Kannada is one of the ancient languages, whose usage seems to be prevalent much earlier than 3rd century AD. The earliest stone inscription in this is dated to about 450AD, while cross references in stone inscriptions in other languages of still earlier dates are available.

The eclipses have been documented as stone inscriptions in various parts of Karnataka, from about 9th century AD onwards. The records refer to the social and religious events and testify the cult of sun worship in this part of India. This work emerges as the result of a survey conducted by one of the authors (Chidananda Murthy, 1982), in 1980, when the path of totality passed through Karnataka.

The eclipses were treated as special events and it was strongly believed that charities and donations offered on that day would lead an individual to salvation. Further the cult of sunworship appears to have been strongly prevalent in this part of India, contrary to the conclusion of many previous investigators (Srivastava, 1970; Pandey, 1976). The followers of

this cult chose to achieve salvation through self-immolation and usually the occasion chosen was a solar eclipse. This has given ample provision to find eclipse records.

Dating of the eclipses

The records are dated with the help of the dates (according to the Indian Calendar) mentioned therein, or using the other criteria like the mention of the ruler and the stage of evolution of the script. (Epigraphica Carnatica and South India Inscriptions, different volumes).

In this study the mention of the eclipse has been used as a tool to date the inscriptions. In many cases the information on the dates is either lost or incomplete. In other cases, there have been ambiguities in fixing the date, which have been solved by comparing the possible dates with the catalog of Oppolzer (1885).

The starting point for verification of these dates is chosen as the inscription corresponding to 3rd February, 938 AD, from Otur village, Sorab taluk, Shimoga district, because the inscription indicates that it was an annular eclipse (Shylaja, 1997). The word "Valaya Grahana" is used. The names of "Samvatsara" are used to fix the dates of the others. There have been cases where the name of the "Samvatsara" is lost, however, the names of the month are retained. There are some ambiguities; when the record confirms an eclipse, the calculations do not support one. Here the sixty year cycle of "Samvatsaras" is used to check for an eclipse 60 years ahead or prior to the ascribed date.

About 50 eclipse records - 23 solar and 27 lunar - are thus verified and the dates have been fixed with least ambiguity.

The records of self immolation, a ritual restricted to the sun worshipping section of the society, are of special interest, because there is a pictorial representation of the act in a couple of cases.

The scrutinising of these records has been done very carefully in the volumes mentioned above. However there are instances where the mention of the eclipse is not explicitly mentioned. The words "Suryoparaga" or "Somoparaga" (corresponding to the two eclipses) appear somewhere in the text and not along with the date. Therefore one has to read through the text which sometimes may run for two to three pages in praise of the king or the Zamindar.

The records are mostly found in the central part of Karnataka. (see Figure 1) Majority of the records are spaced between the 11th and 14th centuries. Both these factors may be due to a selection effect.

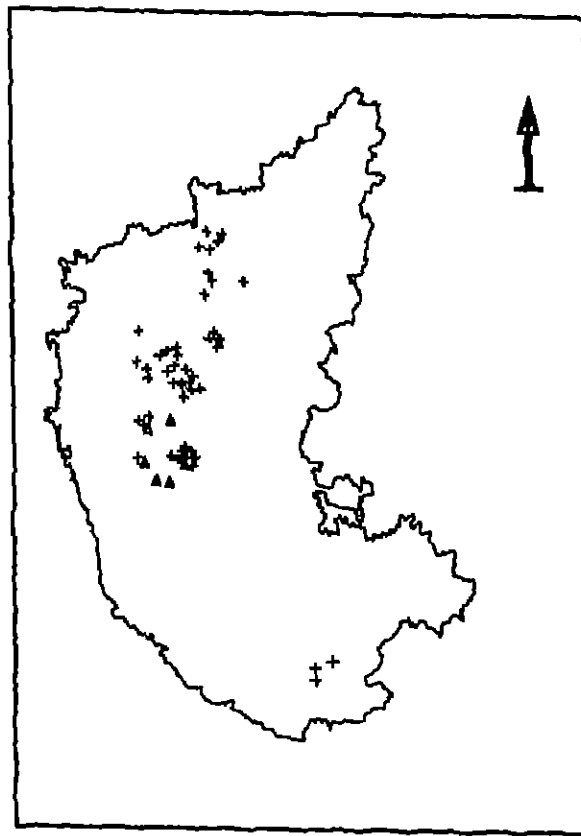


Figure 1 : The regions in Karnataka where the inscriptions are found. General inscriptions with donations, offerings etc are marked by + while the self immolation records are indicated by triangles.

Many old epics of the 12th and 14th century also describe the eclipses, in a very eloquent style. Many other scientific literature of that era bear testimony to the proficiency in positional astronomy.

A long list of sun temples emerges as a consequence of this study. It is possible that these temples were converted to worship of other deities, owing to the cultural and political pressures. A search of these temples and a survey of the inscriptions in them may offer more records.

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References

Chidananda Murthy M., 1982, *Grahana*, IBH Publication (In Kannada).

Epigraphica Carnatica, Volumes V, VI, VII, XIV and XV.

Oppolzer, Th.V., 1885, *Canon der Finsternisse*, Berlin Academy of Sciences.

Pandey L.P., 1976, *Sun worship in Ancient India*, Motilal Benarasdas, Benaras.

Shylaja B.S., 1997, *Bull. Astr. Soc. India* (submitted).

South India Inscriptions, volumes XV and XVIII.

Srivastava V.C., 1970 *Sun worship in Ancient India*, Indological Publications, Allahabad.