# THE COMET OF NOVEMBER, 1948*

THE recent comet which according to newspaper reports was first sighted by the pilot of an Australian air liner on the morning of 7-11-48 is one of the brightest that have been seen since the last appearance of Halley's comet in 1910. At Kodaikanal, on account of unfavourable weather conditions, observations of the comet could be begun only on 11-11-48, but they were continued till 14-12-48, with several interruptions caused by bad weather. By the 14th, the comet had become invisible to the naked eye, and telescopic and photographic observations were also not possible subsequently because of bad weather.

In all, visual and photographic observations of the comet were made on 13 days, while on two other days only visual observations were possible. The results obtained are summarised below. Table I gives the approximate right ascension and declination of the nucleus of the comet as computed from the photographs with reference to the surrounding star field.

From the table it will be seen that the total movement in right ascension from 11-11-48 to 7-12-48 was 3 h. 36 m. (=54°), and that in declination 11°34′. If the observed coordinates are plotted against the corresponding dates (*vide* Fig. 1) and smoothed curves drawn, it will be seen that while

TABLE I

| Date. | Mean time of photograph (hrs. IST). | Right Ascension of comet. | Declination of comet. |
|---|---|---|---|
| | h. m. | h. m. | |
| 11-11-48 | 05 30 | 13 03 | 23° 24′ (South) |
| 12-11-48 | 05 00 | 12 54 | 24° 18′ ,, |
| 13-11-48 | 05 00 | 12 47 | 25° 08′ ,, |
| 19-11-48 | 04 30 | 11 58 | 29° 20′ ,, |
| 21-11-48 | 04 30 | 11 40 | 30° 32′ ,, |
| 24-11-48 | 05 00 | 11 16 | 32° 00′ ,, |
| 25-11-48 | 04 30 | 11 08 | 32° 30′ ,, |
| 26-11-48 | 04 45 | 10 59 | 32° 56′ ,, |
| 27-11-48 | 05 00 | 10 51 | 33° 17′ ,, |
| 28-11-48 | 03 30 | 10 43 | 33° 37′ ,, |
| 29-11-48 | 04 00 | 10 34 | 33° 58′ ,, |
| 1-12-48 | 04 00 | 10 17 | 34° 30′ ,, |
| 7-12-48 | 02 45 | 09 27 | 34° 58′ ,, |
| Total movement in ... | | 3h. 36m. | 11° 34′ ,, |

* Communicated by the Solar Physics Observatory, Kodaikanal.

the rate of movement in right ascension was quite uniform that in declination steadily decreased during the period. The rate of movement in right ascension obtained from Curve I, Fig. 1 is 8·3 min. per day (2°4′·5). Fig. 2 gives a graphical representation of the daily rates of movement in declination obtained by plotting the values taken from Curve II, Fig. 1 against the corresponding dates. The rates taken from the smoothed curve in Fig. 2 are given in Table II.

It will be seen that the rate of movement in declination decreased from nearly a degree per day at the beginning to less than a minute towards the end of the period. Fig. 3 shows the track of the comet against the background of fixed stars. Typical photographs of the comet are reproduced in Fig. 4.

The tail of the comet when first sighted subtended an angle of 28° and was pointing approximately in a southwesterly direction. The brightness of the head at that time was estimated at about 1·5

TABLE II

| Date interval | Rate of movement in declination | Date interval | Rate of movement in declination |
|---|---|---|---|
| 11-12 Nov. 48 | 54 | 24-25 Nov. 48 | 27 |
| 12-13 ,, | 51 | 25-26 ,, | 25 |
| 13-14 ,, | 48·3 | 26-27 ,, | 23 |
| 14-15 ,, | 45·6 | 27-28 ,, | 21 |
| 15-16 ,, | 43 | 28-29 ,, | 18·8 |
| 16-17 ,, | 41 | 29-30 ,, | 16 |
| 17-18 ,, | 39 | 30 Nov.-1 Dec. 48 | 13 |
| 18-19 ,, | 37 | 1-2 Dec. 48 | 10 |
| 19-20 ,, | 35·3 | 2-3 ,, | 7·5 |
| 20-21 ,, | 33·7 | 3-4 ,, | 5·3 |
| 21-22 ,, | 32 | 4-5 ,, | 3·4 |
| 22-23 ,, | 30·4 | 5-6 ,, | 1·8 |
| 23-24 ,, | 28·6 | 6-7 ,, | 0·5 |

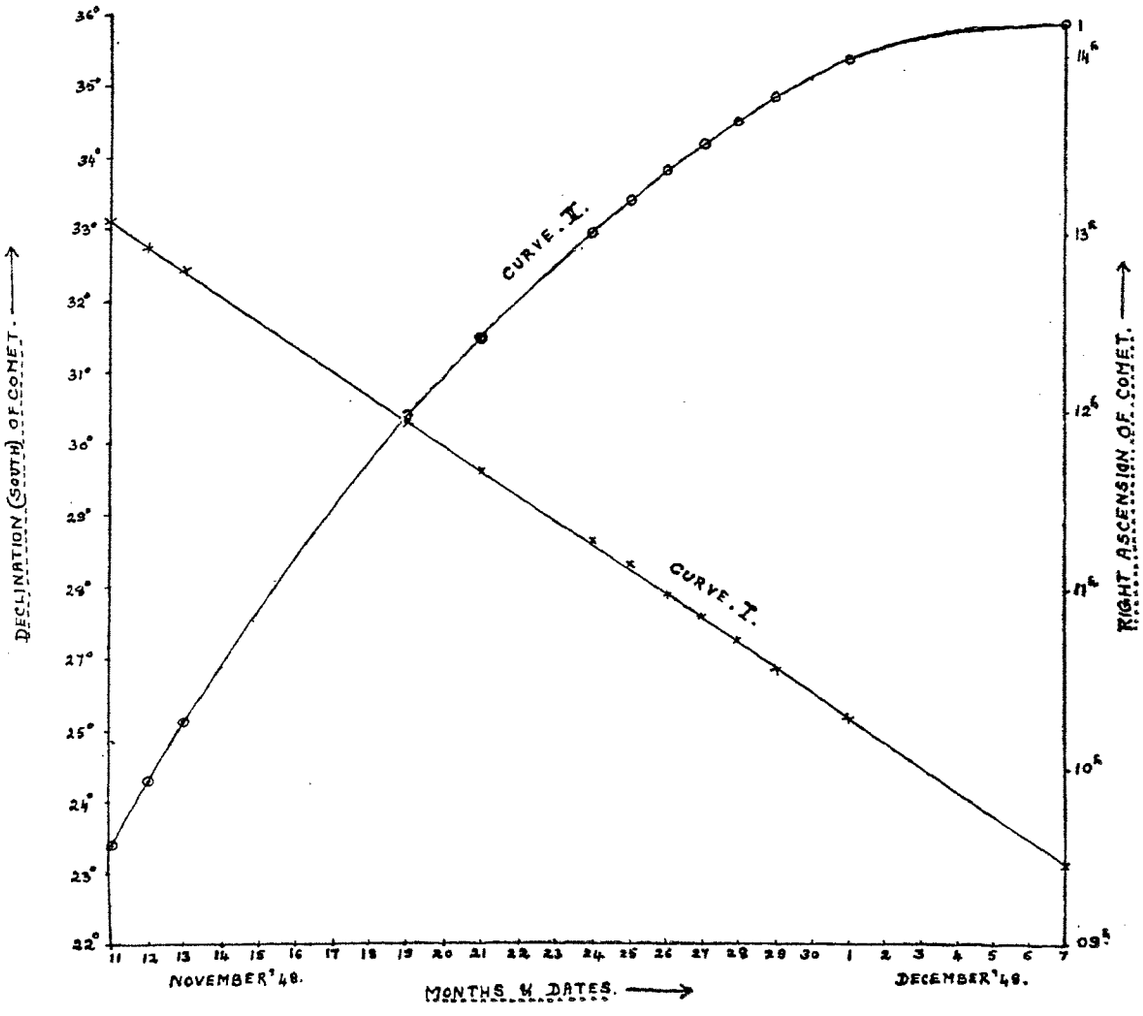


FIG. 1

stellar magnitude. On 7-12-48 when the comet was last photographed it had become very faint (about magnitude 5) and the tail had dwindled to less than 5°. The computed angular distance of the comet from Venus on 11-11-48 was 20°48′, the corresponding figure on 7-12-48 was 73°36′. The direction of movement of the comet was approximately west-southwestwards. On 14-12-48 when the comet was last seen through the telescope at Kodaikanal it had entered the region of the Milky Way.

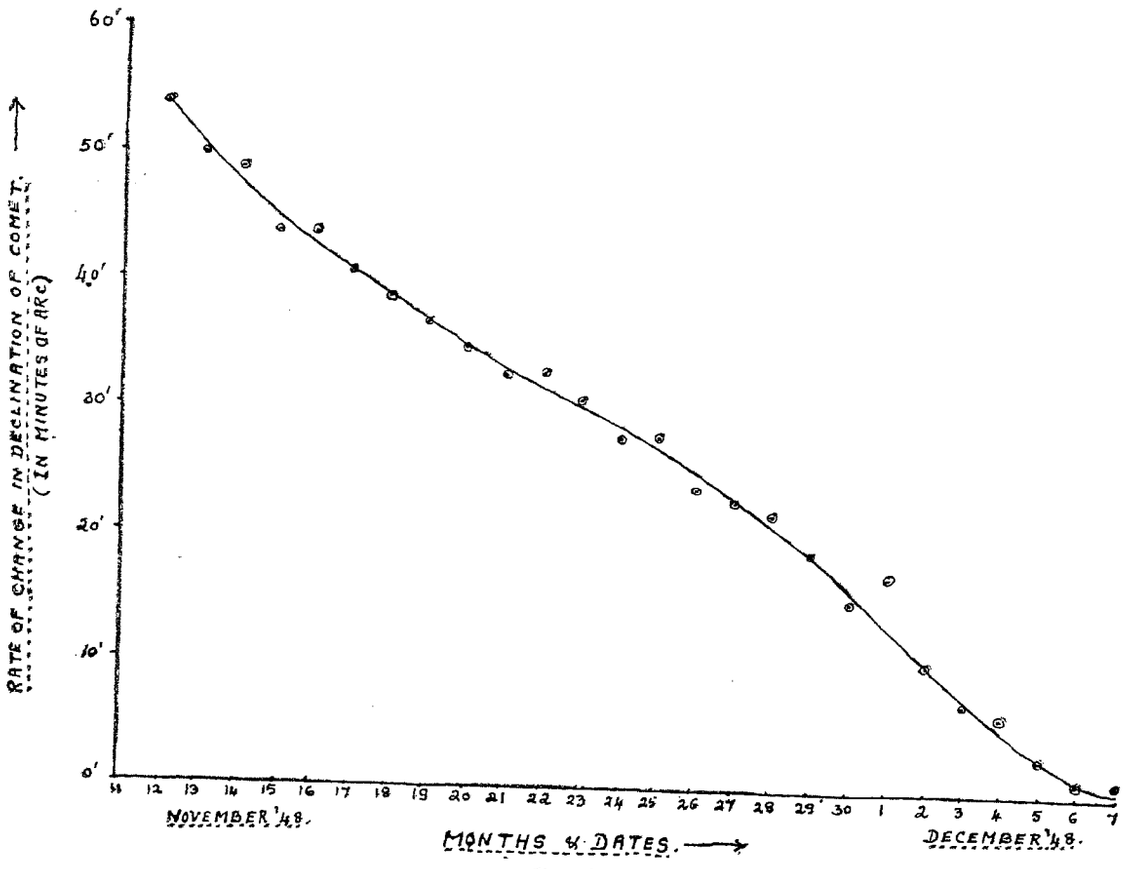


FIG. 2

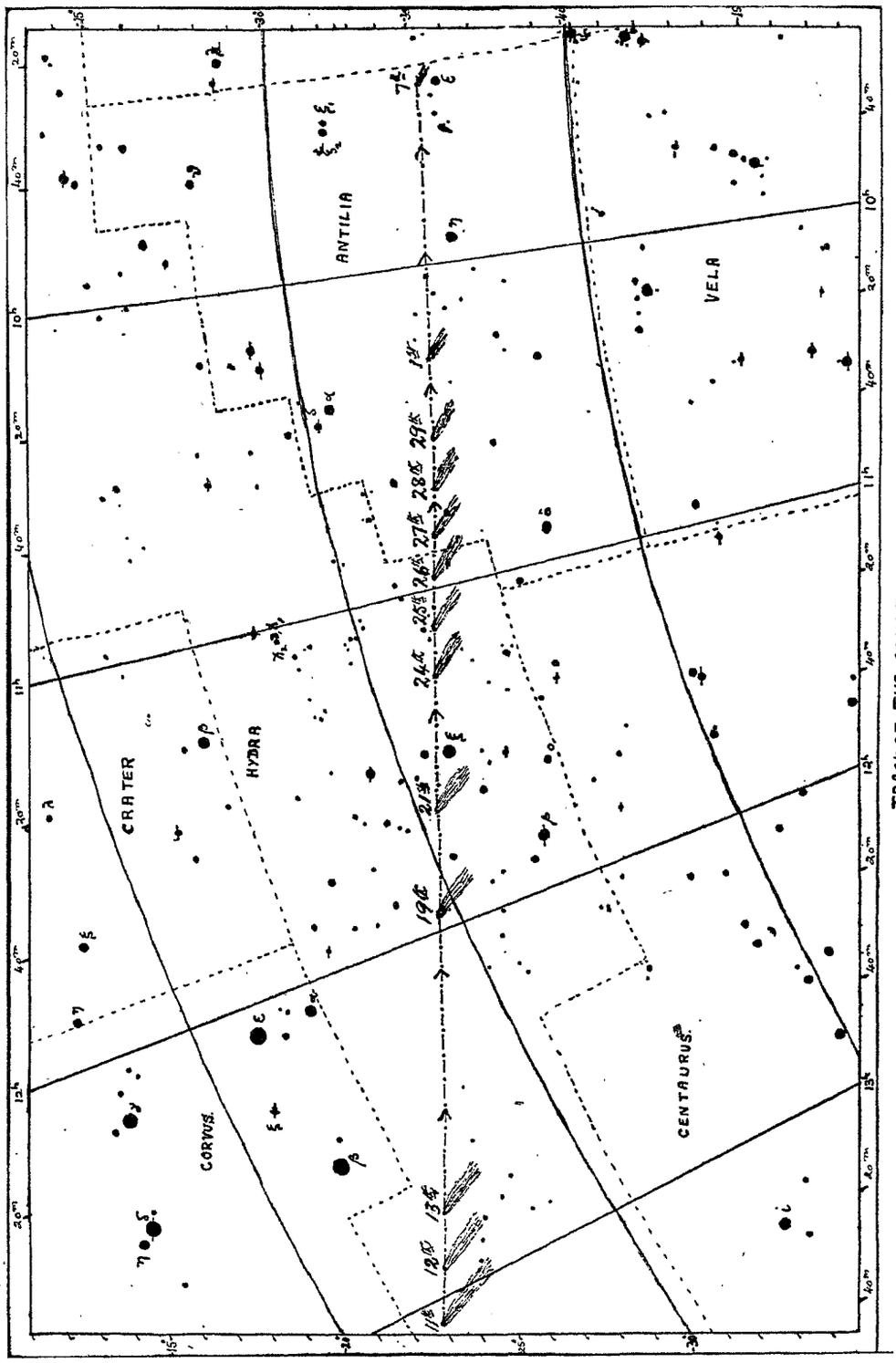
ANTILIA
VELA
CRATER
HYDRA
CORVUS
CENTAURUS
TRACK OF THE COMET.

FIG. 3

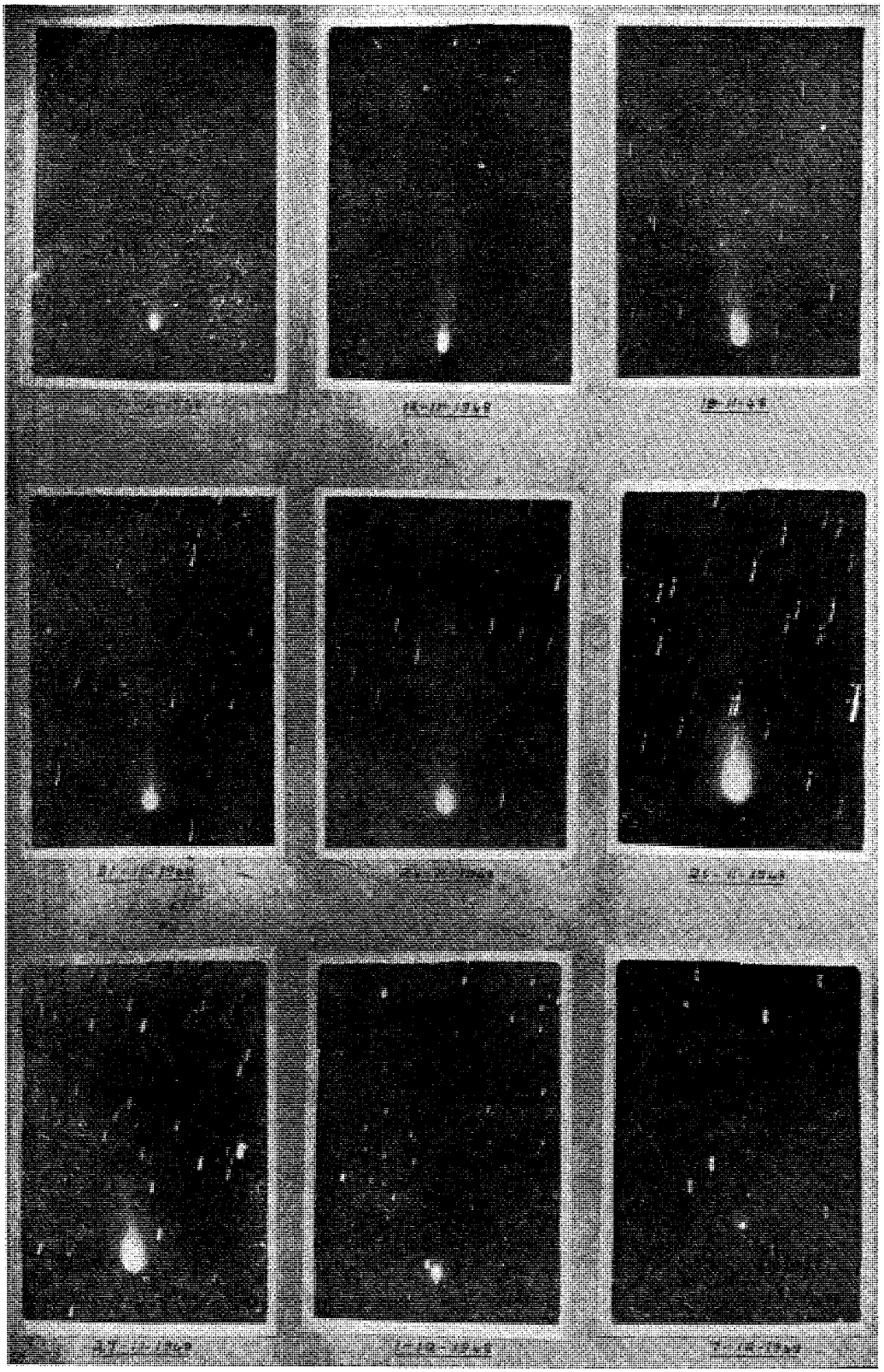

FIG. 4

*Sri Gouranga Press, Calcutta.*