



# The Journal of the Astronomical Society of India.

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VOL. VI.]

SESSION 1916.

Nos. 4, 5 & 6.

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## Minutes of Meetings.

DURING the quarter ending March 1916 four meetings of the members of the Society were held at the Imperial Secretariat (The Treasury) Buildings on Tuesday, the 4th January 1916, Tuesday, the 25th January 1916, Tuesday, the 29th February 1916, and Tuesday, the 28th March 1916. At each of these meetings the President of the Society, Mr. H. G. Tomkins, C.I.E., F.R.A.S., was in the chair.

The receipt of the following publications was announced and a vote of thanks was accorded to the donors:—

Journal of the British Astronomical Association for November and December 1915 and January 1916.

Monthly Notices of the Royal Astronomical Society for November and December 1915.

South African Journal of Science for October and November 1915.

Societed Astronomica de Barcelona for December 1915, January 1916 and February 1916.

Government of India, Meteorological Department, Monthly Weather Review for July, August, September and October 1915.

The Observers' Hand-Book for 1916 published by the Royal Astronomical Society of Canada.

Journal of the Royal Astronomical Society of Canada for December 1915 and January 1916.

Government of India, Meteorological Department, India Weather Review, Annual Summary for 1914.

Gazette Astronomique for 1914, Nos. 9 and 10.

The election by the Council of the following gentlemen as members of the Society was confirmed :—

Mr. Edelji S. Olpad	...	...	Calcutta.
Mr. G. R. Kaye	...	..	Simla.
Captain Leo F. Bodkin	...	...	Gyantse, Tibet.

The papers read at the meeting are published in this issue.

## A few considerations concerning the Chemical and Physical State of Comets.

BY THOS. DEIGHTON, B.Sc. (VICT.)

THESE visitants to the solar system were originally regarded as omens of evil, though the great comet of 1066 seems to have been regarded as a favourable omen by William the Conqueror. In the time of Aristotle they were considered to be of terrestrial origin and so did not come within the ken of the astronomer. In 1577, however, Tycho Brahe pointed out that the observations of the position of the comet of that year with reference to other stars taken at his own observatory at Uranienburg in Denmark were sensibly identical with those of an observer at Prag; and that hence the comet must have been much more distant than the Moon. Since that time these bodies have proved a constant puzzle to astronomers, more especially as regards their physical condition, which forms the subject of this paper.

The physical condition of these bodies presents many curious paradoxes. They are subject to the laws of gravitation, yet parts of them are very strongly repelled from the Sun. They shine partly by reflected light and are partly self-luminous. They are of huge extent in space, yet their mass is exceedingly small.

Before proceeding further let us recount the physical properties of comets as we know them. Practically all comets