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Synopsis: Adelaide Philosophical Society changes to S.A. Royal Society, report on comet

Summary: Todd presents report on comet explaining lack of full detail due to incapable instrumentation, poor atmospheric visibility and staff missing. Suggests staffing should better. Compares to Cambridge comet 1850-1.

ADELAIDE PHILOSOPHICAL SOCIETY.

The ordinary monthly meeting of the Adelaide Philosophical Society was held at the South Australian Institute on Tuesday, March 2. <clip>

<clip> PROPOSED ALTERATION OF TITLE. The CHAIRMAN said that in order to facilitate the operations of the Society it had been thought advisable to change the name of the Society by adopting the title of "Royal Society of South Australia." <clip>

<clip> Mr. Todd, C.M.G., suggested that it would be advisable first of all to communicate with the Royal Societies of the neighbouring colonies, and to ask to be furnished with a copy of the memorial adopted by them when they took similar steps. After a short discussion the matter was postponed for the present. <clip>

<clip> THE RECENT COMET. Mr. C. Todd, C M.G., read a paper entitled "Notes on the Comet of February, 1880." He illustrated his address by exhibiting diagrams showing the various successive nightly appearances and positions of the comet as seen from the Observatory. The following extract taken from his paper will be read with interest :— "You will no doubt expect to receive from me some account of the fine comet which during the first half of last month formed so conspicuous an object in our evening sky. I regret that I have not very much to tell you about it, and I fear I cannot tell you much more than you already know ; but it is only proper that what little I have to say should appear on the records of this Society. Owing to the extreme faintness of the nucleus, and its low altitude at first, very few measurements could be taken, and these extend over so short an interval as to afford no data for determining even approximately its orbit. <clip>

<clip> I mention these circumstances partly because you will no doubt have seen remarks complaining of the little information I gave the public respecting the comet, and reproaching me for not sooner detecting the nucleus. I think that what I have told you will suffice to show that the nucleus was not a very easy thing to see, especially when it was low down in the mists of the horizon, and the atmosphere on the horizon was very thick and unfavourable for the week or ten days after the tail was first seen. It happened, unfortunately, too, that I was all alone, the Assistant-Astronomer (Mr. Ringwood) being absent in Tasmania, and only returned on the morning of the 16th. <clip>

<clip> but my young assistant (Mr. Cook), who has very sharp eyes, <clip>

<clip> I see that Mr. Jones, of Gawler, says he first saw what he believes to be the same comet some weeks earlier. "It was then [I use his own words as published in the paper] mistaken for a nebulous star about 8° east of the nebula minor, and that three days later the same object was 2° to the eastward, had become brighter, and had assumed an oval configuration." I fail to identify this object with our recent visitor, and must express my regret that Mr. Jones did not announce his discovery of a new comet at the time. I shall be glad now to receive particulars of his observations. Mr. Jones further appears to think that the comet of 1880 and Faye's comet are one and the same. Now, I was fortunate enough to observe Faye's comet in 1850 and 1851 at Cambridge. We were the first to rediscover it on November 28, 1850, and followed it up till the month of March following. It was excessively faint, even through the 12-inch Northumberland telescope, and was, I think, seen at only two other observatories — Cambridge in America, where they got two observations, and at Berlin. It bears no resemblance to the late comet, and has a different orbit. It reaches its perihelion in November this year." Mr. Todd added that on the following night he would recommence searching for the comet, although he had very little hopes of finding it. It would have been useless to look for it during the recent moonlight nights. He would like to mention one thing in which he was interested. He

thought that it was extremely undesirable that the Observatory department should remain in such a position as that, when the assistant was away, the whole department should be left entirely to himself. He also had the management of another very important department. It was only on such occasions as when a comet came into view, or when some astronomical phenomenon occurred, that the public at large took any interest in the operations performed at the Observatory, but these were none the less of daily importance on that account. He had availed himself of the opportunity afforded him by the transit of Venus to induce the Government to vote money for an equatorial, and he was sure that that vote had been wisely expended— (Hear, hear)— and last session he had succeeded in getting £1,000 voted for the transit circle. He wished to see the Observatory department placed upon a proper and respectable footing. He had recently urged upon the Government the desirability of appointing another assistant in addition to Mr. Ringwood. This second assistant should be competent, upon occasion, to take upon himself the whole of the work of the Observatory. He would still be happy to give the Government the advantage of his thirty eight years' experience in directing the operations of the Observatory, and in devoting his leisure to the carrying out of various observations and calculations. The Society had supported him always in the past, and he knew that he could rely upon their sympathy and support in his present endeavours. <clip>

<clip> Professor Tindall's theory of a body of vapour of great tenuity, made luminous by the operation of actinic rays of light from some light-giving centre, and afterwards being destroyed by the heat rays, was referred to, but Mr. Todd considered that this theory did not satisfactorily account for the curvature of the tail and many other peculiarities observable in comets. His opinion as to the nature of their peculiar light was that it consisted partly of internal and partly of received or absorbed light. Spectrum analysis proved that the nucleus of comets possessed self-luminous vapours, but no experiments with the spectrum had yet been carried out with the tail of any comet. Mr. Ingleby thought that the consideration of the circumstances of the rapid fading away of the comet might lead to useful discoveries respecting the constituent elements, &c, of these celestial phenomena. In reply to a question, Mr. Todd stated that the various obstacles in the way of obtaining clear observations of the recent comet had prevented him from being able to calculate its distance from the sun, but, speaking roughly, and by no means committing himself to the statement, he should say the distance was under fifty millions of miles. Reference was made to the frequent recent occurrence in our skies of large and brilliant meteors, and the theory that showers of meteors usually followed the appearance of a comet was briefly alluded to. A suggestion was made that in the statistical and general records now being compiled by the Society as much information as was possible should be obtained respecting meteoric appearances, and the Secretary promised to note the suggestion. A cordial vote of thanks was accorded to Mr. Todd for his interesting paper. The meeting then adjourned.