R. Ll. Jones—C. V. Raman's physics professor at Presidency College Madras

R. K. Kochhar

Chandrasekhara Venkata Raman joined Presidency College Madras in January 1903 and spent four years there, obtaining his BA degree in 1904, and MA in January 1907. According to Sir C. V. Raman's biographer 'The professor of physics at that time was one R. Llewellyn Jones, a kindly gentleman but otherwise undistinguished'[1]. This description of Jones (1865–1932) is not quite correct, because he was a wrangler from Cambridge; a Fellow of the Royal Astronomical Society; a Fellow of the Madras University; Government Meteorologist, Madras; and Deputy Director of Madras Observatory[2,3].

Richard Llewellyn Jones was born at Pempompren, Uchaf-Talybout, Cardiganshire, Wales, on 12 June 1865. He was educated at the British School, Talybout; and subsequently at Ardwyn House School, Aberystwyth, from where he gained a scholarship to Corpus Christi College, Cambridge. After graduating as wrangler he was appointed assistant master at Dulwich College. He held this post for about a year at the end of which he was appointed professor of physics at the Government Presidency College Madras[2], which he joined on 4 October 1889[3].

From 1891–92 onwards he features in the records of Madras Observatory. The Observatory at Nungambakkam was an important scientific centre of Madras and naturally invited interaction from the colleges in Madras. Thus Charles Michie Smith, BSc, Professor of Physics at Madras Christian College, assisted the Astronomer Norman Robert Pogson (director 1861–91) in observations and succeeded him in 1891 when Pogson died[4].

In 1891–92, Jones offered to undertake the publication of hourly magnetical observations that had been made way back in 1841–45 and 1856–60 but had not been published[4].

Jones 'exercised a supervision over the work at the Observatory' during the absence of the Government Astronomer. When Michie Smith went to England 17 May–9 October 1895 for work in connection with the proposed Kodaikanal Observatory, Jones acted as the Government Astronomer[4]. In December 1895, Jones was elected Fellow of the Royal Astronomical Society, his name having been proposed by C. Michie Smith himself. On 1 January 1897 he was admitted into the Indian Educational Service[3] (he passed an examination in Tamil). Jones was a member of the Madras Observatory eclipse team that observed the solar eclipse of January 1898 from Shahdol (now in Madhya Pradesh), where Sir W. H. M. Christie, the Astronomer Royal, and Professor H. H. Turner were also stationed.

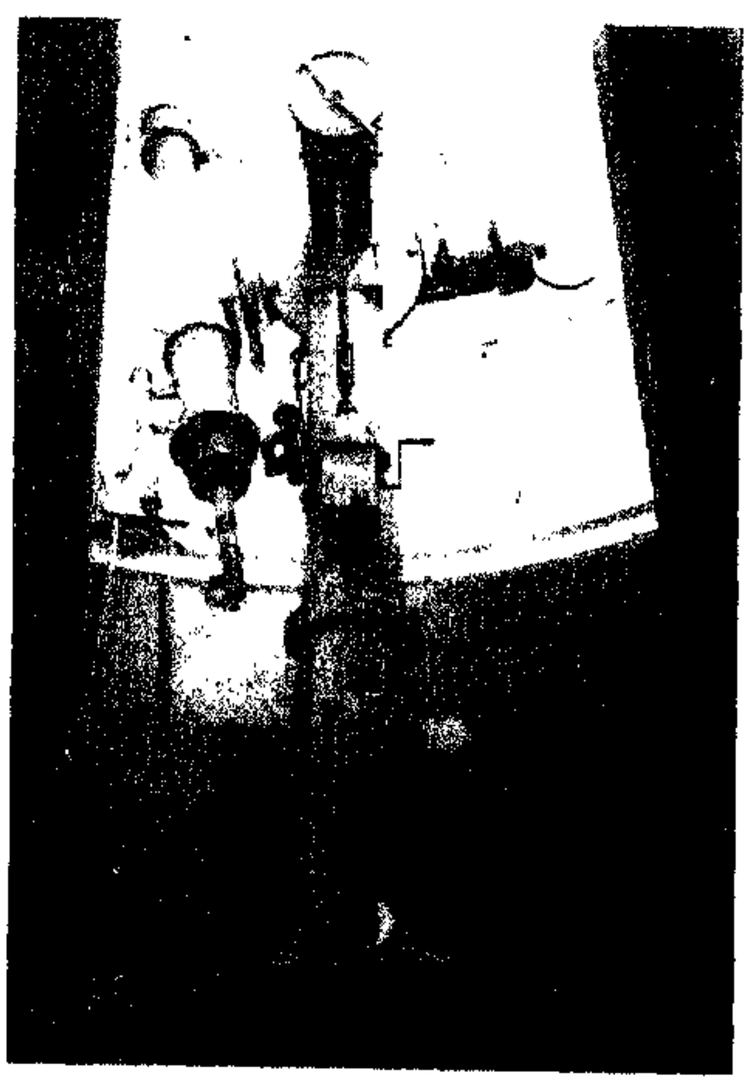
'Mr Jones undertook special observations regarding the polarization of the corona with apparatus specially designed for the purpose'[5]. Jones' polariscope consisted of a stereoscopic camera, with lenses of 7 inches focus, in front of each of which was mounted a Nicol's prism. These prisms were fitted into brass holders which gripped the nozzles of the lens mountings. One of the Nicol's prisms could be turned round step by step through angles of 30° each. The camera was borrowed from somebody, the plates were provided by Madras Observatory, and the prisms came from the physical laboratory of the Presidency College Madras[5].

Jones planned to take four photographs of 4-second exposure by keeping the prism inclined at 0°, 30°, 60° and 90°. Unfortunately he could take only the first two photographs, because the second slide containing the plates for the third and the fourth photographs got jammed. 'This is to be regretted, as the negatives secured are insufficient to solve as fully as I could wish the questions connected with the polarization. If however we assume that the polarization is radial—a matter which previous observations leave in little or no doubt—then these two sets are sufficient to determine what fraction of the total light from each part is polarized.' Professor Jones took these negatives with him to England when he went there on furlough, 'where I hope to have facilities for measuring them'[5].

His results however do not appear to have been published.

On 1 April 1899 there was a reorganization with the setting up of the Kodaikanal Observatory. Madras Observatory now confined itself to meteorological observations. Astronomical work ceased there, except for transit observations for time-keeping. Charles Michie Smith moved over to Kodaikanal as director of both the observatories. R. Ll. Jones was appointed part-time Meteorologist, Madras, and Deputy Director of Madras Observatory, where his job was to oversee the work done by the Indian assistants[6]. In November 1899 he made observations of the Leonid showers of meteors, which were included in Michie Smith's report in the *Monthly Notices of the Royal Astronomical Society*[7].

Professor Jones was a Fellow of the Madras University and a member of the



The 8-inch telescope by Troughton and Simms (with lens by George Merz) at Kodaikanal Observatory. The photograph is undated but was presumably taken in 1960 when the telescope was installed in the south dome on a mounting vacated by a 6-inch refractor of 1898 solar eclipse vintage by T. Cooke & Sons. The telescope was in use at Madras, 1866–1931.

board of studies in 'mathematics and natural philosophy' as well as in 'physical sciences'[3]. Jones left India in 1919 to retire the next year. He died on 3 March 1932, at the age of 66 years[2].

Apparently Professor Jones was intelligent enough to recognize the genius of his student Raman, and literally leave him to his own devices[1].

As can be expected, because of Professor Jones' association with the Observatory, or even otherwise, young Raman would have visited the Observatory. This is indeed so as Professor S. Ramaseshan confirmed[8], recalling his conversations with Sir C. V. Raman.

Raman was a regular visitor to the Connemara Public Library, and did visit the nearby Observatory, where he was thrilled by the view through the telescope (see note 9 and photo). Raman retained an interest in astronomy throughout his life.

1. G. Venkataraman, *Journey into Light—Life and Science of C. V. Raman*, Indian Academy of Sciences Bangalore, 1988.
2. *Mon. Not. R. Astron. Soc.*, **93**, 229, 1933.
3. Almanack and Directory for the year 1908, Lawrence Asylum Press, Madras.
4. Madras Observatory Annual Reports.
5. Report on the Madras Observatory for the year 1897–98 and on the eclipse expedition of January 1898.
6. During his 16-month absence on leave May 1907–September 1908, Prof. E. B. Ross of Madras Christian College officiated. For his part-time work Jones got a monthly allowance of Rs 200 and free house at the Observatory. As a professor he was getting Rs 1000 in the pay-scale of Rs 500-50-1000 and a personal allowance of Rs 200 (ref. 3). In comparison Michie Smith's salary at Kodaikanal was Rs 800 plus a free house.
7. *Mon. Not. R. Astron. Soc.* **60**, 262, 1899. This is the first publication from Kodaikanal Observatory.
8. *Note by Prof. S. Ramaseshan.* I did not know of the existence of the Madras Observatory but a rather amusing incident related to me by Raman's aunt Gnanambal clearly indicates that Raman did visit this observatory.

It is known that Raman bicycled to the Connemara Public Library twice a week. Raman's aunt told me that on one such day he was very late coming home and was stinking because he had fallen into a drain. After a quick bath and a meal he took her to the open and showed her Jupiter shining in the firmament and told her that he had seen the moons of that planet that evening. She was of course very sceptical and asked me whether the planet Brhaspati had moons.
9. This was an 8-inch aperture refractor by Troughton and Simms (lens by George Merz, Fraunhofer's successor). Installed in 1866 it remained in Madras till 1931, when it was shifted to Kodaikanal, where it was erected in 1961 in the south dome, on a mounting vacated by another telescope (R. K. Kochhar, Indian Institute of Astrophysics Brochure, 1986).
10. I thank Prof. S. Ramaseshan for useful conversations.

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