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WILLEM DE SITTER, 1872-1934

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With Plate I

THE world of astronomy suffered a great loss when Willem de Sitter died on November 21, 1934. He was born at Sneek in Friesland, one of the most northerly provinces of Holland, on May 6, 1872. He began his astronomical career in the Astronomical Laboratory at Groningen of which J. C. Kapteyn was director. Groningen is about forty miles north-east of Sneek. As is well-known, David Gill of the Royal Observatory at the Cape of Good Hope, following the success achieved there in photographing the great comet of 1882, spent four years in photographing the southern heavens and his plates were measured at Groningen over a period of fourteen years, the result being the Cape Photographic Durchmusterung—and numerous important discoveries. De Sitter was at Groningen from 1891 to 1897. When he went there he did not expect to become a professional astronomer but intended to be a mathematician. Gill, when on a visit to the Groningen Laboratory in October, 1896, invited de Sitter to go to the Cape observatory and give assistance in some of the investigations awaiting discussion there. At that time de Sitter was engaged on an examination in connection with his Ph.D. degree and he did not arrive at the Cape until August, 1897. He remained there over two years. While there he performed some observational work on a photometric programme initiated by Kapteyn and also on parallax determinations; but his main interest was in the discussion of observations on the system of Jupiter. This entailed a great amount of calculation and consideration.

PLATE I



PROFESSOR AND MRS. WILLEM DE SITTER

From a photograph by C. A. Chant taken on November 19, 1931, at the home of Professor
E. F. Burton, Weston, near Toronto, Ont.

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In 1908 de Sitter was made professor of astronomy at the University of Leyden and in 1919 he became director of the observatory, the origin of which was in 1633. Under him it was completely re-organized into three divisions: (a) Fundamental astronomy of position or astrometry, (b) Astrophysics, (c) Celestial mechanics or theoretical astronomy; and it is one of the great astronomical centres of the world.

He returned to the satellites of Jupiter again, and from observations of Jupiter made from 1913 to 1922 at the Cape, Greenwich and Leyden, he made a thorough discussion of the system; and indeed from this theoretical work he improved the numerical values of the elements of the solar system, such as the mean radius of the earth, the precession of the equinoxes, nutation, solar and lunar parallax, and the structure and rotation of the earth.

Perhaps he is best known, however, as an investigator of Einstein's Theory of Relativity. Einstein's paper on the General Theory appeared in 1915, and next year de Sitter contributed three important papers on the theory and its astronomical consequences. His examination of it led to the view that the very distant stars and nebulae should show "red shifts", such as would be produced by recessional velocities, a result confirmed by the enormous velocities of the extragalactic nebulae observed in recent years. The very fact that a hypothesis proposed by him has been called the "de Sitter universe" is a tribute to his pre-eminence in the discussion of the difficult cosmic problems. In 1931 he was awarded the gold medal of the Royal Astronomical Society for his theoretical investigations on the orbits of the satellites of Jupiter and for his contributions to the theory of relativity.

De Sitter's mind was of a rare type. It ranged over a wide field and yet penetrated deeply into the very fundamental nature of the things on which observations had been made and which required interpretation.

In the autumn of 1931 Dr. and Mrs. de Sitter came to America and visited a number of centres. They were in Toronto from November 16 to 20. Dr. de Sitter gave two lectures on cosmical problems to representative audiences at the University, a third one on the rotation of the earth to the undergraduate Mathematical

and Physical Society, and also a popular one in Convocation Hall under the auspices of the Royal Canadian Institute and the Royal Astronomical Society of Canada. They were all well attended and fully appreciated. Dr. de Sitter's excellent command of the English language was a subject of comment, but those who were present at the meeting of the International Astronomical Union at Leyden in 1928 will remember how President de Sitter conducted the assembly in English but freely addressed the delegates from France and Germany in their own language. Perhaps he could have used other languages as well. Indeed on one occasion I suggested to him that he could make a speech in Latin. That he would not acknowledge; but after observing the facility with which Latin was used at a special convocation at the University of Leyden I felt confident that de Sitter could express himself in that language also.

During their stay in Toronto Dr. and Mrs. de Sitter were welcome guests at the home of the present writer and charming visitors they were. Dr. de Sitter had world-wide—indeed cosmos-wide—interests and conversed interestingly on many topics. In the leisure minutes he would read German verse or other literature. Mrs. de Sitter came from Java, in the Netherlands East Indies, and while occupying a position as teacher in South Africa met Dr. de Sitter. Her linguistic attainments were quite on a par with those of her husband, and she was well informed on art and on recent English literature of any note.

Dr. de Sitter was tall, with broad shoulders, well befitting one who carried on them “universe B”, as he called his theory; but his constitution was not very rugged. Some years before he had been afflicted with chest trouble, but had recovered, and with care his health was good. I have not heard the nature of his last illness. All will regret the termination of his brilliant career at the comparatively early age of sixty-two.