ised by great care and thoroughness, of which his monumental *Treatise on the Mathematical Theory of Elasticity* is perhaps the best example. His lectures were carefully prepared, and one of his former pupils tells of the way in which he would illustrate his lectures on dynamics by the use of a large gyroscope, which he brought with him in a taxicab (in later years at any rate). Throughout his residence in Oxford he was a member of the Common Room of The Queen's College, of which college he became a Professorial Fellow in 1927.

In the early years of this century he made a number of important contributions to the theory of the propagation and scattering of electric waves. Of his papers that have a direct or indirect astronomical interest the following may be mentioned:—

On Dedekind's theorem concerning the motion of a liquid ellipsoid under its own attraction (1889).
On the oscillations of a rotating liquid spheroid and the genesis of the Moon (1889).
On Sir William Thomson's estimate of the rigidity of the Earth (1894).
The gravitational stability of the Earth (1908).
Note on the representation of the Earth's surface by means of spherical harmonics of the first three degrees (1908).
The yielding of the Earth to disturbing forces (1909).

The last three are linked with the subject-matter of the Essay *Some Problems of Geodynamics* that won for Love the Adams Prize in 1911. As it happens, the best-known result in that Essay is one that stands a little aloof from the general programme. There was an outstanding difficulty in fully accepting Oldham's interpretation of the "Long-wave phase" in earthquake records as the arrival of waves travelling over the surface of the Earth. The only type of surface wave that theory had hitherto predicted was the Rayleigh wave, in which there is no displacement in a direction lying in the surface and transverse to the direction of propagation; yet a typical seismograph record has strongly marked transverse displacements in the long-wave phase. It was Love's discovery of the possibility of the existence of transverse waves in a heterogeneous medium (Chapter XI of the Essay) that resolved the seeming discrepancy; for these waves the term Love Waves was introduced by Jeffreys, and although printers' readers have been known to query it from time to time this name is well-established in seismological literature. It was in the 1909 paper just cited that Love introduced the numbers h and k, expressive of the yielding of the Earth to tidal forces and the corresponding disturbance of the gravitational potential; these are sometimes referred to as "Love's numbers."

In addition to the two books already mentioned, Love was well known for his text-book *Theoretical Mechanics*. Those who were privileged to receive their first introduction to differential and integral calculus through Love's elementary text-book will readily acknowledge their gratitude.

Love received from the Royal Society a Royal Medal in 1909 and the Sylvester Medal in 1937. In 1926 he was De Morgan Medallist of the London Mathematical Society, of which he was Secretary 1890–1910 and President 1912–13. In 1927 he was elected an Honorary Fellow of St. John's College, Cambridge.

R. STONELEY

EDMUND NEVILLE NEVILL was born at Beverley, Yorkshire, on 1849 August 27, and was educated at Harrow and New College, Oxford. He acquired an early interest in science, particularly in astronomy and chemistry, and was elected a Fellow of the Society in 1873 under the name of Edmund Neison, having the curious idea that it was derogatory to the holder of an ancient name to make a career in science.

In his early years his astronomical work was mainly in selenography. His observations of the Moon were made at his private observatory at Hampstead with a 6-inch equatorial of fine definition and later with a $9\frac{1}{2}$-inch With-Browning reflector. In 1876 he published a large volume, *The Moon and the Condition and Configuration of its Surface*, in which he incorporated the results of observations by Mädler, the Rev. T. W. Webb and others, as well as by himself. He had revised the great lunar map of Beer and Mädler, with the aid of his own sketches and sketches supplied to him by other amateur observers, and he had made numerous measures of position of the various lunar formations, as well as of their dimensions and brightness. This volume did much to stimulate an interest in selenography and still remains a recognised authority.

Nevill was also interested in the theory of the motion of the Moon. In his first paper on this subject, communicated to the Society in March 1877, he confirmed the reality of an inequality in the longitude of the Moon, produced by the action of Jupiter, which had been discovered by Professor Newcomb in the previous year; he determined the coefficient of this inequality and obtained a value very near the truth. The theory of the Moon's motion was at this time in an interesting stage. There was an increasing discordance between observation and the positions of the Moon computed from Hansen's Tables, which had been published by the British Admiralty in 1857. Newcomb in 1878 concluded that either the theory was inadequate or the rotation of the Earth was subject to fluctuations of irregular character. The immediate need was the perfection of the theory of the Moon's motion, in order to decide whether important terms had been omitted from Hansen's Tables or whether the coefficients were in need of revision. In 1877 Nevill published in the *Memoirs R.A.S.* a lengthy paper containing the theoretical foundation on which to base a complete analytical development of the lunar theory, devised to simplify the older methods of treatment. In 1884 he published another long memoir on the corrections required by Hansen's Tables.

Meanwhile Nevill had gone to South Africa as Government Astronomer for Natal. There had been under consideration for several years a proposal for the establishment of an observatory in Durban. The observatory was started in 1882, with the aid of sums voted by the Corporation of Durban and by the Legislative Council of Natal, a Grubb 8-inch equatorial being presented by Mr. Harry Escombe. Mr. (later Sir David) Gill, H.M. Astronomer at the Cape, had been consulted and Nevill received an urgent telegram from Gill, offering him the post of Government Astronomer. He sailed almost on twenty-four hours' notice on 1882 October 27, reached Durban on November 27 and, in accordance with instructions furnished by the Colonial Secretary, he took possession of the Observatory on December 1 as Astronomer to the Natal Government. On December 6 he obtained successful observations of the transit of Venus, for which the conditions were exceedingly fine.

Nevill had planned a programme of work comprising various observations to obtain data for perfecting the Tables of the Moon. The observations were to include a determination of the parallactic inequality; a study of the systematic effects of irregularities of the limb on the apparent place of the Moon; the effect of irradiation on the apparent diameter; and the determination of the real libration of the Moon. Meanwhile he continued assiduously his investigations in lunar theory. Memoirs were planned dealing with the mathematical investigation of the theory of the terms of long period in the expression for the Moon's longitude produced by the disturbing action of the planets, and with the calculation from theory of every term of long period exceeding in maximum value one-tenth of a second of arc.

But lack of financial support soon made itself felt and work had more and more to be restricted to routine observations—determinations of time for the provision of a time-service, meteorological and tidal observations. In 1888 Nevill was appointed Government Chemist and Official Assayer for Natal, and combined this office with that of Government Astronomer until his retirement. He had always been interested in chemistry, and in earlier years he had been amongst the younger Fellows of the Chemical Society who agitated for the establishment of an Institute to represent the profession of