on his return called on Michell, an astronomer of distinction and originality. In 1802 he went to Paris and met Messier, Delambre, Laplace, Count Rumford and Napoleon. In 1816 he was knighted by the Prince Regent. In 1820, when the Astronomical Society was founded, he was made its first president. He was too feeble to attend the

meetings, but allowed his last paper to be published in the *Memoirs of the Society*. He died at Slough on August 25, 1822, and was buried in the Church of St. Lawrence at Upton.*

* In the preparation of this article, I have used to a great extent the admirable introduction to "The Scientific papers of Sir William Herschel" written by Dr. Dreyer, and am also indebted to a conversation with Dr. W. H. Steavenson.—F. W. D.

Obituary Notices

Sir Robert Mond, F.R.S.

ROBERT LUDWIG MOND, the elder son of the late Dr. Ludwig Mond, F.R.S., was born at Farnworth, near Widnes, Lancashire, on September 9, 1867, and was brother of Alfred Moritz Mond, the late Lord Melchett. He was educated at Cheltenham and at Peterhouse, Cambridge. Later he worked at the Polytechnicum, Zurich, and at the Universities of Edinburgh and Glasgow, and had the privilege of being private assistant to Sir William Thomson (Lord Kelvin). His first wife, the mother of his two daughters, died tragically in Egypt in 1905; and he married in 1922 Marie Louise Le Manach, of Belle Isle en Terre, Brittany.

In consequence of his varied training in the physical sciences and the atmosphere of his home, Robert Mond had an extraordinary wide outlook on scientific problems; so that, while never becoming a specialist in any one branch, he was able to contribute materially to the solution of problems in these subjects. On proceeding to Winnington, he had the privilege of working not only with his father but also with such distinguished collaborators as Carl Langer and Friedrich Quincke. He assisted in the investigations leading to improvements in the production of zinc by the electrolysis of zinc chloride, and to the discovery of nickel carbonyl, the basis of the process for the production of pure nickel. In the course of time, Robert Mond was called upon to assume positions of responsibility in various organizations arising from the exploitation of scientific investigations at Winnington. He joined the board of directors of Brunner, Mond and Company and the Mond Nickel Company, of which he subsequently became chairman.

In connexion with the exploitation of the nickel mines at Sudbury, Ontario, Robert Mond identified himself with the Royal Ontario Museum, Toronto, of which he became trustee and to which he gave considerable sums of money and also enriched by valuable contributions arising from his archaeological investigations in Egypt. His absorbing interest in archaeology dates from about 1898, when, shortly after his marriage, he had to spend winters out of England for health reasons. In his earlier days, Robert Mond was a keen mountaineer, and later, although never of sound physique, his unusual vitality made it possible for him to undergo physical

strain which always surprised those who knew him intimately.

In 1910, Robert Mond went to live at Combe Bank, Sevenoaks—one of the first houses to have electric lighting installed—with its model farm and laboratories originally intended for his father's use. Characteristically and with his usual vigour, Robert Mond took up, for him, new investigations in agriculture, including stock-breeding, and it was from here that he supplied with milk the Infants Hospital in Vincent Square founded as a memorial to his late wife. The late Prof. H. E. Armstrong used to maintain that Robert Mond was the first to appreciate the meaning of 'pure' milk and to conduct his experiments on a satisfactory scale.

It is difficult to give an adequate account of Robert Mond's scientific and industrial interests. His scientific greatness lay not so much in what he himself discovered or achieved but in what he did to make it possible for those to achieve who were less fortunately placed. Especially after his father's death, he regarded his wealth and position as a trust to be used in the advancement of knowledge and appreciation of beauty, and through that of international peace and fellowship, and he worked incessantly to achieve this ideal.

The large number and extent of Robert Mond's benefactions will probably never be known to the outside world, and if by chance he happened to mention any one of them to an intimate friend one felt that he had been guided by his ideals rather than by the mere amelioration of a difficult financial situation. Some of them in Great Britain are known. There is his large benefaction to the University of Liverpool, of which he held the honorary LL.D. degree. Another typical example of what he has done for the advancement of scientific knowledge is his work for the Royal Institution. Sir Robert Robertson, the honorary treasurer, has written:

"By the same deed of trust (1896) of Ludwig Mond in which he conveyed the Davy-Faraday Research Laboratory and its endowment to the Royal Institution, Robert Ludwig Mond was named Honorary Secretary of the Laboratory Committee for life. When in London he came occasionally to the meetings of the Committee and read the minutes. To the equipment and furnishing of the Davy-Faraday Laboratory, he gave much thought and travelled over the Continent and in America studying arrange-

ments of laboratories and purchasing apparatus for his father's foundation. Although forty years have passed since the laboratory was fitted up according to his designs, the arrangements of benches and of electrical distribution are still in use. At the celebration of the centenary of Faraday's discovery of electricity from moving magnetism (1931), he represented the Faraday Society and gave £5,000 towards the reconstruction of the theatre. His interest in the Davy-Faraday Laboratory continued unabated and recently he gave £2,000 to its funds. He also caused to be collected and printed a list of workers in the laboratory from 1896 to 1932 with their publications. The Royal Institution has lost a good friend."

It is interesting to note that Robert Mond's knowledge of the Royal Institution and the unique place it occupies as a scientific centre guided him to a large extent in what he did later in Paris. Much more recently, he gave a sum corresponding to the amount he gave to the Maison de la Chimie in Paris to the funds of the National Council for Chemistry. Like his father, keenly interested in the documentation of scientific knowledge, he hoped that this might be a nucleus from which the more satisfactory documentation of chemical literature and, possibly, a British 'House for Chemistry' might arise.

In celestial chemistry, and other related branches of astronomical research, Robert Mond also took keen interest and encouraged in many ways. He was one of the seven original subscribers to the Hill Observatory Corporation, registered in 1916 to establish an observatory at Salcombe Regis, Sidmouth, Devon, the name being changed in 1921 to the Norman Lockyer Observatory, in memory of the distinguished astronomer who founded it. He became chairman of the corporation twenty-one years ago and occupied that position when he died. Since its foundation, the Observatory has been equipped and maintained entirely by private donations, and Robert Mond was one of its chief benefactors. Six years ago, he generously presented to the Observatory a completely new form of photographic equatorial telescope, which he termed an 'astronomical robot' for the photography of extensive celestial fields with long exposures and on different scales.

In recent years, Robert Mond became as much at home in France as in Great Britain. This was partly a result of his ardent desire to improve international understanding among scientists generally and chemists in particular. In France, he was a generous benefactor of the British Institute in Paris, and he worked wholeheartedly for the France-Grande Bretagne Association. Our French colleagues realized his unique qualities and honoured him (and us) by electing him president of the Société de Chimie industrielle, an office which he held at the time of his death.

The founding in Paris of the Maison de la Chimie as a memorial to Marcelin Berthelot appealed to Robert Mond intensely: in his own words, "L'idéal que matérialisent ces bâtiments a permis de créer mieux qu'une maison: un état d'esprit international. Et c'est cette foi commune qui, loin des luttes de la politique, cherche à élever toujours plus haut les

manifestations de l'intelligence scientifique et le rayonnement du génie humain." He became Membre du Conseil d'Administration de la Maison de la Chimie and, apart from contributing 1,000,000 francs to its funds and, in order that its future and development might be secured, he founded and became president of the Société des Amis de la Maison de la Chimie. What he did for the Maison de la Chimie was typical of many other benefactions in France, all carried out in the spirit of furthering the accomplishment of his ideals. France fully recognized the high quality of his efforts, and none of his friends were surprised at his promotion from 'Officier' to 'Commandeur' de la Légion d'Honneur. In 1937, he was elected Membre de l'Académie des Inscriptions et des Lettres, becoming Membre de l'Institut de France.

Robert Mond received the order of knighthood in 1932. Of his election this year to the fellowship of the Royal Society, he was immensely proud. His letter to the present writer contained the following sentence: "To be considered worthy of admission to the same distinguished Society which recognised my father is the greatest honour I could receive." Arrangements had been completed for conferring on him, by the University of London, the rare distinction of the honorary D.Sc. degree.

Robert Mond's interests in human knowledge and progress were so wide that it is difficult to realize how he found time and strength to maintain them. Recently he suffered considerable physical disability, but his amazing spirit and the constant care of Lady Mond carried him through. In spite of ill-health, he never hesitated to accept an office to which arduous duties were attached when he believed that thereby he might contribute to the realization of his ideals. The international character of the meetings of the Faraday Society was a deciding factor in accepting its presidency, and his interest in photography and especially in colour photography from his early days led him to accept the honorary treasurership of the building appeal (now in progress) of the Royal Photographic Society.

Robert Mond died at his Paris residence on October 22. All who knew him and enjoyed his friendship will warmly endorse the sentiments so ably expressed at the funeral by Prof. Auguste Béhal and Louis Hauzeur. The ashes are interred at Belle Isle en Terre. To Lady Mond and to the family we can only express our deepest sympathy and feel proud that we have been privileged to know a great man who described himself as "un serviteur modeste mais dévoué de la Science".

CHARLES S. GIBSON.

In the passing of Sir Robert Mond, Egyptology has lost one of its most generous supporters, as well as a most devoted student. Ever ready to help in financing explorations in the field, he himself took the keenest pleasure in the actual work of excavating and enjoyed nothing better than being at the bottom of a tomb-shaft, sifting the sand with his own hands in the hope of finding some hidden treasure.

It was my privilege to meet Mond first at his father's house in London in 1896, and when he