lines. Being possessed of sufficient private means, Bles was therefore finally led to avoid all official posts, and for nearly twenty years he worked, first at Iffley, Oxford, and later, until the end, at Cambridge, in private laboratories equipped by himself. This involved, of course, some degree of isolation, and the additional factor of weak health finally led him to become scientifically somewhat of a recluse. In visits from scientific friends, however, he always took the greatest pleasure, and, to the end of his life, those who had the privilege of paying such visits profited always from contact with a truly philosophic mind and a stimulating personality. His wide learning was at the service of all.

Born in 1864, he was the son of A. J. S. Bles of Manchester. When fourteen years old he was sent to a school in Hanover where the teaching of science seems to have been exceptionally good. Family interests led him at the age of eighteen years to start in his father's business at Manchester; but his own interests directed him from the first into scientific company. He joined the Manchester Microscopical Society and became its secretary. Thus arrived the turning-point of his life. He came under the influence of Milnes Marshall, who saw his bent and genius, and for whom Bles then acquired, and ever afterwards retained, great love and admiration. He joined the Owens College, attended Milnes Marshall's classes, and in 1890 became, with his teacher, joint author of papers dealing with the development of amphibia, a subject which for some time remained one of his chief scientific interests. About this time he went to occupy a table at Naples and returned to carry out the duties of junior demonstrator of zoology at the Owens College. From 1892 until 1894 he was Director of the Marine Biological Association's Station at Plymouth. He went up to Cambridge in 1895 and took a research degree in 1898. When Prof. J. Graham Kerr was appointed to the chair of natural history at Glasgow, Bles accompanied him as his assistant and remained at the University until 1907, when he went to live at Iffley, Oxford.

In 1911 Bles removed to Cambridge. Before his last migration his scientific reputation had been made by the publication of important papers; especially by one which appeared in the *Transactions of the Royal Society of Edinburgh* in 1905 on the life-history of *Xenopus Lævis*, and another dealing with the development of certain Anura published in the volume issued by the Cambridge University Press as a memorial to John Samuel Budgett. Of these two papers describing work of fundamental importance, Prof. W. E. Agar writes: "They are very characteristic of Bles' work and scientific attitude. He would take an immense amount of trouble over the smallest detail, lingering over it with a loving care. . . . The plates in these two papers could scarcely be surpassed, either for accuracy of detail or beauty of execution—the result of laborious co-operation between the author and the artist, Mr. A. K. Maxwell. It is worthy of note that these plates contain the first scientific illustrations produced by this artist whose work is now so well known to biologists." The interest of the artist in such work must have been stimulated by his early collaboration with an investigator like Bles, whose own love of accuracy and beauty of execution were so great.

After his Cambridge laboratory was equipped, Bles started to breed various species of rare amphibia, a difficult enterprise in which he had the assistance of his devoted wife. This work was carried out with elaborate care and led to most interesting scientific observations, especially with regard to certain little-studied aspects of metabolism, to the significance of which Bles was keenly alive. The most important work of his Cambridge period had been begun at Oxford. It consisted of an elaborate and highly original study of Arcella by microchemical methods, during which Bles developed a very beautiful technique and obtained results of great importance. Unhappily, the inhibitions to which reference has been made became exaggerated in his latest years, largely because of continued ill-health, and the results of this prolonged research, though known to many, have not yet appeared in print. A paper was practically finished, however, and very fine drawings are available for its illustration. Its publication will be secured in the immediate future under arrangements made in the author's will.

Bles was not merely a scholarly biologist in a very wide sense, he was also a man of fine general culture; music, literature, and the arts all made a vivid appeal to him. He had, moreover, a true sense of values and a very beautiful appreciation of the relative importance of things. His knowledge was of the widest, but so philosophic was the cast of his mind that synthetic thought was essential to him. He endeavoured always to see things as a whole. F. G. HOPKINS.

PROF. V. A. STEKLOV.

PROF. VLADIMIR ANDREJEVICH STEKLOV, member and vice-president of the Russian Academy of Sciences, an eminent and well-known mathematician, died at Ialta (Crimea) on May 30.

Steklov was born in 1863 in the province of Nishni-Novgorod as the son of a country priest. He attended a classical school at Nishni-Novgorod and afterwards entered the University of Moscow to study medicine, but he soon left Moscow and went to Kharkov to study mathematics under Liapunov and became his most gifted pupil and lifelong friend. He graduated at Kharkov, took the usual degrees of magister and doctor of mathematics, and was appointed professor at this University. His first work, "On the Motion of a Rigid Body in a Fluid," was published in Russian in the *Memoirs of the Mathematical Society of Kharkov*. In this paper he found several new 'integrable' cases of this problem. His thesis for his doctorate was "On the Principal Problems of Mathematical Physics." Such problems formed the basis of his subsequent numerous investigations, extending over a period of nearly thirty years. In these investigations he established his "théorème de fermeture," relating to the development of arbitrary functions in infinite series of "fundamental functions" depending on the roots of transcendental equations. Such expansions occur frequently in mathematical physics, the Fourier series being the simplest special case. Steklov introduced the necessary rigorousness into the problems of mathematical physics, in proving the existence of the solutions and the conditions of convergence for the series used. He summarised his researches in a treatise "On

the Differential Equations of Mathematical Physics" recently published by the Russian Academy of Sciences in two volumes. The complete list of his scientific papers contains about 120 items. These papers are published mostly in French, in the *Memoirs of the Russian Academy of Sciences*, the *Annales de l'École Normale Supérieure*, the *Annales de l'Académie de Toulouse*, and others.

As a lecturer Steklov was widely known while he was professor in the higher branches of theoretical mechanics and mathematics, first at Kharkov and then at St. Petersburg (now Leningrad).

Steklov was elected a member of the Russian Academy of Sciences in 1910, and in 1919 became vice-president of the Academy. The task of the vice-president was at that time a most difficult one. The vice-president is responsible for all the administrative work of the Academy and of its numerous institutions; he has to control the yearly expenditure and to superintend the proper use of the funds. Steklov proved to be just as able an administrator as a man of science: with open mind, sound judgment and firm hand, he steered the Academy safely through the hardships of the years 1919–22. A. KRILOFF.

WE regret to announce the following deaths:

Miss Gertrude Bell, oriental secretary to the High Commissioner of the Iraq, Baghdad, since 1920, and distinguished for her travels in and knowledge of the peoples of Arabia, on July 11.

Mr. A. G. Charleton, past president of the Institution of Mining and Metallurgy, and author of numerous works on ore-mining and treatment, on July 7, aged sixty-eight years.

Mr. W. Temple Franks, C.B., lately H.M. Comptroller-General of Patents, Designs, and Trade Marks, on July 4, aged sixty-three years.

Mr. F. Harrison Glew, M.B.E., a pioneer in the utilisation of radium and its salts for the preparation of luminous paint and other purposes, on July 10, aged sixty-eight years.

Sir Peter Scott Lang, emeritus professor of mathematics in the United College at the University of St. Andrews, on July 5, aged seventy-five years.

Dr. George R. Lyman, dean of the West Virginia College of Agriculture at Morgantown and previously pathologist in the Bureau of Plant Industry at Washington, D.C., on June 7, aged fifty-five years.

Rev. T. R. R. Stebbing, F.R.S., the distinguished naturalist and worker on Crustacea, on July 8, aged ninety-one years.

News and Views.

ON July 7, in the presence of a large and representative gathering in a spacious marquee, Mr. Neville Chamberlain laid the foundation stone of the new London School of Hygiene and Tropical Medicine, the result of a gift of 2,000,000 dollars from the trustees of the Rockefeller Foundation. The chairman of the Board of Management, Sir Alfred Mond, in introducing Mr. Neville Chamberlain, reviewed the steps which had led to the foundation of the School. He pointed out that the former Chancellor of the Exchequer, Sir Robert Horne, had recognised the great importance of such an institution and had agreed that the British Government should make itself responsible for its maintenance. As a result of representations made by Mr. Neville Chamberlain to the present Chancellor of the Exchequer the building was being expedited, a grant of 5000*l.* per annum being made by the University Grants Committee and one of 4000*l.* per annum from the Rockefeller trustees for immediate developments. He was able to announce that though Sir Cooper Perry is retiring from the post of Principal Officer of the University of London, his services are being retained on the Board of Management of the School, of which he has consented to be vice-chairman. Mr. Ormsby-Gore, Under-Secretary for the Colonies, in a most lucid and convincing manner, spoke of his recent experiences on a tour of the colonies and his conviction that hygiene and sanitation are the most vital of all the problems connected with the future development of the vast territories under the charge of Great Britain. The importance of a school like that being founded in London could not be overestimated.

MR. NEVILLE CHAMBERLAIN said that the building, the foundation stone of which he was to lay, was a result of co-operation between the two great English-speaking nations. It had been noted that the teaching of public health in London is carried on in a number of separate institutions, and it was realised that its concentration in one school would undoubtedly conduce to greater efficiency in teaching and research work. It was further realised that public health is not only necessary in the British Isles, but is of even greater importance in the tropical possessions of Great Britain. It was this fact which led to the incorporation of the London School of Tropical Medicine, founded in 1899 by Mr. Joseph Chamberlain. The new School would deal with hygiene in its widest applications, and before it lies a future in which it would not only be of national but also of imperial and even world-wide importance. It is probably destined to be famous as the greatest centre in the world for research and instruction on one of the most beneficent of all the activities of the human race. Reviewing the departments of the new School, Mr. Chamberlain said these would comprise: (1) Physiology; (2) chemistry and bio-chemistry; (3) bacteriology and immunology; (4) epidemiology and vital statistics; (5) medical biology; (6) sanitary science and public health in general. The School would be fitted with the latest types of apparatus and equipment, and would develop a great teaching museum in graphic form, intended not only for the student of hygiene but also for those of the general public who would care to visit it. With this programme before it there is every prospect that post-graduate students would gather from all parts of the world, and there can be little question that men and women will receive the best possible instruction in the methods of disease prevention. After the foundation stone had been laid Dr. Andrew Balfour, Director of the School, presented Mr. Neville Chamberlain and Mr. Ormsby-Gore with seals as mementoes of the