

that relate to special subjects only, and (2) common subdivisions that may be added to any item of the classification. For example, general operations in photography are made into a group of special analytical subdivisions that are available for arranging matter relating to any of the various photographic processes. The numbers representing such subdivisions are preceded by a zero. For example, toning is one such division, represented by 0235, and this number can be added to any of the numbers representing a photographic process—thus 77·21 denotes silver processes in general, and 77·21·0235 means toning in relation to processes based on the use of silver salts.

Besides these special subdivisions that relate to particular parts of the classification, there are five tables of common subdivisions that may be used in any connexion. The first relates to the form of the publication, and is developed from the general subdivisions of the Dewey scheme described above, the numbers being enclosed in parentheses. Thus (05) represents a periodical, so that a magazine restricted to acetylene welding, for example, can be indicated by adding (05) to the number for that process as 665·882(05). Table II. comprises the geographical subdivisions. These are also enclosed

in parentheses. Thus (493) denotes Belgium. Consequently sulphuric acid manufacture in Belgium would be 661·25(493). Table III. has subdivisions by language and Table IV. by time. The fifth of these common groups includes all subdivisions corresponding to general points of view. These are indicated by numbers commencing with a double zero; e.g. 00311 represents net cost of the raw materials. If it is desired to classify a paper on that aspect of the sulphuric acid industry, it would be numbered 661·25·00311; and these ten figures represent an idea requiring eleven words to express it in English.

By such a logical extension of Melvil Dewey's scheme it was converted into a beautiful bibliographical tool of the greatest power that is suitable for work of the finest detail; and in order that the classification may be kept up-to-date, a Commission was established to issue additions as needed. From time to time, with the progress of science and invention, new divisions become necessary and are published by the Commission. Or, an expert who discovers the need may suggest a considered extension of the scheme, and if this is drawn up in accordance with the principles of the classification, it will be incorporated.

Obituary.

PROF. E. H. RENNIE.

TIME irresistibly takes its terrible toll and the names left upon the roll of our old guard are now very few. The Australian mail just in brings me a copy of the *Adelaide Register* of Jan. 10, with an account of the sudden death of my old friend, Prof. Edward H. Rennie. He seemed to be in good health but on Saturday, Jan. 8, going into the garden, he took a drink of water, lay down—and just died. A few days previously, I had received a long chatty letter from him, dated Dec. 20. In this he speaks of having had a very strenuous year and feeling somewhat played out. During the first six months, he had been acting vice-chancellor of the University; then came the University jubilee and after this the meeting at Perth, of the Australasian Association for the Advancement of Science, of which he was president. Added to this, he had much anxiety on account of the illness of his wife and daughter. He tells me of the journey across the arid region to Perth, lasting three days. At one part, the railway runs in an undeviating straight line, nearly 400 miles, across flat desert, where nothing was growing, he says, over about 2 feet high, the horizon being unbroken by a single tree or elevation of any kind. People seldom realise how much of Australia is country of this order. "Aboriginals were seen here and there almost in their primitive condition, except that they wore clothes."

Rennie's first communication to the Chemical Society was made with Alder Wright. He then worked with me at the London Institution. The record of our work appeared only in the *Chemical News*. I was greatly attracted to him and was hoping to secure him as my chief assistant at the

Finsbury Technical College, at the opening in 1883, but a more tempting offer came from home and he returned to Australia in 1882. Two years later, he became professor in Adelaide University. I visited him in 1914, reaching Adelaide a week ahead of the Association, in order to stay quietly with him. I then gained some idea of the man's devotion to his post and the great burden of work upon his shoulders. Rennie's services to his University as a teacher cannot be over-rated. He was extraordinarily thorough, deliberate and exact in his outlook and work, a most painstaking teacher. His scientific services to Australia are also to be ranked very high, though unfortunately, owing to the calls upon him as teacher and administrator, he had but little spare time for original inquiry. He devoted himself particularly to the study of native materials. Perhaps his most interesting discovery was that of trihydroxymethylnaphthaquinone in *Drosera Whittakeri*.

Australia is remarkable for its numerous species of long trailing *Drosera*. Rennie and I spent a delightful day in the hills behind Adelaide and nothing interested me more, in my journey around the continent, than his digging up the *Drosera* tubers and showing me the beautiful glistening crystals of the hydroxyquinone present in the outer layers. Why or wherefore such a compound should so come to the surface in a plant is difficult to say.

We spent another day on the seashore tracking down *Lotus australis*, which I was anxious to compare with our *corniculatus*. We found it in quantity, highly cyanophoric, very like the dwarf plant growing at Ballantrae in the sandhills. I fancy *corniculatus* must have wandered to the Antipodes and changed its name.

Australians are in no way sufficiently alive to the need of studying their natural organic products. The wonderful work on eucalyptus oils done by Smith and Baker of Sydney has not yet been appreciated. Only recently (Feb. 12), an advertisement was printed in NATURE for a lecturer and demonstrator in organic chemistry, at the University of Sydney, salary £350 per annum. Only by accident is a chemist good enough for such a post likely to be bought at so low a price, perhaps that of a dock labourer—what Billy Merson earns in a week. No one there will rate a man very high who is paid such a salary. It were time that organic chemical science were put upon a higher footing, especially in so important a seat of higher learning as Sydney—so that it may have some chance of being mentioned along with the harbour.

Australia can ill afford to lose a man of Rennie's calibre and will do well to take warning and relieve them more of ordinary routine labours, if she find other such men to serve her.

HENRY E. ARMSTRONG.

MR. A. B. LEE.

ARTHUR BOLLES LEE, who died on Mar. 3 at Clarens, Switzerland, was born at Froyle, Hampshire, in 1849. He spent most of his life in Switzerland, and hence, though well known by name, was scarcely known personally in Great Britain. He was for several years an assistant under Prof. Korotneff in the Russian Marine Laboratory at Villefranche.

Mr. Lee was the author of a number of papers chiefly on oogenesis, spermatogenesis, and other cytological subjects, published from 1884 onwards, the last of which appeared in December 1924. But he was best known as the author of "The Microtome's Vade-Mecum: a Handbook of the Methods of Microscopic Anatomy," first published in 1885. This work contained an account of all the methods that had, up to that time, been recommended for the preparation of microscopic objects whether as whole mounts or in section, and it became at once the standard work of reference on the subject. In the subsequent editions Mr. Lee judiciously discarded many of the older and less satisfactory methods as he added careful accounts of new processes, so that the "Vade-Mecum" was always a helpful guide to what had been proved best in methods of fixation, clearing, imbedding, section-cutting, staining and mounting of organisms and of tissues. Seven editions of this work in English up to 1913, at least two in French (by Lee and Henneguy) and four in German (by Lee and Mayer) afford evidence of the value and usefulness of this manual, which, indeed, formed part of the essential equipment of a zoological laboratory, where it was the source of reference on all matters of technique for senior students and for investigators. The last English edition (1921)—the eighth—was edited by Dr. J. B. Gatenby, but, as he stated in his preface, the bulk of the volume was still largely the work of Mr. Lee.

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In recognition of his services to microscopical science, Mr. Lee was elected an honorary fellow of the Royal Microscopical Society. He leaves a daughter and two sons, one of the latter, Dr. G. W. Lee, being one of the Senior Geologists in the Scottish office of the Geological Survey of Great Britain.

A VETERAN botanist of striking personality, Prof. Ludwig Radlkofer, has recently been removed by death in his ninety-eighth year, on Feb. 16 last. He was born in Munich on Dec. 19, 1829, took the degree of M.D. at that University in 1854, of Ph.D. at Jena the following year, and in 1863 became professor of botany in his native city. He began his career as an author in 1855, soon being attracted to the Sapindaceæ, especially the genus *Serjania*, which he monographed in 1875, returning to it more than once, and continuing to write even so late as the last few months. He received many distinctions abroad, and was elected a foreign member of the Linnean Society of London in 1897. He claimed to have been the first to introduce the anatomical method in academical teaching, and was very anxious that his pupil, Dr. Hans Solereder (1860–1920), should be permitted to examine the Linnean herbarium and also the older plant collections in the British Museum such as the Clifford and Sloane herbaria. He introduced the topic at the Norwich meeting of the British Association in 1868 by his paper "On the Structural Peculiarities of Certain Sapindaceous Plants," and again in 1885 at Aberdeen "On the Application of the Anatomical Method to the Determination of the Linnean and other Herbaria." Needless to say, this proposal that every specimen should be so examined could not be entertained, as it involved the practical destruction of the types destined for the information of later generations of botanists.

B. D. J.

WE regret to announce the following deaths:

Prof. D. Berthelot, professor of physics in the University of Paris (Faculty of Pharmacy) and *membre titulaire* for the section of general physics of the Paris Academy of Sciences, aged sixty-two years.

Kommandør C. F. Drechsel, General Secretary of the International Council for the Exploration of the Sea, at Copenhagen on Mar. 2, aged seventy-three years.

Prof. Carl Runge, professor of applied mathematics in the University of Göttingen, distinguished for his work as a mathematician and spectroscopist, early in January, aged seventy years.

Prof. A. W. Scott, for fifty-five years Phillips professor of science at St. David's College, Lampeter, on Mar. 7, aged eighty-one years.

Prof. Yovan Tzvyitch (Cvijić), of the University of Belgrade, president of the Yugoslav Academy of Science and an honorary corresponding member of the Royal Geographical Society, who was well known for his geographical, geological, and ethnographical studies, on Jan. 16, aged sixty-one years.

Dr. A. E. Verrill, from 1864 until 1907 professor of zoology at Yale University, and emeritus professor since 1907, who worked chiefly on marine invertebrates, aged eighty-seven years.