

with a clear conscience, because largely owing to Lister it can be taken without inflicting pain or suppuration.

Thus it is that through years to come, after, indeed, it may be the actual papers contributed to physiology by him have become matter chiefly for the historian and the antiquarian, Lister will still receive unfailingly his meed of commemoration from the physiologist and experimentalist, and in a manner which to himself would of all ritual and

offering have been the most congenial—namely, in their daily observance and trust of methods which he discovered and inculcated, and in the practice of them for the alleviation and prevention of disease. It is therefore with peculiar gratitude that physiology brings its tribute of admiration and veneration to the memory of one great in character as in achievement, and great even among the greatest of the benefactors of mankind, Joseph Lister.

Obituary.

PROF. IRA REMSEN.

SOON, few chemists will be left who have passed the age limit. Already, during this year, three of my oldest friends, all distinguished chemists, have ceased to be. Hermann Wickelhaus, who was my fellow-student at the Royal College of Chemistry, Oxford Street, under Frankland in 1866; Carl Graebe, who was *privat docent* and worked at a bench close to mine in the old laboratory in Leipzig in 1868; Ira Remsen, the American, who went to Germany when I did, whom I did not meet, however, until after the Johns Hopkins University was established. The first was concerned with Darmstaedter, in 1869, in introducing the soda-melt into the naphthol industry; the second stands for quinone and artificial alizarin; the third for saccharin: all very notable connexions.

The story of Ira Remsen's career has been well told by Dr. B. Harrow in "Eminent Chemists of our Time" (T. Fisher Unwin, 1921). He was of Dutch parentage. The elegance of his name was matched by the elegance of his person: he was always a man of gracious presence and owed much of his success and influence to his attractive personality. Five years' serious study in Germany made him both a real chemist and a modest man—with a sense of proportion not always to be found to-day in the chemist, particularly in his own country. His career before going abroad is of interest, as showing how miserable were the opportunities of students in his youth. His father made him take up medicine and apprenticed him to a medical man, who was teacher of chemistry in the Homeopathic Medical College, New York, whose teaching consisted in giving him a book and telling him to read. A casual experiment which he made (with generally destructive results) to ascertain what was meant by "Nitric Acid acts on Copper" seems to have infused him at this time with a special interest in chemistry.

However, Remsen graduated in 1867, at twenty-one, as doctor of medicine, submitting a thesis on the fatty degeneration of the liver—of which he was profoundly ignorant. He then insisted on going abroad to study the subject for which he had a liking. He first worked, during a year, in Munich with Volhard, then two years in Göttingen with Fittig, taking his Ph.D. in 1870. He spent the next two years at Tübingen as assistant to Fittig. He was, therefore, under the best of influences in Germany.

Remsen found no immediate opening on his return but eventually became professor of physics and chemistry at Williams College—without a laboratory. We are told, that when he preferred a mild request for one, the president's answer was: "You will please keep in mind that this is a college and not a technical school. The students who come here are not to be trained as chemists or geologists or physicists. They are to be taught the great fundamental truths of all sciences. The object aimed at is culture, not practical knowledge." With which immortal discourse the great man dismissed the subject, says Remsen's biographer, as though the view expressed were a mistaken one. I am inclined to think that Remsen, to-day, would perhaps be inclined himself to give a similar answer, though without advocating 'no laboratory.' An I be not mistaken, the advice thus given by the president of Williams fifty years ago is much needed throughout the university world to-day, especially in the U.S.A. culture—knowledge of the great fundamental truths—is what is now most wanted among us: students get it nowhere.

At thirty, Remsen became professor of chemistry at the Johns Hopkins post-graduate university established, in Baltimore, in 1876. Ultimately, he was president of the University. He is to be credited with two great achievements: in 1879, together with Fahlberg, he discovered saccharin; he also started the *American Chemical Journal*, which he carried on until 1914, when it was merged in the *Journal of the American Chemical Society*. Saccharin is now an excisable article in our free-trade country. There are three factories making it. For the year ending Mar. 31, 1926, the total duty collected was £83,118, of which the Customs duty on imported saccharin amounted only to £567. The rates of duty for sugar and saccharin respectively are 11s. 8d. per cwt. and 3s. 9d. per ounce. This is approximately as 1:550, the ratio of the assumed sweetening powers of sugar and saccharin.

The retention of benzoic acid as a permitted preservative in food is due to a Board appointed by President Roosevelt, in 1909, of which Remsen was chairman. He and other members tested its action upon themselves—and lived through the trials. The public generally here has lived through trials upon itself with far larger amounts of boric acid, which is disallowed—although no *scientific* proof of its harmfulness has yet been given. Maybe, the presence of preservatives in food is entirely

undesirable. It should, however, be understood that they have been rejected on grounds other than scientific.

It is to be hoped that a carefully studied life of Remsen may be written, to display to his countrymen the many important lessons which are to be derived from the career of a man possessed by an abundant clarity of spirit, sure in his judgment and rare in his courtesy, gifted with breadth of outlook and sense of proportion and of wide experience. Without being a genius, he was deeply devoted to his subject and well versed in its mysteries. We have yet to learn whether the establishment of the Johns Hopkins University, a unique institution, with which he was so intimately connected, has been justified by results. We may suspect that, as in all other institutions, success in so far as it has been attained, has been the product of leadership. In modern times, killing the slain with the aid of the beginner has been developed to the finest of arts, under the guise of research. We need to take stock and consider, if considered study of what is known be not the better preparation even for the future inquirer and whether the assembly of original workers *en masse* be indeed desirable.

HENRY E. ARMSTRONG.

MR. A. B. DEACON.

THE science of anthropology has suffered a grievous loss by the death of Arthur Bernard Deacon in Malekula, New Hebrides, of heart-failure following black-water fever, on Mar. 12. Mr. Deacon was born of British parents at Nicolaiev, South Russia, on Jan. 21, 1903, and came to England in 1916. He attended the Nottingham High School, where he did remarkably well. He obtained a State Scholarship, an Old Boys' Exhibition, and an Open Scholarship at Trinity College, Cambridge, and obtained firsts in the Natural Science Tripos, Part I, in 1923, the Mediæval and Modern Languages Tripos (Literature and History), with distinction in Russian, in 1924, and the Anthropological Tripos in 1925, and was appointed to the Anthony Wilkin Studentship.

While still a student, Deacon wrote a suggestive paper, "The Kakihan Society of Ceram and New Guinea Initiation Cults" (*Folk-lore*, 36, 1925, p. 332), in which he correlated the ghost-societies of Melanesia with the initiation cults of the Melanesian-speaking peoples in the Mandated Territory of New Guinea on one hand and with the Kakihan of Ceram on the other; the latter is essentially a 'ghost-society' and most completely represents the original cult.

Later in 1925, Deacon went to the New Hebrides. While waiting at Espiritu Santo for a boat to Malekula, he did some useful preliminary work and got into touch with natives from other islands; the following year he did excellent work in Ambrym. In 1926 he landed at South-West Bay, Malekula, on his birthday, and at once got to work, but he found a "general chaos of native life" and an "utterly appalling depopulation." In dispiriting circumstances he gathered all that he could in this

district, and later spent three months in north-central Malekula, where he obtained good results, though even there the "death-rate has been ghastly." He gathered a good deal of detailed information about social regulations, relationships, etc., cannibalism, chieftainship, polygyny, songs, games, and also made the surprising discovery of remarkable geometrical designs, of which he collected some sixty examples. These and his other investigations will be published in due course.

The results obtained by Deacon far exceed what might be expected from a first attempt in field-work, and they prove that he had an exceptional aptitude for anthropological investigations. Those of his notes which have reached me show that he was fully alive to the problems concerned, and that, though interested in details, he was continually alert to the conclusions to which they pointed. His death is an irreparable loss not only to science but also to all who came into contact with him. He was a cultured, talented man with a charming modesty and with a sure promise of a brilliant future.

A. C. HADDON.

AN account of the life and work of Dr. Luigi Casale, written by Dr. J. F. Crowley, who has been closely associated with the Italian chemist, appears in the issue of *Chemistry and Industry* for Mar. 11. Casale was born in 1882 at Langosco and was educated at Turin. He became head of the organic chemistry laboratory in the institute of general chemistry in the University of Turin in 1913. In 1915 he became head of the pharmaceutical chemistry laboratory of the University of Naples, where he carried out important investigations for the Italian War Office. Dr. Casale became interested in nitrogen fixation in 1917, and shortly after 1920 commercial plants for the production of synthetic ammonia by his process were in operation. The Casale process has been adopted in many parts of the world: the total capacity of the plants completed or in course of construction using this process amounts to 250,000 tons of ammonia per annum. The total world output of synthetic ammonia in 1925 was 350,000 tons. Dr. Crowley refers to the great personal charm of Dr. Casale, his high qualities as an investigator, and the loss which applied science has sustained by his early death.

WE regret to announce the following deaths:

Mr. G. L. Cathcart, senior fellow of Trinity College, Dublin, who for many years edited Salmon's mathematical works, on Mar. 26.

Prof. D. A. Gilchrist, who recently retired from the chair of agriculture at Armstrong College, Newcastle-on-Tyne, on April 4, aged sixty-seven years.

Prof. C. S. Sargent, of the Arnold Arboretum, near Boston, foreign member of the Linnean Society of London, aged eighty-five years.

Prof. O. Sars, formerly Director of Fisheries Research in Norway, foreign member of the Linnean Society of London, and author of a monograph on the Crustacea of Norway, on April 9, aged eighty-nine years.