

SIR WILLIAM SAVAGE, 80

Sir William Savage, a leading figure in preventive medicine for many years past, reached his eightieth birthday on August 15, and we take this opportunity to wish him many more years of active life. He continues to pursue his researches into subjects that interest him with as much energy and enthusiasm as ever; only a few weeks ago we published a review of his latest book, *The Making of our Towns*.

The name of Savage will always be associated with food-poisoning, and particularly with salmonella infections. As early as 1908 he was reporting the isolation from animals



[Lafayette, London

of what at this time he called the Gaertner group of bacilli, and it was his early studies on the aetiology of food-poisoning outbreaks that led the Medical Research Council to sponsor investigations by himself and Bruce White into the serology of the salmonella group and their relationship to food-poisoning. Two M.R.C. "green reports" within a year (Nos. 91 and 92) firmly established the relationship between various salmonella types and food-poisoning, and showed that domestic animals and vermin were the main reservoirs of these organisms.

Sir William has always been a strong advocate of milk pasteurization and shown a keen interest in the hygiene of milk and food. Recently he acted as a very able and energetic chairman of the working party on hygiene in catering establishments. Among his better-known books are *Milk and the Public Health* (1912), *Bacteriological Examination of Food and Water* (1914), *Canned Foods in Relation to Health* (Milroy Lectures, 1923), and *The Prevention of Human Tuberculosis of Bovine Origin* (1929).

Sir William Savage has had a career in the public health service which all medical officers of health must envy. Not only did his original contributions place him in the forefront of scientific investigators, but the practical results of his work were of direct and immediate benefit to the public whom he served. After qualifying at University College Hospital in 1896 he held a number of academic posts as a

pathologist and bacteriologist. In 1909 he became the first county medical officer of health of Somerset, a post he retained until his retirement in 1937. In his early days by necessity, and later by strong conviction through years of experience, he was a great upholder of the vital importance of adequate environmental standards in the promotion of public health. In Somerset, being the first county medical officer, he was unhampered by anything which had gone before, and so he was able to mould his department (and this suited his character admirably) in his own way and according to his own views, and all this he did with great competence and diligence. Perhaps his clarity of mind, not the least dimmed by the passing years, has been his greatest asset in all his work. He was always a strong medical officer—suffering both professional and lay fools badly—and no opposition or criticism has ever turned him from any purpose in which he believed.

In the 15 years of his retirement (if such a word can ever be applied to him) Sir William has enjoyed his Somerset garden, his walks, and his tennis, and even at the age of 80 he plays men's doubles, as a rule giving the other players a start of some 30 or 40 years and easily keeping up with them. In work and in play for nearly half a century in Somerset Savage has never spared himself, and he has enjoyed both with a zest undiminished by the weight of years.

Reports of Societies

SECOND INTERNATIONAL CONGRESS OF BIOCHEMISTRY

During the first International Congress of Biochemistry, initiated by the Biochemical Society and held at Cambridge in August, 1949, the invitation of the Société de Chimie Biologique to hold the second Congress in Paris in 1952 was accepted. The French society must indeed have been gratified by the enrolment of more than 2,000 members of more than 40 different nationalities for this meeting in Paris from July 21 to 28.

It opened with an impressive ceremony in the Great Amphitheatre of the Sorbonne. Speeches of welcome by the Président d'Honneur, Gabriel Bertrand (member of the Academies of Science, Medicine, and Agriculture), by Professor Claude Fromageot (president of the executive committee), and by Doyen René Fabre (President of the Congress and general secretary of the Société de Chimie Biologique) were interspersed with music from the band of the Garde Républicaine. The reading of papers began at 2 p.m. on July 21, and continued in the many lecture theatres of the Sorbonne until 5 p.m. on July 26. In this time the enormous total of more than 800 papers were read and discussed.

Plan of the Congress

The work of the Congress was divided into seven symposia and 31 sections. In each symposium there were about 10 reports—formal lectures delivered in the mornings—and in both the symposia and the sections there were large numbers of original communications limited to 10 minutes each, with five minutes for discussion. In addition, there were four general afternoon lectures delivered during the week: Professor J. N. Davidson (Glasgow) spoke on "Nucleo-proteins and tissue growth," Academician A. I. Oparin (Bach Institute of Biochemistry, U.S.S.R.) on "The changes in enzymic action in plant cells under the influence of external factors," Professor S. Ochoa (New York) on "Carbon dioxide fixation in plants and animals," and Professor K. Linderström-Lang (Copenhagen) on "Proteins and enzymes."

The subjects of the 31 sections ranged from mineral elements, lipids, amino-acids, proteins, and pigments through numerous specific groups of enzymes to fermentations, plant chemistry, photosynthesis, nutrition, chemotherapy, and even apparatus and techniques. It would be

difficult to think of a biochemical research which could not have found a congenial place in one of the reports or symposia. Only three short papers, in fact, found their way to the thirty-second section—"Miscellaneous." It is an almost impossible task to choose at random from the many papers delivered in the sections a few which might be classed as representative. The scope of the Congress and the trends of modern biochemical research are amply illustrated by brief reference to the symposia.

Blood and Proteins

Symposium 1. Biochemistry of Haematopoiesis.—The subjects ranged from "The structure of haemoglobin" (M. F. Perutz, Cambridge) to "The cytochemistry of bone marrow" (M. Errera, Brussels). Folic acid and vitamin B₁₂ and their related compounds, of course, figured largely, the emphasis being on non-clinical aspects such as chemistry, assay, and biochemical functions. There were descriptions of haem and porphyrin synthesis in blood *in vitro*, studied with and without the aid of isotopically labelled compounds, by French, American, and English workers. Among these papers were the first reports of *in vitro* haem synthesis by haemolysates of nucleated erythrocytes, and it is apparent that the way should now be open to the discovery of part of the enzymic control of haemoglobin biosynthesis.

Symposium 2. Biogenesis of Proteins.—The reports in this field included "The biosynthesis of peptide bonds" (J. S. Fruton, New Haven), "Adaptive enzymes" (J. Monod, Paris), "The dynamic state of tissue proteins" (D. Rittenberg, New York), "The biosynthesis of milk proteins" (T. S. Work, P. N. Campbell, and B. A. Askonas, Mill Hill, London), and "The problem of the precursor in the induced synthesis of enzymes" (S. Spiegelman, St. Louis). In the communications the emphasis was again on the biosynthetic aspects. For example, M. Brenner and A. Vetterli (Basle) spoke on "The enzymatic synthesis of dipeptides from free amino-acids," and H. Borsook and collaborators (California Institute of Technology) on "The *in vitro* incorporation of labelled amino-acids into reticulocyte proteins."

Intracellular Chemistry

Symposium 3. The Tricarboxylic Acid Cycle.—Though of less direct interest to medical readers, this subject occupies a very important place on the broad advancing front of biochemistry, since it is the basis of respiration by the tissues, and of their production of carbon dioxide, as well as involving the final breakdown of carbohydrate. Much of the work is done with preparations of intracellular particles, the mitochondria, and it is from these studies that the complexities of cellular organization are beginning to emerge. One of the most important recent discoveries has been the recognition and characterization of coenzyme A, an essential pantothenic-acid-containing activator of the natural enzyme which catalyses acetylations (for instance, the synthesis of acetylcholine from choline), and also the entry of two-carbon compounds into the metabolic cycle of the tissues by combination with a citric acid cycle derivative. Thus among the reports were "The enzymatic synthesis of citric acid" (S. Ochoa, New York), "The role of coenzyme A in two-carbon fragment condensation" (F. Lipmann, Boston), and "The entry of metabolites into the tricarboxylic acid cycle" (C. Martius, Tübingen).

Symposium 4. Protein-hormones and Hormones Derived from Proteins.—The large number of papers dealing with A.C.T.H. and with thyroid biochemistry reflected the intense activity in these fields over the last few years. Reports were given on A.C.T.H. by C. H. Li (California), on the thyroid by R. Michel (Paris), and on the isolation and structure of oxytocin and vasopressin by V. du Vigneaud (New York).

New Thyroid Substance

An interesting development in thyroid biochemistry is the discovery of 3:5:3' triiodothyronine—that is, thyroxine without its fourth iodine atom at position 5'. J. Gross and R. Pitt-Rivers (Mill Hill, London) have isolated this compound from thyroid tissue and have found that it is

several times more effective than thyroxine. It is identical with a previously unrecognized substance reported in plasma and in the butanol extract of unhydrolysed thyroid. The same compound has been studied by S. Lissitzky, R. Michel, and J. Roche (Paris), who found that it is a constituent of thyroglobulin, together with thyroxine and with traces of 3:5-diiodothyronine. With the aid of radioactive iodine these workers have followed the formation of thyroxine and triiodothyronine in the thyroid gland and the plasma of rats, and have also made some studies of the metabolism of the new amino-acid. Another protein hormone, insulin, received a good deal of attention, and one of the interesting papers was that of K. H. Möller, M. Jersild, K. Petersen, and J. Schlichtkrull (Copenhagen), who described a suspension of crystalline insulin, a single injection of which suffices to maintain the blood sugar level in man constant within a few per cent. for 24 hours.

Other Matters

Symposium 5. Microbial Metabolism.—The accent throughout was on growth factors, biosynthesis, and catabolism in micro-organisms. In *Symposium 6 (The Mode of Action of Antibiotics)* reports were given on the mode of action of P.A.S. and derivatives (S. Americano-Freire, Brazil), of penicillin (H. Machebœuf and F. Gros, Paris), and of streptomycin (W. W. Umbreit, New York); on the biochemistry of acridines (L. Massart, Ghent), on the effect of antibiotics on amino-acid assimilation in bacteria (E. F. Gale, Cambridge), and on the cytological study of the mode of action of antibiotics (J. Dufresnoy, San Francisco). In *Symposium 7 (The Biochemistry of Steroids)* the main emphasis was of course on the adrenocortical steroids. A good deal of progress in studies of the biosynthesis of steroids was reviewed by C. Pincus (Shrewsbury, Mass.).

All members of the Congress were given a book of abstracts of all the original communications (2^e *Congrès Internationale de Biochimie*, Résumé des Communications, Paris, 1952), and the full text of the reports of the seven symposia were available for purchase, and are available through booksellers in England at £4 8s. the set. The next Congress will be at Brussels in 1955.

ORDER OF ST. JOHN OF JERUSALEM

The *London Gazette* has announced the following promotions in, and appointments to, the Venerable Order of the Hospital of St. John of Jerusalem:

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