

this half-century, notably those with physico-chemical rather than biochemical basis. This was probably part of the generally slow recognition of enzyme processes as the mechanism of cell events, to which Gowland Hopkins referred in 1913³¹. Perhaps at the beginning of the century the progress of chemotherapy was best served by emphasizing its separateness from the rest of pharmacology³², as did Ehrlich, but there is little doubt now that it will progress best in association not only with pharmacology, organic chemistry, and bacteriology, but also with biochemistry and much of general biology, and by its practical impetus contribute to the progress of all these subjects.

- ¹ Loew, O., "Naturliches System der Giftwirkung", Munich (1893).
² Brunton, T. L., "Introduction to Modern Therapeutics" (Croonian Lectures, 1889), Macmillan, London (1892).
³ Ehrlich, P., *Proc. Roy. Soc.*, **66**, 424 (1899-1900).
⁴ Langley, J. N., *J. Physiol.*, **39**, 235 (1909-1910).
⁵ Ehrlich, P., *Ber. dtsh. chem. Ges.*, **42**, 17 (1909); *18th Int. Congr. Med. Lond.*, **94** (1913, publ. 1914).
⁶ e.g. Euler, H., "General Chemistry of the Enzymes" London, 1912 (first German edition, 1910); Bayliss, W. M., "The Nature of Enzyme Action", London (1908).
⁷ Armstrong, E. F., *Proc. Roy. Soc.*, **73**, 516 (1904).
⁸ Armstrong, H. E., *Proc. Roy. Soc.*, **73**, 537 (1904).
⁹ Braun, H., and Schaeffer, H., *Z. Hyg.*, **89**, 339 (1919).
¹⁰ Stearn, E. W., and Stearn, A. E., *J. Bact.*, **9**, 491 (1924).
¹¹ von Jancsó, N., and von Jancsó, H., *Zbl. Bakt. Parasit.*, **1**, **132**, 257 (1934).
¹² Dubos, R., *J. exp. Med.*, **49**, 575 (1929).
¹³ Myrbäck, K., *Hoppe-Seyl. Z.*, **158**, 160 (1926).
¹⁴ Quastel, J. H., *Biochem. J.*, **25**, 898 (1931).
¹⁵ Scheff, G., and Hasskó, A., *Zbl. Bakt. Parasit.*, **1**, **136**, 420 (1936).
¹⁶ Clark, A. J., "Heffer's Handbuch der Experimentellen Pharmakologie", Suppl. Vol. 4 (1937).
¹⁷ Loewi, O., and Navratil, E., *Pflüg. Arch.*, **214**, 678 (1926).
¹⁸ Blaschko, H., Richter, D., and Schlossmann, H., *Biochem. J.*, **31**, 2187 (1937); Blaschko, H., *NATURE*, **145**, 27 (1939).
¹⁹ Peter, H., *Zbl. Bakt. Parasit.*, **1**, **144**, 463 (1939).
²⁰ Quastel, J. H., and Wooldridge, W. R., *Biochem. J.*, **22**, 689 (1928).
²¹ Dickens, F., *Biochem. J.*, **30**, 1233 (1936).
²² Woods, D. D., *Brit. J. Exp. Path.*, **21**, 74 (1940).
²³ e.g., Knight, B. C. J. G., *Spec. Rep. Ser., Med. Res. Coun., London*, No. 210 (1936).
²⁴ Williams, R. J., *Biol. Rev.*, **16**, 49 (1940).
²⁵ Fildes, P., *Lancet*, **1**, 955 (1940).
²⁶ McIlwain, H., *Lancet*, **1**, 412 (1942).
²⁷ McIlwain, H., *Brit. J. exp. Path.*, **23**, 95 (1942).
²⁸ McIlwain, H., *Brit. J. exp. Path.*, **23**, 265 (1942).
²⁹ McIlwain, H., and Hawking, F., *Lancet*, in press.
³⁰ Schmelkes, F. C., and Wyss, O., *Proc. Soc. Exp. Biol., N.Y.*, **49**, 263 (1942).
³¹ Hopkins, F. G., *Rep. Brit. Ass.*, 652 (1913).
³² Dale, H. H., *Physiol. Rev.*, **3**, 359 (1923).

OBITUARIES

Dr. H. G. Stead

"WE have, indeed, suffered a severe and heavy loss at an important and formative period in the history of British education." This is the tribute and the regret of the President of the Board of Education, at the death on January 3 of Dr. H. G. Stead. Into his fifty-four years Dr. Stead had packed more than most men. First assistant master at a primary school, then mathematics master at a grammar school, then a lecturer in a technical school, he had a wide and varied experience 'at the blackboard' such as few of our educational administrators possessed. Perhaps that goes a long way towards explaining why his lectures and his writings were always so impressively concrete and so gladly received by teachers.

When he became an administrator, Dr. Stead did not cease to be an educator. His vision was clear and his energy and enthusiasm impressive. This unusual

combination of idealism and realism was largely responsible for making the small borough of Chesterfield something of a Mecca for educationists. Here they could see in workaday operation many of the reforms for which Dr. Stead had so vigorously pleaded; here they could come for the refreshing experience of his conversation; and here for the first time many who had been influenced by his writings came to appreciate the grave physical disabilities under which he suffered.

For those who knew him well, Dr. Stead's triumph over the results of his war injuries was an inspiration. Daunted neither by late hours nor Derbyshire snows, he would battle through to his small adult class in a neighbouring village; and if by any chance he could not get back home to Ashover, he knew that he had many friends who would be delighted to entertain him. This gift of friendship was perhaps one of Dr. Stead's most striking characteristics. His vision was so penetrating and his wit so sharp that he might well have alienated his acquaintances; but always there was that mischievous twinkle in his eye to save the situation and to cement the friendship.

After retiring from his administrative post, Dr. Stead became organizing secretary of the New Education Fellowship, and gave full rein to his evangelism. Touring the country under war-time travelling difficulties, doubled by his physical disability, he brought to meetings large and small a realization of the social context of educational reform. His latest book, "The Education of the Community", stands out from most others in its crystal clarity and its uncompromising honesty. Add to those two qualities the two others of a gently mischievous humour and an indomitable will, and there is a portrait of Harry Stead.

CYRIL BIBBY.

IF, as there is good reason for believing, an Education Bill is shortly to be presented to Parliament, no one man's contribution towards that desirable end has been greater than the contribution of Dr. H. G. Stead. His professional experience for the work he was doing was admirably wide and varied. This enabled him, practically and expertly, to examine the education system and to make sound and far-reaching proposals for its improvement; but merely to say that he made proposals would be to present a thin and colourless picture of Stead. The real picture is one of a colourful, dynamic yet intensely sympathetic personality. He did not merely examine the education system in the manner of the cold and careful administrator. He had formed his own very clear ideas concerning reforms which he was deeply convinced were essential to the practical implementation of the democratic ideal. He wrote prolifically about his ideals; he went about the country tirelessly and persistently and lectured about them. He read and he listened to those who appeared to differ from him on method or principle, but everyone with whom he talked or worked or argued recognized his brilliance, his clear vision of the shape of things to come, and, above all, his kindness and his passionate sincerity. It is difficult, at this juncture, to sum up his work. Generalization is notoriously difficult and uncertain, but in the planning of the new system which he envisaged, it seems clear that, if civics be the "most architectonic of the arts", he pointed the way by which that art might illumine and widen both the process and end of education.

J. WICKHAM MURRAY.