

table in the Zoological Station at Naples; I think he stayed there a year. Making some inquiries from me before starting, he gave a most keen and enthusiastic description of what he was going to do (something biochemical based on something he had done already, in Paris if my memory serves).—"Where will you publish?" "Oh, there is a lot to be done before there is any question of publication." This was at the age of seventy-eight.

He died at eighty-two leaving three daughters; he lost his son in the War of 1914-18.

My own guess is that he had early set himself an impossible ideal of perfection and completeness in scientific papers; in the 'eighties we were still labouring under the illusion of monographs which should be final. It is possible that, when Caldwell found after five years work at Cambridge that he could not write a definitive and perfect treatise, he grasped at the chance of a new life and rid his scientific conscience of the burdensome duty of publication. Henceforward he worked at varied scientific problems for his own intellectual pleasure or financial profit.

He was undoubtedly gifted with good powers of observation, easy mastery of technique and a capacity for clear reasoning and incisive writing. Much was hoped of him by his seniors, particularly Foster and Adam Sedgwick, and Sedgwick was a great friend. Sedgwick in 1910¹¹, summarizing the results of biological expeditions, cites that "of W. H. Caldwell to Australia (1883-1884 [*sic*], discovery of the nature of the ovum and oviposition of *Echidna* and *Ceratodus*)". That represents his friend's summary of Caldwell's contribution, after 1883, to zoological knowledge.

But let all biologists always remember that they owe the ribbon method of cutting paraffin sections to the twenty-two-year-old William Hay Caldwell, brilliant bachelor scholar of Gonville and Caius College.

G. P. BIDDER.

¹ NATURE, 148, 462 (1941).

² Proc. Roy. Soc., 34, 371 (1882).

³ "Enc. Brit." (1911); "Phoronidea" by S. F. Harmer, p. 473.

⁴ "Embryology" (Invertebrata), 1914, p. 406.

⁵ Q.J.M.S., 24, 648, unnumbered plate (1884).

⁶ Q.J.M.S., 24, 655, Pl. 43 (1884).

⁷ Q.J.M.S., 25, 15, Pl. ii (1885).

⁸ Phil. Trans., B, 463 (observations and conclusions, pp.470-79) (1887).

⁹ "Alumni Cantabrigienses" (Venn) *sub* Caldwell.

¹⁰ Report Brit. Assoc., 1884, p. 777.

¹¹ "Enc. Brit." (1910), "Embryology", 328a.

Mr. H. Standish Ball, O.B.E.

HARRY STANDISH BALL was born in South Africa in 1888 and died at Haslemere after a long illness on September 26. He was a distinguished mining engineer with wide experience of South African and American methods, and during the War of 1914-18 became one of the recognized authorities on military mining. But it was his work as principal of that famous School of Metalliferous Mining at Camborne (Cornwall) by which he was best known to mining engineers.

Ball spent his school days in Johannesburg and obtained his early technical instruction at the Transvaal University College, where he won many

prizes and supplemented his theoretical work by a thorough practical training in the gold mines of the Witwatersrand. Afterwards he went to McGill University, where he graduated in the Mining School. On returning to South Africa he obtained employment in various official capacities in the mines, thereby laying the foundation of his knowledge of practical mine management.

Shortly after the outbreak of war in 1914, Ball joined the Royal Engineers (Tunnelling Corps) and served throughout in France, ultimately becoming commandant of the First Army Mining School and technical military mining instructor to the American Expeditionary Force. He wrote several official treatises on military mining, was mentioned in dispatches four times and awarded the military O.B.E.

After the end of the War in 1918, he returned to South Africa, where he held various mining appointments, and during 1921-33 held posts in South Africa and South America, and made many reports on mining and oil properties in these countries as well as in Canada.

In 1933 Ball came to England and was appointed principal of Camborne. The School has long been famous as a training centre for metalliferous mining engineers and, being situated in the heart of the Cornish mining-field, the students have great opportunities for studying the art as well as the science of mining. Before Ball's time some critics considered that too much attention was paid to the practical side, and the new principal, with a sound background of scientific knowledge, recognized this. He set to work slowly and methodically to revise the syllabus, raise the entrance standard and improve the training during the course. His methods were most successful, and he had the satisfaction before the commencement of his last illness of seeing the reputation of the School of Mines raised to a higher plane than it had ever attained.

Besides possessing great technical ability, Ball was an able administrator and in himself a charming man and delightful companion. His death is a sad loss not only to his old students all the world over, but also to his innumerable friends of maturer years.

J. A. S. RITSON.

WE regret to announce the following deaths:

The Right Hon. Lord D'Abernon, P.C., G.C.B., G.C.M.G., F.R.S., on November 1, aged eighty-four.

Prof. W. F. Ganong, emeritus professor of botany in Smith College, Northampton, Mass., known for his work on plant physiology and botanical education, on September 9, aged seventy-seven.

Sir Arthur Hill, K.C.M.G., F.R.S., director of the Royal Botanic Gardens, Kew, since 1922, on November 3, aged sixty-six.

Dr. Victor Jollos, formerly associate professor of zoology in the University of Berlin, known for his work on heredity and mutation, on July 5, aged fifty-four.

Dr. J. S. Plaskett, F.R.S., director of the Dominion Astrophysical Observatory, Victoria, B.C., Canada, during 1917-35, on October 17, aged seventy-five.