

which his paper on the salmon of the Wye should be known to all interested in salmon. He kept a large staff of scale-readers busy. He published also several important papers on the plaice fisheries of the North Sea.

In pure zoology Masterman will be remembered for his attempt in 1896-1901 to place the burrowing worm-like animal *Phoronis* near *Balanoglossus* and the vertebrate ancestry. The evidence came from the internal anatomy of the larva (*Actinotrocha*). This thesis was contested by many, including Roule, to whom Masterman replied with dash and vigour, but in 1904 de Selys Longchamps claimed to remove Masterman's edifice stone by stone. Ikeda, Goodrich and Shearer all disagreed with Masterman on one point or another. Although in 1910 Harmer in the *Cambridge Natural History*, put *Phoronis* in the Hemichordata on the basis of Masterman's observations, 'if confirmed', MacBride in 1914 in his "Text-book of Embryology" feared that Masterman's "fascinating" theory could not be upheld and put *Phoronis* with *Sipunculus* in *Podaxonia* (*Gephyrea nuda*). In the 1921 (revised) edition of Parker and Haswell's text-book *Phoronis* remains with the Brachiopoda and Polyzoa under Molluscoidea. However it ended, Masterman's initiative evidently led to substantial additions in knowledge of *Phoronis* and its interesting larva.

Masterman was seventy-two years old when he died on February 10, but, as may happen when reviewing the work of scientific workers who reached administrative posts early in life, the search for the man's own work is most productive when we go to the early years, in Masterman's case to the time when he was less than thirty years old. From 1893 until 1899 he was assistant to Prof. W. C. McIntosh at St. Andrews, and collaborated in a book that can be called a masterpiece, "The Life Histories of the British Marine Food Fishes", published in 1897. The only part of the book that is stated to be Masterman's separate contribution is a general chapter on growth, and this must be judged against its background, when almost nothing was known on the subject except for the papers which this young investigator had already published. The chapter, which is an essay, undoubtedly had considerable value forty-four years ago, when nothing was known of the technical methods that have been so fruitful in the intervening years, and the graphical method that Masterman used is still the only one available for some populations of fish. The main bulk of the book is stated to be joint work. It consists of notes on life-histories of no less than eighty-seven species of fish—a remarkable treatise to have been produced only a few years after the eggs and fry of many of the species had first been identified. To collaborate in that work was a worthy achievement.

Indeed, Masterman at St. Andrews was a member of a notable company who studied at the Gatty Laboratory and went out to make marine biology as we know it. Some of us who only knew the members as men of middle age and older, wonder what the company was like; but are certain that it was both gay and learned, for it included, at one time

or another, Holt, Prince, Kyle, Williamson, Calderwood, Wallace, Meek, and D'Arcy Thompson. To them Masterman, scholar of Christ's and Darwin Prizeman, brought the speculative turn of mind that is shown by his papers and the gift of lively companionship that his contemporaries recall.

M. GRAHAM.

Dr. William Doberck

WILLIAM DOBERCK was born at Copenhagen on September 12, 1852, and died at Sutton, Surrey, on January 5 of the present year. He had long been well known as one of the most enthusiastic and assiduous of workers in the field of double-star astronomy.

Dr. Doberck began his observations at Markree, Ireland, in 1874, at the observatory of Col. E. H. Cooper, at that time H.M. Lieutenant for County Sligo; but later worked in various parts of the world, including Kowloon. Eventually he settled at Sutton, where he set up an observatory equipped with a 6-in. refractor and continued his double-star measurements until 1927. His sets of measures, which were very numerous, amounting altogether to something like 13,000, were nearly all made with rather small instruments, but included several pairs of which the angular separation was less than 1". The observations at Markree were published in the *Transactions of the Royal Irish Academy*, vol. 29, part 13, and the remainder in various issues of the *Astronomische Nachrichten*. Eventually, Dr. Doberck collected them all together and published them in vol. 7 of the *Astronomische Abhandlungen*.

But Dr. Doberck was not only an observer; he was also a computer of orbits. In his book "The Binary Stars", published in 1918, Dr. R. G. Aitken referred to him as "the man who has investigated more double-star orbits than any other astronomer". Doberck also inquired into other problems relating to binaries, such as a possible parallelism of the orbit planes, in regard to which his investigation led him to a negative conclusion. He also at one time gave attention to variable stars. It is as an exceptionally diligent and successful student of visual double stars that he will always be remembered.

T. E. R. PHILLIPS.

WE regret to announce the following deaths:

Dr. E. J. Gwynn, formerly provost of Trinity College, Dublin, on February 10.

Dr. P. N. Leech, director of the Division of Foods, Drugs and Physical Therapy in the headquarters office of the American Medical Association, aged fifty-two.

Sir William Smyly, formerly master of the Rotunda Hospital, Dublin, and president of the Royal College of Physicians in Ireland, on March 19, aged ninety.

Dr. Michel Weinberg, of the Pasteur Institute, Paris, known for his work on parasitology and anaerobic bacteria.