

Obituary.

PROF. E. W. MORLEY.

IN the issue of *Science* for April 13, appears an appreciative notice by Prof. O. F. Tower, professor of chemistry in Western Reserve University, of the life and work of Prof. E. W. Morley, whose death was announced in *NATURE* for April 28, p. 578.

Edward Williams Morley was born in Newark, New Jersey, on January 29, 1838, and in 1869 went to Western Reserve College, then in the town of Hudson, as professor of natural history and chemistry. In 1882 the College was moved to Cleveland, becoming Adebert College of Western Reserve University, and there Prof. Morley taught general chemistry and quantitative analysis until his retirement in 1906 as emeritus professor.

Prof. Morley's first work of importance, undertaken while he was still in Hudson, was on the relative proportion of oxygen in the air (1878-81). The work for which he is best known to chemists, however, was on the densities of oxygen and hydrogen and the ratio in which they combine; this was carried out at Cleveland and published in 1895. It is a remarkable tribute to his work that now, after nearly thirty years, the accepted values of these quantities are practically identical with those found by him. Prof. Morley was also eminent as a physicist, and his characteristic for precision of measurement is shown in his early papers on rulings on glass and on the probable error of micrometric measurements. While at Cleveland, he collaborated with Prof. A. A. Michelson in the development of the interferometer, and with this instrument the well-known Michelson-Morley experiment on the relative motion of the earth and the ether was carried out. The experiments, though giving negative results, were resumed later in conjunction with Prof. D. C. Miller.

The accurate work on the determination of the relative atomic weights of hydrogen and oxygen won for Prof. Morley the Davy medal of the Royal Society in 1907; while in 1904 he had been elected an honorary fellow of the Chemical Society. He was also an honorary member of the Royal Institution. In the United States he received the honour of being made president of the American Association and of the American Chemical Society in 1895 and 1899 respectively. He died on February 24, about a month after his eighty-fifth birthday.

SIR SHIRLEY MURPHY.

SHIRLEY MURPHY's name during the last thirty years has been a household word in the ranks of public health workers; and his work as medical officer of health for the county of London during a period of twenty-two years was marked by great improvements in the administrative control and prevention of disease. From this post he retired a few years before the War, but at its onset his services were utilised in taking charge of the sanitary services of the London area, for which work he was created K.B.E. in 1919, having been previously knighted in 1904.

It is, however, rather in Sir Shirley Murphy's contributions to the science of epidemiology that *NATURE* is chiefly interested. The factors making for

or reducing the prevalence of such acute infectious diseases as scarlet fever, diphtheria, measles, and whooping-cough are complex; they differ from such diseases as typhus fever, typhoid fever, cholera, smallpox, and epidemic enteritis, which can be entirely controlled, given the adequate application of general and specific sanitation. Like the uncontrolled and only partially controllable diseases enumerated above, the members of this last-named group are subject to cyclical waves, seasonal and longer waves; but the vehicles of infection can be put out of action, or by vaccination in the case of smallpox, personal immunity is obtainable. Murphy made many contributions in his annual reports and in the Proceedings of the Epidemiological Society to the study of seasonal influences on scarlet fever and diphtheria, showing that there have been in London seasonal variations in both the fatality (*i.e.* case-mortality) and age distribution of notified cases of these diseases. The cases of these diseases at ages under five form a larger proportion of the total cases at the beginning and end of the year than in its middle; and even when the necessary corrections are made for variations in age and sex of the cases, the fatality from these diseases is subject to seasonal variations. Murphy advanced the view that the change in the age incidence of death-rates from phthisis is explicable by successive additions by birth of a more resistant race, a tenable hypothesis, though not supported by international facts as to the phthisis death-rate.

The presidential address delivered by Murphy to the Epidemiological Society on "The Study of Epidemiology" is perhaps the best illustration of his wide knowledge and keen interest in epidemiological problems. At the same time it shows very clearly the complexity of factors making this study a formidable struggle with difficulties. He did much to assist in laying the foundations of a more accurate science of epidemiology; and in the pursuit of this study his annual reports to the London County Council will always be a valuable mine of information.

Murphy's work was recognised by his own profession, for he was awarded the Jenner medal by the Royal Society of Medicine and the Bisset Hawkins medal for distinguished services to public health by the Royal College of Physicians. His personality was singularly attractive; modest and unassuming, he was always ready to help his colleagues, and generous in his appreciation of their work.

MR. JOSEPH WRIGHT.

THE death of Joseph Wright of Belfast on April 7, at the age of eighty-nine, removes one of the fine old school of naturalists whose interests were bounded only by the earth itself. Though prolonged attention to specific details might have seemed to outsiders a sign of a mind cabined and confined, Wright's enthusiasm over the sheer beauty of the organisms that he studied was an inspiration to the wide circle of his friends.

Joseph Wright was born at Cork in 1834, and, his parents being members of the Society of Friends, he was educated at the Friends' School in Newtown, Co. Waterford. His wife came also from Cork City, and,