

sometimes offered fossils and other odd rock specimens for sale to members of the expeditions. With due tact and care it is quite easy in the pursuit of one's investigations to avoid offending the more unenlightened elements of a people who still largely live in an atmosphere of the Middle Ages, and who have cogently declared that Western

civilization can do nothing for them but promote unhappiness.

¹ Rutledge, "Everest 1933", 312.

² Heron, *Geog. J.*, 59, 418 (1922).

³ Odell, *ibid.*, 66, 289 (1925).

⁴ Wager, *ibid.*, 89, 239 (1937).

⁵ Personal communication.

⁶ Filchner, *Geog. J.*, 92, 60 (1938).

Obituary Notices

Prof. E. B. Wilson, For.Mem.R.S.

BY the death on March 3 of Prof. E. B. Wilson, the United States has lost her foremost zoologist. During his long tenure of the professorship in Columbia University he made some outstanding discoveries in his science. He studied the growth and structure of the so-called 'trochophore' larva which is specially characteristic of the annelid worms. It is also found in the Mollusca, a group widely divergent in structure from the worms. Further, it occurs in the Polyzoa Entoprocta and Phorerudea, and in a modified form it is seen in the Nemertinea. There can be no doubt that it represents in modified form the common ancestor from which all these groups diverged. If we put them all together, we see that in this way the origin of a large proportion of the Invertebrata is accounted for.

Prof. Wilson introduced the conception of 'cell-lineage' into embryology. By this is meant the study of the growth of a particular cell in the cleaving egg until it gives rise to an organ in the fully developed trochophore. He recognized two types of cell lineage which he termed respectively "determinate" and "indeterminate" cell-lineage. In the former type, which is characteristic of the trochophore group, each particular cell of the egg gives rise to a particular organ. The latter type is characteristic of the Cœlenterata and Echinodermata. In this type up to a certain stage in the cleavage the cells are equipotential, that is, each of them can give rise to the whole organism.

In his later years, Prof. Wilson took up the study of the growth of the nucleus, because this is the sole carrier of heredity. This is proved by the case of the mammalian spermatozoon, which consists merely of a nucleus but which transmits all the characters of the father to the young organism. Prof. Wilson had as his colleague in Columbia University Prof. T. H. Morgan, whose famous theory of the chromosomes swept over America like a whirlwind. This theory was based on studies of the fruit-fly, *Drosophila*, and professors of "drosophily" have actually been appointed in some American universities. Wilson accepted with some reservations his friend's chromosome theory; but he was more conservative than Morgan, and refused to associate special characters with particular bits of chromosome. In 1913, Wilson received the honour of an invitation to deliver the

Croonian Lecture to the Royal Society, and he chose chromosomes as his subject.

Wilson's influence on the course of the study of embryology was very great. A large band of young workers in both the United States and Europe continued and extended his studies in cell-lineage. My own acquaintance with Wilson extended over a considerable number of years. I first met him in Naples in 1892 when we were fellow students in the Zoological Station. Afterwards, I met him in the United States when we were both members of the American Society of Zoologists and I was professor at McGill University in Montreal, a few miles from the American border. His ill-health and subsequent death were due to a tragic accident which befell him when he was conducting a body of students, men and women, on a cruise up the Pacific coast of Canada. On the return journey the boat struck a rock and foundered. Some of the students were drowned and others, including Wilson, had to spend hours in the icy water before being rescued. From this exposure, Wilson contracted rheumatism, which crippled him during the remainder of his life and ultimately led to his death. It is too sad to think of the additional work which he might have done had this accident not occurred.

E. W. MACBRIDE.

Prof. A. P. Coleman, F.R.S.

THE death of Prof. A. P. Coleman, emeritus professor of geology in the University of Toronto, will be regretted by all geologists, for he was one of the few remaining representatives of that school of teachers who had received their early training at a time when geology was still a self-contained study and had not differentiated into the varieties of interest that now divide us.

Born at Lachute, Quebec, and educated at Victoria University, Coburg, Canada, Coleman proceeded, as did many Canadians at that time, to Germany, where he obtained the Ph.D. degree of Breslau. On his return to Canada he was made professor of geology and natural history at his old University in 1888, and remained there until 1890 when he was appointed to the University of Toronto. His ability was early recognized both in England and in North America as is shown by, among other distinctions, his election to