

meal were followed later by a demonstration, kindly organised by Messrs. Watson and Sons (Electro-Medical) Ltd., in which a subject drank an opaque meal, which could be observed passing down into his stomach. Following this was an X-ray demonstration of the heart of the lecturer and others. The lecture had been started by a demonstration, organised by the Marconiphone Company, Ltd., in which the sounds made by the heart of a child were rendered audible throughout the hall. In the fourth lecture I dealt with "The Lungs and Blood: How the Muscles get Air and Fuel," in which perhaps the chief demonstration was that of a wonderful cinematograph film by Prof. Krogh, of Copenhagen, in which the blood corpuscles are seen circulating in the tissues of a frog. There is no means of which I am aware so good as this film of showing what the circulation of the blood really means. We discussed the energy derived from the fuel burnt in the muscles, and we saw experimentally how the oxygen consumed by man can be measured.

In the fifth lecture, "Nerves and Muscles Working Together," I discussed the basis of organised muscular movement, the nature of muscular skill and of muscular sensation, and all those automatic, or semi-automatic, actions of which a large part of our being is composed. A slow motion cinematograph film of a dancer, and another of a falling cat, were employed to emphasise the wonder of muscular skill, while a demonstration of the 'psycho-galvanic reflex' showed how our emotions cannot be hidden from certain quite simple physical apparatus. The sixth lecture, "Speed,

Strength, and Endurance," dealt with an application of some of these matters to such things as mountain climbing and athletics; the importance of an adequate supply of oxygen was demonstrated by an experiment on a boy who pedalled a bicycle, breathing oxygen at only two-thirds of the ordinary atmospheric pressure, until very tired, and was almost immediately relieved—and pedalled with renewed vigour—when given oxygen in high concentration. Finally, it was emphasised how a capacity for severe muscular effort depends mainly on simple considerations of energy, and of skill in the economy of energy, and how certain predictions can be made of a man's athletic capacity by means of physiological measurements.

As I said in my first lecture, many people who own motor-cars know very little about the insides of them and how they work, which is distressing enough, especially when they go wrong. How many more who own perfectly good bodies have only the vaguest idea of their machinery, or of the meaning and importance of the various parts. In these lectures I tried to give my audience some idea of the working of two of the most important parts of the body. One cannot hope yet to understand our living machinery in full, but even the little we know already can add delight to physical exertion, and can make us realise the complexity of muscular skill and the nature of strength and endurance. The effort to understand will help us to appreciate the beauty and wonder of the devices with which our bodies are endowed; and when we begin to understand a little we shall soon want to understand much more.

Obituary.

DR. EUGEN HULTZSCH.

BY the death at Halle on Jan. 16, in his seventieth year, of Eugen Hultzsich, the study of Indian epigraphy loses one of its most ardent and painstaking followers. Born in Dresden, he was educated at Leipzig and Bonn, studying under Aufrecht, the famous Sanskritist. From 1882 until 1886 he was assistant professor of Sanskrit at Vienna. He was then appointed epigraphist to the Indian Government, remaining in the Service until 1903, when he retired and accepted the chair of Sanskrit at Halle. This he held until his retirement some time after the War. During the greater part of his service in India, Hultzsich edited *Epigraphia Indica*, to which he contributed many valuable articles. His own researches were very largely devoted to the inscriptions of the Presidency of Madras. His "South Indian Inscriptions," published between 1890 and 1893, gave in three volumes critical texts and translations of between three and four hundred inscriptions, mostly from the Tamil country. His reports on Sanskrit manuscripts in southern India were published in three massive parts between 1893 and 1905. His reputation as a scholar, however, will rest mainly on his edition of the edicts of Asoka—a subject on which he was the acknowledged authority. The publication of this standard work was delayed by the War, but

it has recently been issued by the Indian Government on behalf of the Archæological Survey. In it the whole of the previous literature of the subject is critically examined, and each text is given in the original with an English translation. Hultzsich was a contributor to the *Journal of the Royal Asiatic Society* and to that Society's prize publications, as well as to other orientalist periodicals, while in recent years he took a prominent part in the work of the German Oriental Society. Orientalists in Britain are particularly indebted to him for, first, the valuable collection of Sanskrit and other manuscripts made during his stay in India which is now in the Bodleian Library at Oxford, and, secondly, for his exertions in securing the return to the India Office and the Royal Asiatic Society of the valuable manuscripts and books on loan at the Leipzig exhibition when the War broke out.

WE regret to announce the following deaths:

Sir George Greenhill, F.R.S., formerly professor of mathematics in the Artillery College, Woolwich, on Feb. 10, aged seventy-nine years.

Dr. C. D. Walcott, secretary of the Smithsonian Institution of Washington, D.C., since 1907 and formerly director of the U.S. Geological Survey, on Feb. 8, aged seventy-six years.