

For fifty years Heaviside lived practically a hermit's life at Torquay. He was a good correspondent, but very difficult to approach personally. In his later years Dr. and Mrs. Searle of Cambridge were practically his only friends. The Government gave him a civil list pension, and about twenty years ago Mr. Asquith increased it. The Institution of Electrical Engineers took a filial interest in him, and it is gratifying to remember that during the last few years of his life the Institution kept in constant touch with him. In the preface to his "Electrical Papers" he says that the question "Will it pay?" never interested him. He was, he said, mainly actuated by philanthropic motives. Looking back—as he has probably saved the Government of every large civilised country in the world millions of pounds in the costs of their telephone schemes—he was truly a philanthropist. He died at Torquay on Tuesday, February 3, and was buried on Friday, February 6, in the same grave as his father and mother, only relatives and Mr. R. H. Tree, representing the Institution of Electrical Engineers, being present. Thus ended the life of one who has left a record of work which has proved of great value to the world.

A. RUSSELL.

PROF. N. KULCHITSKY.

THE death of Prof. Nicholas Kulchitsky on January 30, at the age of sixty-nine, has removed one of the foremost of Russian histologists. For many years he occupied the chair of histology at the University of Charkov, where he accomplished most of his researches. His methods of fixing and staining tissues are now in universal use—those for smooth muscle are particularly well known. He devoted much attention and made numerous important observations on the distribution of connective tissue in the intestinal tract and other organs. His text-books of histology are standard works and at present are commonly used by Russian medical students. That his work was well known outside his own country is shown by the fact that he was an honorary member of the Anatomical Society of Great Britain and Ireland.

Prof. Kulchitsky was a man of wide interests and sympathies. He responded whole-heartedly to the request of his government for his expert assistance in the work of the Ministry of Education, and for a number of years he held the post of administrator of education in the Charkov district and later in the Petrograd district. During the period just before the first revolution he held the post of Minister of Education. During the period of upheaval he suffered severely from the hardships attending revolution and counter-revolution: in order to maintain his family and himself he was reduced to hard manual labour. That he was able to live through these hardships, at his advanced age, is evidence of his characteristic power for hard work and perseverance. At length he was fortunate enough to embark on a British refugee ship together with remnants of Wrangel's forces, and this brought him to London, where he found shelter and opportunities for continuing his scientific endeavours.

During the brief time of less than three years, as lecturer in the Department of Histology at University College, London, Kulchitsky was largely concerned with the teaching of students, but he also completed several

important and significant researches. Not the least of these is that in which he showed that voluntary muscles are supplied by both medullated and sympathetic nerve fibres, the former being attached to the large muscle fibres, whilst the latter supply small muscle fibres. These facts led to the physiological and clinical investigations of the late Prof. Hunter, who showed that the smaller fibres are responsible for the maintenance of tone in voluntary muscles. The work has found important applications in the operation of dividing the sympathetic nerves supplying the muscles affected in cases of spastic paraplegia.

Prof. Kulchitsky and Prof. J. I. Hunter were associated in their work, and it is indeed a sad coincidence that the untimely death of young Prof. Hunter should so soon have been followed by the unfortunate accident, a fall down an elevator shaft at University College, which led to the death of Prof. Kulchitsky.

The loss of Prof. Kulchitsky is deeply mourned by all his associates and friends at University College and by the scientific world in general. G. V. A.

DR. DAVID B. SPOONER.

THE Archæological Department of the Indian Government has suffered a heavy loss by the death at Agra on January 30 of Dr. David B. Spooner, who had been Deputy Director-General of Archæology in India since 1919 and had acted on one occasion as head of the Survey during Sir John Marshall's absence on leave. Dr. Spooner's connexion with the Department commenced at the opening of the present century, and there can be no doubt that by his own efforts and achievements he did much towards giving practical effect to the policy of conservation and research inaugurated by Lord Curzon in 1902. Up to that date, official efforts to preserve the monuments of past ages and to investigate the hidden remains of antiquity were "spasmodic, desultory, unscientific and planned on a penurious scale." With the appointment of a Director-General of Archæology and a staff of able assistants, among whom Dr. Spooner was deservedly considered one of the most capable, there began that enormous development of historical and archæological study which has been one of the most striking features of the twentieth century in India.

Dr. Spooner did excellent work as Superintendent of the difficult Frontier Circle; but his name is more likely to be remembered in connexion with his excavations at Pataliputra, now known as Patna, the ancient capital of the Maurya dynasty of Magadha, and with the somewhat startling theory which he advanced as to the origin of the family of Chandragupta and his successors. The fact that the palace of the Mauryas, discovered near the modern village of Kumrahar, was almost certainly designed in imitation of the Persian palace at Persepolis, together with other traces of Iranian influence upon the practice of the Mauryan court, led Dr. Spooner to assert that Chandragupta and his successors were of Persian origin. This theory, which he published in the *Journal of the Royal Asiatic Society*, has been accepted by no one except, possibly, certain Parsi scholars, who were naturally gratified at the idea of a "Zoroastrian period" of Indian history. But while no one disputes the fact that Persian institu-