

News and Views

Prof. I. P. Pavlov, For.Mem.R.S.

WE join with men of science the world over in congratulating Prof. Pavlov on the attainment of his eighty-fifth birthday. His devotion to, and understanding of, physiology appear to have revealed to him the secret of normal living even under the adverse conditions of the changing political states of his native land. He looks upon the Revolution as a grand-scale physiological experiment, which everyone hopes will ultimately turn out as successfully as Pavlov's experiments. The son of a village priest, Ivan Petrovitch Pavlov was born on September 14, 1849, and qualified in medicine in 1879. Then began his physiological career, which happily still goes on. Possessing a highly critical, yet productive mind, his investigations were prosecuted with extreme care, and his findings have consequently withstood the test of time. His additions to the knowledge of the working of the living body are of considerable magnitude and of the first order of importance, not only to physiologists but also to medical men and psychologists. The possession of the rare combination of a keen intellect with surgical skill and mechanical ingenuity led to important discoveries in the normal processes of digestion.

PAVLOV realised at an early stage of his career that the mode of working of an organ in the normal living body may be quite a different affair from the behaviour of the same organ under artificial conditions of isolation in a strange medium. His studies were carried out on normal dogs and he exploited the natural appetite of dogs for his researches. After the preliminary operation of bringing the duct of a salivary gland to the outside of the cheek or neck, or arranging an external opening for the stomach, complete healing was ensured and the dogs taken home to be well cared for with the aid of his wife and children. The dogs were trained to allow the attachment of bottles for the collection of juices and to a sound-proof room fitted with many silent and ingenious devices, for example, pneumatically operated feeding tables. Always exercising the greatest care to eliminate extraneous factors, Pavlov achieved his aim of studying the effect of one cause at a time even in such a complicated machine as a healthy living dog. Pure gastric juice was made available, and the part played by nervous action on the composition and flow of digestive juices could be assessed. This led on to the analysis of the rôle of the higher centres of the nervous system in secretory activity and formed the test method in his investigation of conditioned reflexes. The latter constitutes one of the most valuable contributions to the understanding of the working of the brain, and is a great step forward in the placing of psychology on a scientific basis. Prof. Pavlov figured as a "Scientific Worthy" in our issue of January 3, 1925, when an article on his life and work by the late Prof. E. H. Starling was published.

George Bentham (1800-84)

SEPTEMBER 10 is the fiftieth anniversary of the death of George Bentham, whose "Genera Plantarum" is still regarded as the standard work on the subject. Born in 1800 at Stoke, near Portsmouth, Bentham (who was a nephew of Jeremy Bentham, the distinguished jurist) in his earlier years studied law and philosophy. Though called to the Bar, he soon abandoned law for botany. He was elected a fellow of the Linnean Society in 1828, and in the following year became honorary secretary of the Horticultural Society. He travelled extensively, making botanical collections, which he ultimately presented to the Herbarium at Kew. Between 1832 and 1836 he published his important "Labiatarum, Genera and Species". He became friendly with Sir Joseph Hooker, director of Kew Gardens, who assisted him in the compilation of his greatest work, the "Genera Plantarum", which appeared at intervals between 1865 and 1883. From 1854, he was engaged at Kew, working quietly and systematically at the description of flowering plants. Here he assisted in the preparation of floras of the British Colonies. Bentham's "Handbook of the British Flora" (published in 1858) is still the standard guide to the naming of the native plants of Great Britain. He tells us that he "amused himself by writing it before breakfast". He was president of the Linnean Society from 1861 until 1874, and was made a fellow of the Royal Society in 1864. In 1878, on the completion of his labours on the Australian flora, he was made C.M.G. He died at Kew.

Centenary of the Death of Thomas Telford

ON September 2, Sir Henry Maybury, president of the Institution of Civil Engineers, placed a wreath on the tomb of Telford in Westminster Abbey, while Mr. W. H. Budgett, divisional inspector in Scotland for the Ministry of Transport, placed a laurel wreath at the memorial seat at Westerkirk, Dumfriesshire. Born at Westerkirk in 1757, Telford was educated at the parish school, and when fourteen years old was apprenticed as a mason. Down to 1783 he was a workman employed in his native district of Eskdale. Leaving home, he studied architectural and structural design at Edinburgh, proceeding afterwards to London, when he embarked upon the career which ultimately brought him fame and honour. The Institution of Civil Engineers began to take shape in 1818, and on February 3, 1820, the group who were fostering a scheme of association resolved to ask Telford to become their first president. Telford accepted, and gave an inaugural address, providing his colleagues with much counsel for the future. At the same time, he presented a large collection of books and drawings with the object of founding a library. There is a fine portrait of Telford in the Institution's house at Great George Street, by Lane, showing him seated; in the background is a view of Menai Bridge. Most

of the exhibits of the Telford Centenary Exhibition in London have been re-arranged at Aberdeen for the benefit of members of the British Association.

Scientific Institutions in South Africa

At a meeting of the Royal Society of South Africa on June 20, Mr. L. Crawford read a paper on the South African Literary and Scientific Institution (1833-1857). The South African Literary Society was started in 1824; John Fairbairn and Thomas Pringle were two of its sponsors, but it encountered the hostility of the Governor, Lord Charles Somerset. He refused to grant it a licence and the project was dropped until 1829. The Society then began to hold meetings, papers were read and prizes offered for essays, one of these being limited to students of the South African College, founded in the same year. The South African Institution was founded also in 1829 on the same lines, and in 1832 the two societies amalgamated, becoming the South African Literary and Scientific Institution. Reports of the meetings and papers read appeared in the *South African Quarterly Journal*, but in 1835 that *Journal* came to an end and information about the later history of the Institution is difficult to find. The Institution's own minute books, etc., have disappeared. In 1834, Sir John Herschel arrived in South Africa. He was a strong supporter of the Institution during the four years he was there; for nearly three years he was president. He specially pressed the claims of meteorology on the Institution. In 1836 the *Cape Almanac* speaks of the rooms of the Institution and its Museum. After 1838 it is certain the Institution declined, so much that in 1850 John Fairbairn suggested in the *Commercial Advertiser* that a new Institution be formed and for permanence should be attached to the public library. This appeal met with no response. The Institution disappeared from the list of societies in the *Almanac and Annual Register* in 1858, so it may be taken that it came to an end in 1857, but from the first annual report of the South African Museum in 1856 it is learned that, in the previous year, what was left of its collections, books, etc., had been handed over to the Museum.

River Gauging

THE agitation on behalf of the establishment of a national Inland Water Survey will be supported during the meeting of the British Association at Aberdeen by a series of demonstrations of the process of river gauging on the River Dee, which are being undertaken by Capt. W. N. McClean with the aid of his apparatus, employed on the survey of the Ness Basin, and apparatus used by Prof. S. M. Dixon in connexion with gaugings of the River Severn. The demonstrations will take place on September 11 and other dates, as may be found desirable, at Woodend, above the Cairnton Intake of the Aberdeen Water Supply, the water authority of Aberdeen having kindly co-operated in providing a site for the gaugings and by installing two water-level recorders at Cairnton and Cults. Woodend Reach is of the 'pool' type and about 200 feet in width at normal water level. The

maximum surface velocity is expected to vary from 3 ft. per sec. at low water to 10 ft. per sec. on a normal flood. At low water the depth on the section is 3 ft. over the greater part with a deeper strip on the south side. The two types of gauging apparatus to be employed are (1) the Ness Basin type consisting of a ropeway, twin punts and stream-lined rod with current meter on the lower end, and (2) the Severn type, consisting of a ropeway with suspended current meter and sinker weight. A comparison of the two methods under identical conditions promises to provide useful data for inland water survey purposes.

A Survey of Aberdeen

FOR the Aberdeen meeting of the British Association, a pamphlet has been prepared entitled "A Scientific Survey of Aberdeen and District", and presented to all members. This marks a continuation of the policy adopted last year at Leicester. These slight volumes of uniform size and type are more convenient and, be it said, more useful than the varied and often ponderous handbooks that in former years were distributed at each centre of meeting. The new series gives a wealth of information without a bewildering mass of detail. Various authors have contributed to the work: Mr. J. McFarlane contributes a geographical introduction, followed by Prof. A. W. Gibb and Dr. A. Bremner on the geology, Prof. J. Ritchie on the animal life and Mr. A. MacGregor on the flora. A number of articles treat of archaeology, agriculture and the various industries of the town and district. Many members will turn with interest to the chapters on the fishing and granite industries which have done so much for the modern development of Aberdeen. The article on the trades shows, however, that Aberdeen has various other thriving industries, some with obvious local associations such as shipbuilding and fertilisers and others of more recent development. A final chapter gives biographical notes on some of the better-known men of science associated with the north-east of Scotland.

Alcoholism and Male Mortality

AN informative paper on this subject was read by Dr. Rudolf Bandel, of Nuremberg, before the recent International Congress on Alcoholism held on July 30-August 3 in London. Prof. Bandel stated that Hindhede in 1923 was the first to demonstrate the considerable fall in the male death rate in Denmark associated with the decrease in the consumption of alcohol brought about by the War. A similar fall in the male mortality along with decrease in alcohol consumption has been observed elsewhere, for example, in Germany, Belgium, Sweden, Hungary, the United States, and in a lesser degree in Switzerland, Holland and Norway. It was not so marked in the last three countries, because either, it is suggested, the decrease in alcohol consumption during the War was not so pronounced, or else the alcohol consumption before the War was not so high as in the other countries. On the other hand, in countries such as Italy and Spain, which did not reduce their alcohol consumption during the War, the male