News and Views

Jean Antoine Claude Chaptal, 1756–1832

WHEN on July 30, 1832—a century ago—Chaptal died at the age of seventy-six years, France lost a man of science and statesman who had, perhaps, done more to further the progress of the arts, industries, and manufactures of the country than any of his contemporaries. The son of a pharmacist, he was trained as a doctor, but it was chemistry which absorbed his attention, and it was as a chemical manufacturer that he first made a reputation. Born on June 4, 1756, at Nogaret, in the Department of Lozère, he graduated at Montpellier in 1777, and four years later was appointed to a newly founded chair of chemistry at the University there. With the fortune left by an uncle he established works for the manufacture of acids, alum, white-lead, and other commodities, and his success was such that in 1793 the Committee of Public Safety employed him with Berthollet and Monge to superintend the manufacture of munitions. Under Chaptal, the output of the Grenelle powder factory was raised to 1½ tons a day.

CHAPTAL became one of the first professors at the École Polytechnique, reorganised the Paris school of medicine, and after being made a Councillor of State, became Minister of the Interior. As such he energetically promoted trade schools, industrial exhibitions and chambers of commerce, and the construction of roads and improvements in public health. It was to Chaptal that Napoleon one day said, "I intend to make Paris the most beautiful capital in the world", and it was at Chaptal's suggestion that a canal was cut for bringing water to Paris from the River Ourcq. Though his loyalty to Napoleon afterwards led to his name being removed from the list of peers, he continued to work for the common good until loss of fortune and old age overtook him. Among his many books, that on chemistry applied to the arts, published in 1806, was translated into most of the languages of Europe, and long remained a valuable work of reference. His tomb is in the Père Lachaise, where so many eminent men of science are buried. He was a member of the Institut de France from 1816 onwards, and his *éloge* was delivered before the Academy of Sciences by Thenard.

Centenary of the British Medical Association

THE annual general meeting of the British Medical Association, which marks the official opening of the centenary meeting of the Association in London, will take place on July 23 at the Association's house in Tavistock Square, London. On July 24 a pilgrimage to Worcester has been arranged. In this city, in 1832, the project for an organised alliance of medical practitioners first took shape, under the guidance of Charles Hastings, who was born at Ludlow on Jan. 11, 1794. In the morning, Dr. W. G. Willoughby will unveil a plaque on a house in which Sir Charles Hastings formerly lived, the Mayor of Worcester assisting at the ceremony. An original portrait of Hastings (1839), by G. F. Faulkner, from the Board Room of the City Infirmary, will be handed over to the Association. From the house there will be a robed procession to the Cathedral to participate in a commemoration service, at which the sermon will be preached by Dr. E. W. Barnes, Bishop of Birmingham. A memorial window will be unveiled by the Right Hon. Lord Dawson of Penn. Lord Dawson will deliver his presidential address on July 26, at Queen's Hall, Langham Place, London, W.1. Next day the Lord Mayor and Corporation of London will hold a civic reception at Guildhall. A centenary dinner will take place at the Albert Hall, on July 28; Lord Dawson will preside and H.R.H. the Prince of Wales will be the principal guest. The clinical and scientific work of the meeting will be divided among twenty-four sections. In that devoted to the history of medicine (president, Dr. Charles Singer), in a discussion on various aspects of British medicine during the past hundred years, Sir Edward Sharpey-Schafer, the veteran physiologist, will open a discussion on the physiology of the period, while Dr. P. H. Manson-Bahr will open another dealing with tropical medicine. Personal letters and relics of British pioneers of tropical medicine will be shown by Dr. Manson-Bahr. A large number of Dominion and foreign guests is attending the centenary meeting.

Vienna Academy of Sciences

AT meetings of the Vienna Academy of Sciences held on May 30 and 31, Dr. Hans Molisch, emeritus professor of plant anatomy and physiology in the University of Vienna, was elected a vice-president, and Dr. Anton Eiselsberg, emeritus professor of surgery in the University of Vienna, was made an honorary member of the Academy. In addition to various Austrian members, the following foreign elections were made: Dr. Franz Kossmat, professor of geology in the University of Leipzig; Dr. E. B. Wilson, professor of biology at Columbia University; Dr. Michael Rostovtzeff, professor of ancient history and classical archæology at Yale University; Dr. Hugo Obermaier, professor of ancient history at the University of Madrid, and Dr. Norbert Krebs, professor of geography at the University of Berlin, to be corresponding foreign members; and Dr. Friedrich Meinecke, professor of history at the University of Berlin; Dr. Eduard Schwartz, professor of classical philology at the University of Munich, and Dr. Jakob Wackernagel, professor of classical philology at the University of Basle, to be honorary foreign members. The following awards of prizes were also announced: The Ignaz L. Lieben prize, jointly to Dr. Georg Koller for his work on the acids of lichens and Dr. Alois Zincke for his researches on perylene; the Haitinger prize to Dr. Otto Redlich for his investigations on the constitution of water and aqueous solutions; the Hansgirg prize to Dr. Hans Krumpholz for his determinations of the positions of double stars and comets; the Rudolf Wegscheider prize to Dr. Fritz Wessely for his work on glucosides, flavones, and natural coumarins;

and the Fritz Progl prize to Dr. Moriz Niessner for his micro-analytical investigations on alloys.

Imperial Academy of Japan

AT a meeting of the Imperial Academy of Japan on May 10, annual medals and prizes were awarded to the following: Kyosuke Kindaichi for his studies on the Ainu epic "Yukar"; Kiyoo Wadati for his investigations on deep focus earthquakes; Ikutaro Hirai for his work on the cause of the meningitis-like disease frequently observed among Japanese suckling children; Tatuo Aida for genetical studies on the body colour of *Aplocheilus latipes*; Motojiro Matuyama for his geophysical investigations on gravity anomalies and magnetism of basaltic rocks; Shintaro Uda for research on ultra-short electro-magnetic waves. The Mendenhall Memorial Prize was awarded to Seishi Kikuchi for his studies on the diffraction of electron rays through thin mica plates.

Visceral Sense Organs

THE fourth Victor Horsley Memorial Lecture was delivered on July 20 in the Medical School of University College Hospital by Prof. E. D. Adrian, who discussed the "Visceral Sense Organs". The action of the sense organs in the lungs and in the great blood vessels can be studied by recording the nervous messages which they send to the brain stem, a method made possible by the use of valve amplification to magnify the electric changes in the sensory nerve fibres. The normal sensory discharges in the vagus and carotid sinus nerves were demonstrated by gramophone records in which the nerve impulses were converted into sounds varying in pitch with the frequency of the discharge. The sense organs in the lung resemble the muscle spindles, giving a rhythmic discharge of impulses so long as the tissues are stretched. In normal breathing the discharge only occurs at inspiration, but there are some endings which are excited by collapse of the lung, and these may be the cause of rapid breathing in pathological conditions. The sense organs in the aorta and sinus caroticus behave like those in the lung and give a faithful signal of the blood pressure. Both systems act as governors to keep the respiratory and vascular systems working within safe limits, and, as with all sense organs, their effect depends upon messages which are graded by changes in impulse frequency and in the number of units in action.

New Motor-Boat Record

ON July 18, Mr. Kaye Don, piloting Lord Wakefield's motor-boat *Miss England III*, twice broke the previous world's speed record for motor-boats. In his first attempt Mr. Don covered the measured mile in 35·4 sec. and 35·2 sec. (117·43 miles an hour), and in the second attempt his times were 34·4 sec. and 34·8 sec. (119·81 miles an hour). The previous record was set up by Mr. Garfield A. Wood, who achieved 111·71 miles an hour. Sir Henry Segrave's record on Lake Windermere when he was killed in 1930 was 98·96 miles an hour. *Miss England III* was designed and built by Messrs. John Thornycroft and Co., Ltd., at Hampton-on-Thames. It is a single-step vessel and is fitted with two propellers. The boat is fitted with two Schneider Trophy type supercharged Rolls-Royce engines, developing 2200 h.p. and consuming about five gallons of fuel a minute. The length of the hull of the boat is 35 ft., and the maximum beam is 9 ft. 6 in.

High Speed and Flight

A SERIES of comprehensive experiments upon the possibilities of high-speed flight has been carried out in the Langley Field High Speed Wind Tunnel of the National Advisory Committee for Aeronautics in the U.S.A. Air speeds up to 800 miles an hour, which is faster than the speed of sound, have been reached. It has been definitely established that with the present conventional form of wing section there is so great an increase in drag at about 600 miles an hour that it will be impossible to carry sufficient power to overcome it, assuming the present methods of conversion of fuel to air thrust. This is confirmed by experience with high-speed propellers, the blade tips of which may easily be travelling at a peripheral speed approaching the velocity of sound. In such cases their outer portions may be actually exerting a negative effect. The delicate mechanisms of the human body do not appear to be susceptible to steady high speeds, but they react to accelerations at much lower figures. This case arises often during flight, when every turn is an angular acceleration. It has been established that the maximum speed that the human body can stand during an average sharp turn is about 300 miles per hour. The present speed record for flight in a straight line is an average 408·8 miles an hour, although speeds up to 415·2 miles an hour for short periods have been recorded.

Constitutional Tendencies in the Orient

AT a time when a bold experiment in the method of governing India is to be made and the details of the new federal constitution are being elaborated, a thoughtful paper by Sir Arnold Wilson, in the *English Review* for May, on the relative merits of government by means of an executive responsible to an elected body and by bureaucratic methods, should be read. As is well known, the application of the democratic principle to Eastern conditions is by no means new. It has already been attempted, not only in the management of local affairs in India itself, but also in a wider field in other countries, such as Turkey, Egypt, Persia, Iraq, Cyprus, Ceylon, and the Dutch East Indies. The results so far obtained are described in detail in the paper under review. They make very melancholy reading. In these very different localities, the introduction of the electoral principle has almost without exception either ended in complete failure or has been disappointing. On the other hand, in the overseas possessions of France and Italy, where the system adopted is a benevolent autocracy, the people are said to be contented and there is little or no unrest of the type now so common throughout India.

The Indian Problem

IT is difficult to resist the conclusion that had the Indian problem been approached at the very outset by the methods familiar to the man of science, one of