OBITUARIES

Mr. J. H. Coste

JOHN HENRY COSTE died on January 3 at his home at Smallfield, near Horley, Surrey, in his seventy-eighth year. His death further reduces the dwindling number of old Finsbury Technical College students, for it was at this College during 1888–91 that he received, under Meldola, scientific training which served him in such good stead for a long and most useful life. He obtained his first appointment under John Augustus Voelcker, and three years later joined the staff of the Chemical and Gas Testing Department of the London County Council; he remained in this service until his retirement in 1936. His ability was soon recognized, and in 1908 he was appointed chief assistant and in 1912 promoted to the position which is now designated Chemist-in-Chief, Public Health Department. He was always a keen experimenter, and scientific literature, mainly *The Analyst* and the *Journal of the Society of Chemical Industry*, contains no less than fifty papers of which he was either the author or part author. A perusal of these contributions shows him to have been a very versatile worker, for the subjects include petroleum, paint, water, air, milk, coal, sewage, etc., and in addition he was the author of one and part author of two books, on the calorific power of gas, the chemistry of paint pigments and on fuel.

Necessarily the field of his activities was very wide, as covering the scientific aspect of all the work of the premier local government authority in the world. In his later years his chief interests centred in two matters intimately connected with public health, namel , atmospheric pollution and sewage treatment. He was a member of the original research committee of the Meteorological Office on the former subject, that work being transferred later to the Department of Scientific and Industrial Research. After his retirement he was still active in this field right up to the time of his sudden death. Naturally, too, as a successor to the pioneers W. J. Dibdin and Frank Clowes as the senior chemist in the London County Council's service, he was intimately concerned with the sewage disposal problem, and did original work on this subject and its related one of water pollution.

Mr. Coste was a fellow of the Royal Institute of Chemistry and of the Institute of Physics, and served for periods on the council of the former and also on that of the Society of Public Analysts.

His nature was kindly and he was always approachable and willing to help in any problem, official or personal, which was put to him. His sudden passing is a great loss to the many who were privileged to be counted among his friends. C. J. REGAN

Prof. Egon von Schweidler

EGON RITTER VON SCHWEIDLER, formerly professor of physics in the University of Vienna, died on February 12, 1948, in his country home near Salzburg. His death has not hitherto been recorded in *Nature*.

Schweidler's name is familiar to all workers in radioactivity as the co-author of a manual of radioactivity which surpasses the well-known French and English standard works in this field by the range it covers and the completeness of its documentation; the two editions of 1916 and 1927 have been most valuable to generations of physicists and chemists. It was written in collaboration with St. Meyer, with whom Schweidler's name is linked also in numerous experimental papers on radioactivity. Another field in which he worked as an experimental physicist and was an acknowledged authority is atmospheric electricity.

It was, however, a contribution to theoretical physics by which Schweidler exerted the strongest influence on the development of science. At the International Congress on Radiology held in Liège in 1905, he read a paper in which he gave the statistical interpretation of Rutherford and Soddy's law of radioactive disintegration. He showed that the statement that, per unit of time, it is always the same fraction of a radioactive substance which disintegrates, can be true only if the law of large numbers makes its levelling effect felt and obscures the deviations; but these must become obvious as soon as the number of atoms under observation is reduced sufficiently. These 'Schweidler fluctuations' were soon verified by experiment, and thus the chance character of the process of disintegration directly demonstrated.

This erratic behaviour of single atoms seemed in 1905 to be something completely out of step with the rest of physics and confined to radioactive disintegration. However, in 1917 Einstein used an analogous interpretation of the emission of light from an excited atom, and it is well known what a predominant role statistical interpretations now take in quantum mechanics. The credit must go to Schweidler, however, for having recognized the first case in a fundamental paper which, in his history of physics, von Laue calls "a step forward of incalculable importance".

Schweidler was born in Vienna on February 10, 1873; he was a student, a lecturer, and an assistant professor there before he was called to the chair of physics in Innsbruck. This he occupied from 1911 until 1926, when he returned to Vienna as director of one of the physics institutes there. This position he held until his retirement in 1939. He was a member of the Vienna Academy of Sciences and for several years also general secretary and vice-president.

The atomistic school of Vienna, famous for such names as Loschmidt and Boltzmann, has lost in Schweidler another worthy representative.

F. A. PANETH

Mr. G. P. Farran

GEORGE PHILIP FARRAN, who died at his home at Templeogue, Co. Dublin, on January 5 at the age of seventy-two, was connected for nearly fifty years with the Fisheries Branch of the Department of Agriculture there. After a distinguished career at Trinity College, Dublin, he joined the small group of scientific men working, under the late Ernest W. L. Holt, on fishery and marine biological problems in Ireland; and afterwards, in 1900, he entered the service of the Department of Agriculture and Technical Instruction as a naturalist. In 1938 he was promoted to chief inspector of fisheries, a post from which he retired in 1946.

Farran's early papers had ranged over a wide field; but later in life he more or less restricted his activities to the study of planktonic organisms, particularly copepods, and the Irish herrings. As a planktologist he was a recognized authority. For a period of more

than twenty-five years he represented Ireland at the annual meetings of the International Council for the Exploration of the Sea. He was elected to membership of the Royal Irish Academy in 1912. A year ago he was elected an honorary member of the Challenger Society for his work in marine biology, and shortly before his death he was preparing to attend one of the joint meetings of the Society in London.

We regret to announce the following deaths:

Mr. W. C. Chesterman, O.B.E., assistant secretary of the University Grants Committee, on January 29, aged fifty-nine.

Dr. F. H. A. Marshall, C.B.E., F.R.S., formerly reader in agricultural physiology in the University of Cambridge, on February 5, aged seventy.

NEWS and VIEWS

Physics at the National Research Council, Canada: Dr. G. Herzberg

Dr. Gerhard Herzberg has been appointed director, Division of Physics, National Research Council, Canada, in succession to Dr. R. W. Boyle, who retired in October 1948. Dr. Herzberg is a Canadian citizen who has been on the staff of the Division of Physics for some months as a principal research officer, having gone to this post from the Yerkes Observatory, University of Chicago, where he had been professor of spectroscopy for nearly three years. During the preceding ten years, he was research professor of physics at the University of Saskatchewan, Saskatoon, Sask. Before that, he had worked in Germany at Darmstadt and Göttingen, and in the University of Bristol. Dr. Herzberg is a leading authority on spectroscopy and molecular structure, and is the author of three standard textbooks and numerous scientific papers. At Saskatoon he established a spectroscopy laboratory for graduate research and thus greatly strengthened the graduate school in physics and chemistry. He and his coworkers made important contributions to interpretation of data on spectral lines of distant stars and of comets. These investigations led up to his work at the Yerkes Observatory, where he built the world's longest multiple optical path (5,000 m. at atmospheric pressure) for the study of planetary atmospheres and to gain information on molecular structure. Using this equipment, he carried out important work on the infra-red absorption spectra of hydrogen, which has made it possible to detect hydrogen in planetary atmospheres. Dr. Herzberg will continue his varied researches in his new post.

Dr. L. E. Howlett, M.B.E.

Dr. Leslie E. Howlett has been promoted to be associate director of the Division of Physics, National Research Council, Canada. Graduating in mathematics and physics in the University of British Columbia in 1927, he went to the University of Toronto as a research fellow, proceeding eventually to McGill University for his doctorate. Since 1931 he has been on the staff of the National Research Council in charge of the optics section. During the War he aided in the development of the optical instrument industry, for which he was awarded the M.B.E. in 1943. He served as chief scientific liaison officer in London and later in Washington. Since July 1948 he has been assistant director of the Division, and his advancement to the post of associate director is a tribute to his success in the organisation and management duties entrusted to him.

Another Big Sunspot

Misty or foggy conditions in Britain on February 4 made it possible to see with the naked eye a big group of sunspots that had grown rapidly after February 1. Another factor which contributed to its 'discovery' by many members of the general public was the favourable position of the spot group near the centre of the disk. At central meridian passage on February 5·4, the group passed within 2° of the centre of the disk, and its area was then greater than 2,000 millionths or 1/500 part of the sun's hemisphere. Although in size the present sunspot was only about half that of the four giant spots seen in 1946–47, it has attracted more general interest, because of the recent atmospheric conditions for its easy visibility, and also because of the earlier big spot group of comparable size a fortnight earlier, with the associated auroral display on January 24–25 (see *Nature*, February 5, p. 203). Observers of the setting sun, seen through the London mist on February 4, could also pick out with the unaided eye two other spots.

Government Expenditure on Universities in England

In a written Parliamentary reply to Mr. Kenneth Lindsay on January 18, Sir Stafford Cripps, the Chancellor of the Exchequer, said that the non-recurrent payments to the Universities in England during the years 1945–49 were as follows: 1945–46, £620,895; 1946–47, £566,996; 1947–48, £1,920,508; 1948–49 (to January 14, 1949), £1,980,686. The principal projects covered by these grants are the purchase of sites and buildings, the erection of new buildings (including new teaching blocks for science and technology and halls of residence) and the provision of new equipment. The amounts paid to individual institutions have varied according to the opportunities for building and the degree of expansion of numbers in an individual centre. Sums in excess of £200,000 are listed as follows: University of London, £1,283,348; University of Durham, £504,011; University of Nottingham, £319,083; University of Birmingham, £292,485; University of Leeds, £270,418; University College of Hull, £240,813; University of Bristol, £230,521; University of Oxford, £217,507; University of Reading, £215,645; University College, Leicester, £213,902.

The Oil Position in 1951

Middle East oil is again prominent in the American Technical Press, this time in a paper entitled "The Place Middle East Oil will occupy in World Markets", read by C. J. Bauer, of the Standard Oil Company, New Jersey, at the annual meeting for 1948 of the American Institute of Mining and Metallurgical Engineers. As is now generally appreciated, the function of Middle East oil, once pipe-lines to the Mediterranean are completed, will be to relieve the strain on western hemisphere petroleum resources, that is to say, the United States and Caribbean region, from which at present most of West European