

### U.S. Television 'Journal' for Science and Engineering

*Scientific Information Notes* for October–November 1962 (4, No. 5), issued by the National Science Foundation, notes that the Foundation is supporting an experiment in the use of television as a medium for communication from scientists to scientists. The experiment is being administered by the American Association for the Advancement of Science, and, with the co-operation of several scientific societies, is being developed as a television series to function as a 'journal' of science and engineering at professional level. The Foundation is also supporting a two-year study at Lehigh University, Pennsylvania, of methods of analysing the information needs and patterns of use of scientists.

### Twentieth Anniversary of the First Nuclear Reactor

THE International Atomic Energy Agency has issued a special number of its *Bulletin* to mark the twentieth anniversary of the first nuclear reactor becoming critical on December 2, 1942. An introduction by the director-general of the Agency, Dr. A. S. Eklund, is followed by articles by L. Meitner on roads to the discovery of nuclear energy; Dr. O. Hahn, on E. Fermi and uranium fission; S. K. Allison, on initiation of the chain reaction; G. T. Seaborg, on the first nuclear reactor, the production and chemical extraction of plutonium; Sir John Cockcroft, on the early days of the Canadian and British atomic energy projects; B. Goldschmidt, on France's contribution to the discovery of the chain reaction; V. S. Emelyanov, on the first atomic reactor in the U.S.S.R.; H. DeWolf Smyth, on the publication of the Smyth Report; E. P. Wigner, on the anniversary of the first reactor; J. A. Wheeler, on "Fission Then and Now"; G. de Hevesy, on the reactor and the production of isotopes; L. Fermi, on some personal reminiscences; C. Allerdic and E. R. Tragenell, on the first atomic pile.

### William Dampier

A SHORT account of the life of Dampier as explorer, seaman and scientist has been prepared by J. C. Shipman, of the University of Kansas (University of Kansas Publications, Library Series, No. 15: *William Dampier: Seaman-Scientist*. Pp. 63. Lawrence, Kansas: University of Kansas Libraries, 1962. 1.50 dollars). Shipman describes Dampier's voyages around the world, the many plants and animals attributed to him, as well as his many observations in oceanography. The book provides a valuable supplement to the larger existing works.

### Anti-knock Efficiency of Methylcyclopentadiethyl Manganese Tricarbonyl

A. Girelli and C. Orlandi have studied the knock rating of methylcyclopentadiethyl manganese tricarbonyl (1), using that compound alone or in conjunction with tetraethyl lead (2), in eight normal production oil fuels from Italian refineries, each being of different chemical composition. The results of their investigations were given at the ninth National Congress of Chemistry, held in conjunction with the Swiss Chemical Society, at Naples, during May 27–June 2, 1962, and summarized in *La Rivista dei Combustibili* (16, 9; September 1962). Their findings are significant. With straight-run, paraffin-base petrol the octane number increases more with addition of (1) than of (2), giving the same concentration of grammes of metal per litre. Much the same is found in petrols produced by 'cracking' processes: for the same metal content the octane number rises more with (1) than (2). With increase of aromatic content in the distillates, however, the effect of additive (1) becomes less progressively compared with the more commonly used tetraethyl lead. Carrying the research a stage further, the authors tested the anti-knock behaviour of both (1) and (2) in combination added to the same series of petrols. They found

that the synergic effect of this procedure was greatest in the paraffin-base petrols and decreased in proportion to rise in aromatic content. The chain of chemical reactions involved in these experiments is complex, but it is believed that the behaviour of (1) in the presence of (2) in the varying types of petrol used is due to the retarded action of (2) compared with (1). This can be explained by assuming that the reactive compound (1) in the form of manganese oxide precedes the influence of the lead oxide in (2) in the course of the combustion process. It is argued that, in consequence of this preference, the role of compound (1) is such that it breaks the chain of reactions "... which, in the presence of (2) alone, would continue undisturbed until knocking occurs before the appearance of the active form". These results apparently are in agreement with those of other workers on this problem and would seem to establish the fact that the anti-detonating efficiency of the manganese compound in light petroleum distillates, compared with tetraethyl lead, must now be reckoned with in modern refinery projects.

### Gerontology in the United States

THREE brochures reviewing different aspects of research programmes in ageing conducted and supported by the National Institutes of Health during 1961 have been issued by the U.S. Public Health Service. The publications are prepared annually by the Centre for Ageing Research. *Research Highlights in Ageing* presents a review of a selected number of scientific papers on research in ageing, ranging from fundamental studies in the biology of ageing to studies concerned with the physical, psychological and social problems of ageing people (Publication No. 921. Pp. v+29. Washington, D.C.: Government Printing Office, 1962. 20 cents). *Activities of the National Institutes of Health in the Field of Gerontology* lists research and training grants either primarily or secondarily related to ageing (Publication No. 935. Pp. viii+47. Washington, D.C.: Government Printing Office, 1962. 35 cents). In each category the grants are classified under general headings and under such special groupings as physiological and biochemical aspects in ageing, psychological aspects, social aspects and disease processes. The third brochure, *Research Programmes in Ageing*, briefly summarizes the research programmes at the National Institutes of Health in this field as well as programmes at other institutions where the National Institutes of Health grants are sponsoring research in the increasing medical, social, economic, physiological and psychological problems associated with the ageing process (Publication No. 939. Pp. v+17. Washington, D.C.: Government Printing Office, 1962. 15 cents). Single copies of the pamphlets are available from the Centre for Ageing Research, National Institutes of Health, Bethesda 14, Maryland.

### Animal Health Yearbook

THE *Animal Health Yearbook* is issued jointly by the Food and Agriculture Organization, United Nations, the World Health Organization and the International Epizootics Office, Paris. The 1961 issue provides tabulated statistical information concerning farm animals, including birds, in the countries which fall within the activities of these international bodies, this being the major portion of the text (Pp. 315. Rome: Food and Agriculture Organization, 1962. 15s.). There are brief accounts of five important laboratories which deal with matters that concern the disease problems of these countries in so far as they have, to that extent, application to their own countries (the Republic of South Africa, the United States and Britain). In addition, there is a brief account of the operations of the Inter-African Bureau of Animal Health in Kenya. This is a publication for the senior administrative office of a veterinary service, for veterinary libraries and other organizations interested in animal