

promise: the discipline was personal and that imposed by the subject. He impressed on all that while work had to be carefully planned, it must not be rigid to exclude or overlook the unanticipated chance or the unintended discovery which he considered to be one of the principal objectives of cancer research.

He gave up the directorship in 1969 because of his failing eyesight and retired as Professor of Experimental Pathology three years later. He did not allow this affliction to stop his work and he was active until a few weeks before his death.

His own research work, which covered a vast spectrum from the first properly conducted clinical trial of a cancer chemotherapeutic agent to studies of drug action at the molecular level, was dominated by the concept that there is a link between impairment of growth and the eventual induction of cancer. Early in his career he found that chemicals which induce cancer are almost invariably toxic to dividing cells, both normal and malignant. The full implications of this

observation for the mechanisms of carcinogenesis have yet to be revealed, but for the development of the modern era of cancer chemotherapy this finding was crucial. The study of the mode of action of carcinogens and of anti-cancer agents was seen by him to be closely associated, and led to the discovery within the Institute of some of the most valuable and widely used cancer chemotherapeutic agents.

While Haddow foresaw long before most the clinical possibilities of cancer chemotherapy, he appreciated the limitations of the available compounds and insisted that research efforts must be concentrated on their mode of action in the hope of achieving greater specificity. His belief that, in spite of the great diversity of carcinogens, there must be an underlying unity of mechanism and that a truly comprehensive synthesis is possible has been fully validated by recent findings that carcinogens of the widest heterogeneity induce, by various routes, very similar biochemical lesions.

His personality was complex but the key to it was his intense concern for

people and causes. His idealism extended into many fields and he found the time to give active support to bodies involved with the prevention of nuclear war and the misuse of science in all its aspects, such as Pugwash. He wrote cogently on all these topics and to foster them accepted a seat on the Press Council and the advisory council of the B.B.C. He also contributed greatly to the international organisation of cancer research, both through the International Union, in which he served as President, and by personal contact.

His concern for people determined the atmosphere of the Institute. He was tolerant, generous, had an intense interest in the well-being of all who worked for him and with him and went to endless trouble to help with professional and personal problems. Haddow's immense mental and physical energy and his versatility derived from his conviction that problems intellectual, medical or social were capable of being solved and he had no sympathy for those who skirted their direct confrontation. **Peter Alexander**

## announcements

### International meetings

March 31–April 2. **The magnetosphere/Particle physics**, Sheffield (The Meetings Officer, The Institute of Physics, 47 Belgrave Square, London SW1 8QX, UK).

April 2. **Chemically Active Species in Biology**, The London School of Hygiene and Tropical Medicine (Assistant Secretary, The Society of Chemical Industry, 14 Belgrave Square, London SW1X 8PS).

April 8–9. **Stress in Animals on Experiment**, a Symposium organised by LASA and BLAVA, Guildford (Dr P. Eaton, Charing Cross Hospital Medical School, Fulham Palace Road, London W6 9HH).

June 7–9. **Chlorophyll-Proteins Reaction Centres and Photosynthetic Membranes**, Brookhaven (Deadline for Contributions, April 16) (Dr John M. Olson, Biology Department, Brookhaven National Laboratory, Upton, New York 11973).

June 23–25. **First International Symposium on HLA and Disease**, Paris (Deadline for Abstracts, April 28 to Professor J. Dausset, Centre Hayem, Hôpital St-Louis, 75475 Paris) (Congrès-Services, 1 rue Jules Lefèbvre, 75009 Paris, France).

July 19–22. **Fifth International Symposium on Medicinal Chemistry**, Paris (Congress secretariate: 49 rue St-

### Person to Person

Some members of the Department of Mathematics at Edinburgh University, believe that there is scope for improved co-operation between mathematicians and R and D workers in industry, and a group has been formed to identify and work on industrial problems. They wish to hear of suitable problems and to meet representatives of the firms concerned to discuss possible co-operation.

Any problem submitted would be discussed at first by the group as a whole to decide whether the requisite skills are available. The problem would then become the main concern of one or more members, with the active support of the rest of the group for discussions and workshops.

Enquiries to The Director, Centre for Industrial Consultancy and Liaison, University of Edinburgh, 14 George Square, Edinburgh EH8 9JZ, UK.

There will be no charge for this service. Send items (not more than 60 words) to Martin Goldman at the London office. The section will include exchanges of accommodation, personal announcements and scientific queries. We reserve the right to decline material submitted. No commercial transactions.

Andre-des-Arts, 75006 Paris).

October 27. **Ultrasonic Spectroscopy**, London (Papers: Professor A. F. Brown, The City University, St John's Street, London EC1V 4PB; Information: The Meetings Officer, The Institute of Physics, 47 Belgrave Square, London SW1X 8QX).

### Reports and publications

#### Other countries

Unesco. Intergovernmental Oceanographic Commission. Technical Series No. 11: Bruun Memorial Lectures. (Presented at the Eighth Session of the IOC Assembly, Unesco, Paris 5–17 November 1975). Pp. 63. (Paris: Unesco, 1975.) [812]

The Coconut Industry Board, Jamaica. 14th Report of the Research Department, July 1973/June 1974. Pp. 64. (Kingston, Jamaica: Coconut Industry Board, PO Box 204, 1975.) J\$3; £1.50; US\$3. [912]

World Health Organization: Regional Office for Europe, Copenhagen. Report of the Regional Director, July 1974 to June 1975. Pp. 105. (Copenhagen: WHO, Regional Office for Europe, 1975.) [912]

CERN—European Organisation for Nuclear Research. CERN 75–15: Terminals for the Interactive Input and Editing of Bibliographic Records on the PDP-11 Computer in the CERN Library. By A. Van Praag. Pp. 60. CERN 75–16: Effects of Nuclear Radiation on the Optical Properties of Cerium-Doped Glass. By B. McGrath, H. Schonbacher and M. Van de Voorde. Pp. 7. CERN 75–17: Calculation and Optimization of Study Fields of Septum Dipole Magnets. By A. J. T. Holmes. Pp. 19. (Geneva: CERN, 1975.) [1012]

Australia: Commonwealth Scientific and Industrial Research Organization. Annual Report of the Division of Chemical Physics, 1974/1975. Pp. 78. Division of Chemical Physics—Research and Facilities. Pp. 90. (Clayton, Victoria, Australia: Division of Chemical Physics, CSIRO, 1975.) [1112]

Australia: CSIRO. Bulletin No. 288: Energetics of Agriculture and Food Production. By Roger M. Gifford and R. J. Millington. Pp. 29. (Melbourne: CSIRO, 1975.) [1112]

Australia: CSIRO. Division of Applied Geomechanics—Research Report 1975. Pp. 90. (Mount Waverley, Victoria: Division of Applied Mechanics, CSIRO, 1975.) [1112]