obituary

Theodosius Grigorievich Dobzhansky, world renowned population geneticist and evolutionist, died on December 18, 1975 in Davis, California. Correspondence concerning journal articles received by his colleagues suggest that he was working until the moment of death.

Dobzhansky was born on January 25, 1900 at Nemirov, near Kiev, in the USSR, where he studied biology at the University. After graduating, he became a Lecturer in Genetics at the University of Leningrad. In 1927 he received a Rockefeller Foundation fellowship to study with T. H. Morgan at Columbia University and at the California Institute of Technology, when Morgan moved there. Dobzhansky joined the faculty of the Institute after the expiry of his fellowship. He remained there as Professor of Genetics until he returned to Columbia University in 1940. In 1962 Dobzhansky joined the research staff of the Rockefeller Institute (later Rockefeller University) in New York City. On his retirement in 1971, he moved to the University of California at Davis, where he worked until his death.

Early in his career, Dobzhansky ('Dodik' or, as his American friends came to call him, 'Doby') led an expedition into central Asia studying the genetics of domestic animals. He developed a lifelong passion for horse-back riding during that trip. Subsequently, nearly every site for field studies was selected to include accessibility to a riding stable; a ride of several hours on a 'splendid animal' was an essential feature of his daily routine.

Until joining Morgan's group, Dobzhansky spent some ten years studying

the taxonomy, geographic variation, and polymorphism of coccinellid (lady-bird) beetles. These studies, influenced by his former professor, S. S. Chetverikov, laid the foundation upon which he built his later theories of the origin of geographic races.

After joining Morgan's group, Dobzhansky started his work on *Drosophila*. He commenced a number of studies that would now be regarded as 'classical' genetics: in respect to the question of the pleiotropic (multiple) action of genes, he showed that a number of common mutant alleles in *D. melanogaster* had consistent effects on internal organs as well. His work on the location of gene loci through the use of chromosomal translocations led to the first cytological maps of gene loci. He pursued the genetics of sex-determination and intersexuality in *Drosophila*, and made valuable contributions to the then-baffling phenomenon of 'position effect'.

Dobzhansky's work on the population and evolutionary genetics of *D. pseudo-obscura* began in the early 1930s with studies on the hybrid sterility of 'inter-racial' crosses. After discovering a wealth of chromosomal inversions in these flies, he recognised that the order in which these inversions occurred could be deduced from present day gene arrangements. A phylogeny of chromosomal rearrangements spanning three species was eventually constructed.

The studies on the genetics of natural populations of *D. pseudo-obscura* and other *Drosophila* species were reported in a series of 43 papers, the last of which appears in the March 1976 issue of *Genetics*. These studies also formed

the basis of Dobzhansky's classic text, '*Genetics and the Origin of Species*' (retitled '*Genetics of the Evolutionary Process*' in its 1970 edition). He constantly related knowledge gained firsthand from his beloved flies and beetles to appropriate biological aspects of human beings; out of such efforts came '*Mankind Evolving*', a text that is often favourably compared with his earlier classic.

Dobzhansky will influence the course of population genetics for years to come. In addition to the 34 or so doctoral students whom he supervised, his laboratory was host to a phalanx of postdoctoral fellows from all parts of the world. At last count, Dobzhansky had been the recipient of 21 honorary degrees.

In concluding this review of Dobzhansky's many accomplishments, it is necessary to mention the vigour with which he opposed those whom he perceived as charlatans. For many years, he attacked Lysenko and Lysenkoism as that man and his followers sought to destroy both genetics and the geneticists within Stalin's USSR. Similarly, he criticised outspokenly the pseudo-science of those in the United States and elsewhere who preached the superiority of one racial group over another. And he had no patience with those who, on religious grounds, oppose evolution and the teaching of evolution in the public schools. Weakened by age and terminal disease, Dobzhansky could nevertheless muster the strength needed to thunder at a carping anti-evolutionist, "SIR! I do not question your honesty! I question your INTELLIGENCE!"

Lee Ehrman
Bruce Wallace

Professor Sir Alexander Haddow died on January 21, three days after his 69th birthday. Honours, high academic distinction and recognition of his work came to him from many institutions and countries, and these and the list of his numerous offices can be found in reference books. This is a more personal tribute and an account of his 40 years devoted to the Research Institute of the Royal Cancer Hospital (Free), known, after moving to new premises, as the Chester Beatty Research Institute.

In 1935 he arrived there from Edinburgh to join Kennaway, and in 1946 succeeded Kennaway as Director. The

run-down inevitably associated with the war was reversed and he initiated a ten-year period of growth and expansion. He insisted that cancer research must not be regarded in any narrow light but must be pursued as with basic science, to which it, in turn, had to contribute. He thought himself "an anti-planner and an anti-organisation man" and he would have been appalled to hear himself described as a good administrator, yet he was just that. He provided an organisation which facilitated research, yet one that was quite free from bureaucratic complexity and he saw to it that no-one was diverted from what he described as 'their proper

labour' by administrative tasks.

To achieve this took much time and effort but yet it did not stop Alex Haddow from pursuing his own research work, and from guiding the work of a large team. His knowledge of all aspects of cancer research was impressive and he took immense pains to help and advise. He never forced his own views, yet a large part of the work of the Institute, past and present, can be traced both to his guidance, enthusiasm and, not infrequently, to his own research discoveries. His attitude to research was that it was an intensely individual pursuit and that workers must be left to develop their own

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 Lefebvre, 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]