

University News

Professor V. Walker has been appointed to the additional chair of mechanical engineering in the **University of Bradford**.

Mr T. Lewis, University College, London, has been appointed to the chair of mathematical statistics in the **University of Hull**.

Dr L. Essen, National Physical Laboratory, has been appointed a consultant professor in physics at the **University of Keele**.

Announcements

The **Zoological Society of London** has made the following awards: **The Scientific Medal** to **Dr J. B. Gurdon** of the Department of Zoology, University Museum, Oxford, for his work on nuclear transplantation; **Dr J. E. Treherne** of the Department of Zoology, University of Cambridge, for his work on insect physiology, particularly the absorption of nutrients; and **Professor L. Wolpert** of the Middlesex Hospital Medical School, London, for his work on cell biology and embryology; **The Stamford Raffles Award** to **Dr Maxwell Savage** of Welwyn, Hertfordshire, for his contributions to the knowledge of amphibians; **The Thomas Henry Huxley Award** to **Dr P. S. Lake** for his thesis "Studies on growth, feeding and neurosecretion of *Chirocephalus diaphanus* Prevost (Crustacea: Anostraca).

Meetings

June 12-14, **Applications of Newer Physical Techniques to the Study of Drug Metabolism**, National Bureau of Standards, Gaithersburg, Maryland (Drug Research Board, National Academy of Sciences, 2101 Constitution Avenue, NW, Washington DC 20418).

June 18-20, **Storage and Retrieval of Information**, Munich (Dr I. J. Gabelman, Director, Advanced Studies, Rome Air Development Center, Griffiss Air Force Base, New York 13442).

June 23-29, **High Speed Photography**, Stockholm (The Secretariat, 8th International Congress on High Speed Photography, Box 23, Stockholm 80).

June 24-26, **Technological Forecasting**, Glasgow (R. V. Arnfield, University of Strathclyde, George Street, Glasgow C1).

June 26-28, **Thermoelasticity**, Ministry of Technology's National Engineering Laboratory, East Kilbride (The Director, National Engineering Laboratory, East Kilbride, Glasgow).

June 30-July 14, **Electronic Structures in Solids**, Crete (E. D. Haidemenakis, 2 rue de Furstenberg, Paris 6e).

July 1-12, **Health Physics**, Imperial College of Science and Technology (The Registrar, Imperial College, South Kensington, London SW7).

July 14-26, **Plant Pathology**, Imperial College of Science and Technology (Professor R. K. S. Wood, Imperial College, London SW7).

July 16-20, **Eighty-seventh Annual Meeting of the Society of Chemical Industry**, Edinburgh (Dr Magnus Pyke, Publicity Secretary, Scottish Grain Distillers Ltd, Glenochil Research Station, Menstrie, Clackmannanshire, Scotland).

July 22-25, **Animal Reproduction and Artificial Insemination**, Paris (6th International Congress on Animal Reproduction and Artificial Insemination, 7 rue Auber, Paris 9e).

July 23-25, **Institute of Information Scientists Conference**, Sheffield (R. Sewell, 29 Blackbrook Avenue, Sheffield 10).

ERRATUM. Dr A. J. Osbahr has written to say that the primary structure of bovine peptide B quoted in his article with Robert W. Colman and Russell E. Morris, jun. (*Nature*, 215, 292; 1967), should have been credited to Blomback, B., and Doolittle, R. (*Acta Chem. Scand.*, 17, 1816; 1963).

ERRATUM. In the communication "Elastase from *Staphylococcus epidermidis*" by David P. Varadi and Angelito C. Saqueton (*Nature*, 218, 468; 1968) the sentence beginning on the twenty-eighth line of the second paragraph should read: "All of forty elastase-negative isolants from skin were β -galactosidase-negative; correspondingly, of forty-five elastase-positive isolants 92 per cent were β -galactosidase-positive". In the legend to Fig. 3 the word "with" should be replaced by the word "in". In the penultimate paragraph the second mention of *Staph. epidermidis* should read *Staph. epidermidis* (*Staph. albus*).

CORRESPONDENCE

Research outside the Government

SIR,—In a recent News and Views note (*Nature*, 218, 417; 1968) you remark that "It is a truism to say that . . . scientific research . . . benefits from being organized into large units". Far from it being a truism, I would suggest that the optimum size of research units has not even been discussed to the extent that its importance warrants.

Certainly there are benefits associated with large laboratories. Notable are the economy of common services (library, workshop, etc.) and the advantage of having a wide range of expertise on hand.

However, it is not always realized that there are also certain disadvantages that increase more than proportionally with size. Chief among these are the inevitable dispersal of effort in managerial consultations and the lengthening chain of communication between the laboratory bench where scientific work is done and the boardroom where decisions are made.

Beyond a certain size, even the advantages of bigness may be more apparent than real. Thus the organization of common services that are common to many customers will need to be so formalized that they are effectively as remote as an outside firm—but are not subjected to the spur of competition. Similarly, there is little value in having experts available for consultation under the same roof unless there is an element of personal acquaintance—which cannot be extended beyond a circle of people having a definite numerical limit.

I therefore suggest that the more effective research unit may be a good deal smaller than is commonly assumed. Thirty years ago, Bernal suggested fifty qualified workers as the upper limit for one laboratory¹. That may be extreme. My main point, however, is to urge that the subject should be given much fuller study in order to prevent resources being misdirected into less suitable structures and establishments.

Yours faithfully,

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¹ Bernal, J. D., *The Social Function of Science*, 266 (Routledge, London, 1939)