

matician". Secondly, everything that is directly perceived is private to the perceiver; it is an occurrence in the brain of an individual. Thirdly, these occurrences are the effects of external causes, the real nature of which cannot be certainly known. As Russell says, these doctrines have not met with great favour from other philosophers. The short space of a broadcast talk is scarcely sufficient to deploy all the arguments and qualifications necessary for a systematic defence of such general and far-reaching theories. One sentence is rendered unintelligible in *The Listener* by the misprint of 'casual' for 'causal', and 'precept' for 'percept'.

### The Isaac Newton Telescope and the Navy Estimates

QUESTIONED in Committee of Supply on the Navy Estimates under Vote 6 (Scientific Services) in the House of Commons on February 13 regarding the stoppage of work on the Isaac Newton telescope at the Royal Greenwich Observatory, Herstmonceux, the Civil Lord of the Admiralty, Mr. T. G. D. Galbraith, agreed that the telescope, the purpose of which is to extend the range of astronomical and astrophysical research, is of the greatest importance to the nation. Its cost is being shared between the Admiralty and the Treasury, but after £28,000 had been spent on primary design and study, of which £14,000 had come from the Admiralty, the project has now been suspended in view of the present financial stringency. Mr. Willis said that last year the expenditure was £30,000 and in the previous year £51,000, and he suggested that the stoppage gave point to the recent criticism of the Committee of Public Accounts. Mr. Galbraith said he could not, off-hand, confirm or deny these figures. As regards the International Hydrographic Bureau, while, as stated by Mr. Willis, in the past three or four years sales of charts had increased to 350,000, the 45 per cent increase in income was due partly to increases in price. The reduction in staff was due to the general need to economize. On the expenditure for scientific services generally, in the past two years the numbers of scientific and experimental personnel and of ancillary staff have fallen substantially, and research and development contracts have also generally decreased. The cuts, he said, had not affected important work like the development of nuclear propulsion, on which the Admiralty is working in very close co-operation with the Atomic Energy Authority.

### Foundation for Mutual Assistance in Africa South of the Sahara

IN a written reply to Colonel T. V. H. Beamish in the House of Commons on March 10, Mr. Ian Harvey, Joint Under-Secretary of State for Foreign Affairs, said that he had represented the United Kingdom at the Conference at Accra on February 19 and 20, when the Foundation for Mutual Assistance in Africa South of the Sahara was inaugurated. The member governments were those of Belgium, France, Portugal, the United Kingdom, the Federation of Rhodesia and Nyasaland, Ghana, Liberia and the Union of South Africa, but other countries and territories in Africa south of the Sahara would be eligible for technical assistance under the scheme. A United States observer had been present at the Conference, but there was no commitment on the part of the United States Government. The technical assistance would take the form of the supply of

experts, advisers and instructors to countries in the region, the training of personnel from the region and the supply of equipment for training purposes, and it would be arranged unilaterally following the practice of the Technical Co-operation Scheme under the Colombo Plan. The small secretariat of the Foundation would act as a clearing house between Governments for requests for assistance and offers. The House of Commons would be asked to approve new expenditure of £20,000 by the British Government for such assistance during the next financial year.

### Chemical Engineering in a University

PROF. P. V. DANCKWERTS, recently appointed to the chair of chemical engineering science in the Imperial College of Science and Technology, London, delivered his inaugural lecture entitled "Chemical Engineering in a University" on November 12. He emphasized that a university does not turn out chemical engineers and that its function is to explain to students what a chemical engineer may have to do, to teach them the basic principles on which chemical engineering depends and how to apply them and, above all, to train them to think for themselves. By way of illustration he discussed several chemical engineering processes broken down to show their complicated nature, and the scientific subjects with which it was necessary to be acquainted before trying to build them up. Since, moreover, the practice of chemical engineering is often in advance of the theory, it is imperative for a university to maintain the closest possible contact with industry. Dealing with the difficult question of research, Prof. Danckwerts maintained that, although desirable, research is not an essential part of university training. Certain types of research, such as process development, are, in many cases, unsuited to a university laboratory, owing to the difficulty of working on a sufficiently large scale; but there is a wide and important field in "trying to get a deeper insight into the mechanism of industrial processes by looking at them with a scientist's eye". Examples of possible problems followed, and of particular interest were those dealing with 'scaling up'. Prof. Danckwerts did not venture to tackle the most difficult problem of all: Where is the teaching staff to come from? But perhaps he regards this as outside the scope of his subject. As the first of a series of inaugural lectures to be published by the Imperial College, Prof. Danckwerts's address has now been printed ("Chemical Engineering in a University": Inaugural Lecture by Prof. P. V. Danckwerts. Pp. ii + 10 + 4 plates. London: Imperial College of Science and Technology, 1958. 5s.), and will be found illuminating and suggestive by all interested in engineering education and its products.

### Palaeontology

EARLY in 1957, a group of British palaeontologists met in London to discuss the formation of an association to further the study of palaeontology by the holding of meetings in London and various other centres, and the publication of a journal. The inaugural meeting of the Palaeontological Association was held in February 1957, and we now welcome the new journal, *Palaeontology*, which made its appearance last November and is to be published half-yearly. The journal is crown quarto in size, and Vol. 1, Part 1, contains eighty-six pages and fourteen