

Governments the facts and analyses needed by them for making wise and proper decisions concerning the proposed experiments". It further appealed to all Governments planning to launch space experiments which could possibly affect other scientific research adversely to make available to ICSU the information and data about the proposed experiments in sufficient time to ensure their proper consideration.

ICSU has other commitments. The Federation of Astronomical and Geophysical Services (FAGS) provides an international time bureau, a gravimetric bureau, and Earth tide service and a central ursigram service for the transmission of coded ionospheric, solar and geomagnetic data. The Joint Committee on Radioactivity (JCAR) provides standardization of radioactive isotopes, and is linked with the International Atomic Energy Agency. The ICSU Abstracting Board has done much to co-ordinate abstracting in both physics and chemistry. Funds are also to be sought so that a revised set of bathymetric charts of the oceans can be published. An international committee has recently been set up to examine the teaching of science at university level.

The London assembly took an important decision to initiate a world-wide programme for studying the biological basis of human welfare. The physical and biological condition of the surface of Earth is undergoing a more rapid and extensive change than might ever have been expected. Much of this change is due in one way or another to the development and application of physical and medical science. Desirable as much of this may be, some of the influences may lead to serious changes in the frequency of certain genes. Higher levels of radioactivity, too, although at an apparently insignificant dose-level, may in the long term be harmful to the progeny of man or animals or plants. We need not only to investigate these problems, but also to educate the public on how to preserve satisfactory world conditions. ICSU has therefore resolved to study, through the Unions of Biology, Biochemistry and Physiology, the effect on living communities of changes in natural environment, and the augmentation through basic research of natural resources and the reduction of losses and waste. It is hoped to examine the somatic and genetic variation induced by environmental factors on man and other organisms, at the individual and population levels, and to find the best means for the preservation of biotic communities which are in danger of destruction or transformation. In planning this programme it is intended in the first place to restrict it to clearly defined small projects of limited scope which can only be done by international co-operation. The work will be basic in character and

although it will be co-ordinated with related activities of a more applied kind being carried out by such bodies as UNESCO, FAO, WHO, or IUCN, it will involve no duplication.

It is not surprising that after a period of such ferocious development the question has been raised whether the structure and mechanism of ICSU as laid down thirty years ago needs some revision. The great activity of the separate international unions may have concealed the importance of the national academies. Yet these latter have a vital part to play, especially to prevent a too extensive fragmentation of science, and through interdisciplinary integration to preserve science as a whole. They, too, by contact with Governments, are primarily involved in the search for funds. The whole structure must be designed to allow for this, and to ensure a satisfactory geographical distribution of members while still preserving both efficiency and flexibility. Also, one cannot escape the fact that this enormous growth of activity requires a larger central secretariat in the headquarters which are shortly to move from The Hague to Rome. Yet policy must always be decided by scientists themselves, and bureaucracy must be limited to the essential minimum. More money is needed. The Assembly agreed to double the subscriptions of National Members and to ask for additional voluntary contributions. UNESCO, an inter-Governmental organization, has certain overlapping interests with ICSU, but a mutually beneficial arrangement has been maintained, and UNESCO has continued to transfer funds to ICSU for use by the unions and special committees which are carrying out work in which it has a direct interest and on which it frequently seeks advice.

The ICSU Assembly has appointed a special committee to examine all these problems of structure and operation in the near future. Dr. E. W. R. Steacie, who succeeds Sir Rudolph Peters as president, will have charge of this committee. The next general assembly is planned for 1963 or 1964 in Zurich.

The spirit of ICSU to-day can still be expressed by the resolution of the 1946 assembly, also held in London, acknowledging the duty of scientific workers (a) to maintain a spirit of frankness, honesty, integrity and co-operation and to work for international understanding, (b) to promote the development of science in the way most beneficial to mankind and to exert their influence as far as possible to prevent its misuse, (c) to serve the community not only by their specialized work but also by assisting so far as they are able in the education of the public in the purposes and achievements of science.

H. W. THOMPSON

## OBITUARIES

### Mr. B. B. Osmaston, C.I.E.

B. B. OSMASTON, known to many in India as "B. B.", was born at Yeldersley Hall, Derbyshire, in 1867, the ninth of a family of fifteen, two of whom survive him. He was educated at Cheltenham and at the Royal India Engineering College at Coopers Hill, where those entering the India Forest Service were then trained. He passed in and out first of his year at Coopers Hill, and was made a Fellow of the College. He joined the Forest Service in India in 1888, and served in the United Provinces (including

Dehra Dun Forest College), Bengal, the Andaman Islands, a short time in Burma, and finally retired as chief conservator of the Central Provinces, being appointed C.I.E.

After retirement he lived with his family for some time at Srinagar in Kashmir, and for the rest of his life he lived at Oxford.

In 1892 he married Catherine Mary, daughter of General and Mrs. Hutchinson, and they had sixty-eight years of married life together. His wife died in 1960, but two sons and three daughters survive

him, one son having been killed in the First World War.

He was keen on any natural science subject which he took up: chemistry, botany, spiders and, above all, ornithology. He loved birds from boyhood, and he was very familiar with the habits and songs of Indian birds.

Mr. Osmaston's life in the jungle inevitably brought a large share of excitement and adventure in the form of encounters with dangerous wild animals, but one of the most exciting occurred within three months of his arrival in India, and is well worth recording again. He was posted to the district of Jaunsar in the hills, where there had been a man-eating tigress taking a toll of human life for ten years. Mr. Osmaston, then aged twenty-one, and a forest student named Mr. Hansard, decided to try to stalk the tigress in the heat of the day, when, they felt sure, she would be lying up in some secluded place. They went cautiously down a steep ravine which was covered with thick scrub, one of them on each side of the steep banks bordering the small stream. They had not been going for more than five minutes when Mr. Osmaston heard a scuffle and a terrible noise of growling, mixed with cries and groans above him. The tigress had stalked the stalkers, and had pounced on Mr. Hansard from behind. Mr. Osmaston, who had never before seen a tiger outside a zoo, had to risk a shot at the tigress while she was mauling Mr. Hansard. The shot made the tigress let go her hold, and the second barrel discharged at her as she came headlong down the bank towards him finished her off. Mr. Hansard's life was saved, though he had been badly mauled, and the scourge of the countryside was dead. Mr. Osmaston had achieved what many a famous hunter had tried to do during the previous ten years.

His adventures included an encounter on foot with the rogue elephant which had caused the death of Mrs. Anson; an exciting escape from drowning when shooting some rapids in a canoe; navigating a small launch by compass and map without previous experience, in order to find a certain uninhabited island in the Andamans which was reputed to be the only habitat of some very rare hornbills. This adventure included the onset of a storm resulting in the loss of the landing boat while the party was ashore, which necessitated a dangerous swim in rough water infested with sharks, back to the launch, which was anchored in deeper water.

These few incidents serve to show Mr. Osmaston's adventurous spirit. He was abstemious and thrifty all his life, and his disregard for personal comfort and safety took him to many strange and interesting places, and he had very wide knowledge of all things to do with life in the jungle.

After retirement he participated in two strenuous expeditions in pursuit of further knowledge about birds, the first to Ladakh at very high altitudes, and the second in Africa. Both these expeditions were undertaken in the company of his good friend Admiral Lynes, another keen ornithologist.

By his death, at the age of ninety-three, the world has lost a very courteous, charming and adventurous personality.

#### Dr. T. P. Colclough, C.B.E.

TOM COLCLOUGH, as he was known to ferrous metallurgists, who died on September 22, aged seventy-six, was one of those rare personalities who

commanded respect in both industry and research. He was educated at the Universities of Manchester and Sheffield, and awarded the D.Sc. of Manchester and the D.Met. at Sheffield. He entered the Brown-Firth Research Laboratories in 1916 under W. H. Hatfield and in 1920 became chief chemist at Park Gate Iron and Steel Co., Ltd. He was appointed in turn chief metallurgist, open-hearth manager and technical officer. In 1929 he became technical director of H. A. Brassert and Co. and was directly concerned with subsequent developments at Corby, Ebbw Vale and other steel works. His capacity for sensing the direction of developments in iron and steel contributed to an international reputation covering Germany, Austria, Turkey, China and New Zealand.

During the Second World War he was technical adviser to the Iron and Steel Control of the Ministry of Supply, and was appointed C.B.E. for his services in 1947. In 1945 he continued in this field as technical adviser to the British Iron and Steel Federation, which post he held at the time of his death. His post-war travel ranged from work with the Control Commission in Germany at the end of the War, to advise the Durgapur works in India and the R.I.S.C.O. works in Southern Rhodesia. He was the leader of British Iron and Steel Federation missions to the U.S.S.R., Poland and Yugoslavia.

Research was not forgotten amid this industrial activity, for he participated in the work of the British Iron and Steel Research Association, and from 1950 served as a member of its Council. He was awarded the Bessemer Gold Medal of the Iron and Steel Institute in 1954, and elected an honorary vice-president of that Institute in May 1960.

Until recently he delivered an annual lecture in the Department of Metallurgy at Manchester, which was always received with eager concentration by the students. He had the power to hold the attention and stimulate his audience which scarcely changed with advancing years. In these days of specialization, his combination of forward thinking with the necessary restrictions of practice was as welcome as it was unusual.

C. R. TOTTLE

#### Dr. E. McKenzie-Taylor, C.I.E., M.B.E.

DR. E. MCKENZIE-TAYLOR died at his home at Basildon on October 17. He was a North-country man and received his early training at Armstrong College, Newcastle upon Tyne, before the First World War; for a short time he was a demonstrator in agricultural chemistry there. His first appointment elsewhere was as lecturer in agricultural science at the Harper Adams Agricultural College. From there he moved to the East Anglian Institute of Agriculture at Chelmsford, where he became head of the Department of Agricultural Chemistry, and as such was concerned primarily with analytical work connected with agricultural problems.

After service in the Royal Artillery during the First World War, he returned to Chelmsford until 1921, when he was appointed senior chemist to the Cotton Research Board of the Egyptian Ministry of Agriculture. Here, with A. C. Burns, he carried out important work on the daily and seasonal changes in soil temperature and on other factors influencing the yield of cotton. In particular, they investigated the steady decrease which had been experienced in the yield of cotton in Egypt during the previous quarter