

Uganda. Observations on *Caecobarbus geertsi* Blgr. in the grottoes of the Lower Congo were completed, and studies were commenced into the emigration of the Banyarwandā and Barundi in East Africa, and the institutions of Bukahē and Bugabire. A study of the geographical distribution of the fish of the basin of the Ruzizi was completed in the first five months of 1953, and investigations of the stratigraphy of the groups of Urundi and of Ruzizi led to some definite conclusions. Other investigations were concerned with the African *Histoplasma duboisii* Vanbreuseghem, 1952, with the science of malnutrition and kwashiorkor and with the paludism of mammals and their invertebrate hosts.

## THE SMITHSONIAN INSTITUTION

### REPORT FOR 1954-55

THE report of the Secretary of the Smithsonian Institution for the year ended June 30, 1955\*, which is accompanied by the financial report of the Executive Committee of the Board of Regents and by reports from the branches of the Institution as well as by those in the Library and on publications, welcomes the enactment of legislation providing for the planning and erection of a new museum building for the Institution. Congress has already appropriated 2,288,000 dollars for the immediate planning of this Museum of History and Technology, for which 36 million dollars are authorized, and the new Museum will house all the national collections that record and illustrate the political, cultural, industrial, scientific and military development of the United States. As planned, it will be both a museum of United States history and a museum of science, engineering and industry, and a series of modern halls illustrating the principal periods of that history from Colonial days to the present is planned, with other halls showing the development of particular devices or subjects, such as automobiles, mining, medicine, manufactures, engineering and science. It is hoped that construction will begin in 1957. Preliminary architectural studies were made during the past year for the projected new National Air Museum, and further progress was made in renovating major exhibits at the Institution.

Visitors to the Smithsonian Buildings totalled 3,895,017—nearly 250,000 more than in the previous year—and, with the estimated 3,476,584 visitors at the National Zoological Park and 814,932 at the National Gallery of Art, brought the total number of visitors to the Smithsonian Institution to 8,186,533. The Institution continues to administer the Bio-Sciences Information Exchange, which is charged with preventing the unknowing duplication of research support by the Armed Forces and other Government agencies; and the Exchange, which has developed techniques to maintain a rapid interchange of concise information on the support of research in the bio-sciences, reports that it has been able to supply adequate information in response to all requests. Among the 7,600,000 specimens received by the National Museum during the year were collections of mammals from Korea, Pakistan and Panama; birds from Panama; large collections of fishes from

the Gilbert Islands, Liberia and the south-eastern United States; the W. N. Mann collection of ants; 3,200 polychaete worms, mostly from New England; four hundred corals from the Great Barrier Reef; plant collections from Mexico, Central and South America; thirty-five specimens of meteorites, two thousand Silurian and Devonian fossils from Canada; some three and a half million mounted foraminiferan specimens; an early Curtis steam turbine; the Dodrill-G.M.R. mechanical heart and important electrocardiograph equipment. Field work included an investigation of the plant mites and other types of small animal life in the Belgian Congo; an ornithological survey of Panama; and the collection of larvae of small moths of the genera *Depressaria* and *Agopterix* in Wyoming and adjoining States.

The Bureau of American Ethnology made progress with its archaeological work on Southampton Island in Hudson Bay, and Dr. H. B. Collins continued to supervise the "Arctic Bibliography" which the Arctic Institute is preparing for the Department of Defence, Vol. 4 being issued in August 1954. Besides preparing his report on previous field researches, entitled "Modern Inter-tribal Organizations on the North-West Coast", Dr. P. Drucker initiated a programme of archaeological research at the important Olmec site of La Venta, Tabasco, Mexico. Dr. F. H. H. Roberts continued to direct the River Basin Surveys, the field investigations under which consisted mainly of excavations; no palaeontological studies were carried out. By June 30, 1955, archaeological surveys or excavations had been made in 243 areas in twenty-seven States since field work was started in 1946; and, of the 4,345 sites located and recorded, 852 were recommended for excavation or limited testing. At the end of the fiscal year, 324 sites in forty-four reservoir basins in seventeen different States had been dug extensively or in part, and further details of the work of the three field parties operating in the Missouri Basin are given in the report as well as of field work in the Garrison Reservoir area.

The Astrophysical Observatory, in co-operation with the United States Weather Bureau, continued the calibration of Eppley pyrheliometers, and the simplification and automatic recording of silver-disk pyrheliometry. Solar radiation studies at the high-altitude station at Montezuma in Northern Chile were hindered by sky pollution due to smelting operations at copper mines, and at Table Mountain in Southern California a gradual increase in the amount of smog from the Los Angeles area has been noted for some years. The work of the Division of Radiation and Organisms on the photo-control of the formative and development processes in seedlings of the bean plant indicated that the far-red energy interferes with development by acting on a product of the photochemical reaction initiated by the red energy. In studies with the root-tip cells of broad bean (*Vicia faba*), it has been found that, if exposure to X-rays is preceded by exposure to red visible light, the incidence of chromosome damage brought about by X-rays is reduced by 30-50 per cent, but if exposure to X-rays is preceded by exposure to radiant energy from the far-red or near infra-red, the damage is increased by 30-40 per cent. Using differential centrifugation methods to fractionate avocado fruit tissue it has also been found that the fraction remaining after sedimenting cell walls, nuclear material, mitochondria, plastids and other particles within this size range, contains an enzyme system which, on the addition of auxin, markedly reduces the consumption of oxygen.

\* Smithsonian Institution. Report of the Secretary and Financial Report of the Executive Committee of the Board of Regents for the Year ended June 30, 1955. Pp. ix + 173 + 7 plates. (Publication 4320.) (Washington, D.C.: Government Printing Office, 1956.)

The National Air Museum participated in celebrations of the fortieth anniversary of the founding of the National Advisory Committee for Aeronautics, and nearly twenty-two thousand photographs pertaining to aeronautics were added to the Museum's library of reference materials. Besides improvements in exhibits, the information services have been extended and are now meeting requests which have multiplied nearly two and a half times in three years. Accessions to the National Zoological Park totalled 2,347 individual animals, and 1,917 were removed by death, exchange or return to depositees. Of six hundred visitors to Barro Colorado Island during the year, forty-three were scientific workers who used the facilities of the station for research, particularly in biology and photography.

During the year the International Exchange Service handled 1,146,972 packages of government scientific and literary publications, consignments being made to all countries except China, North Korea, Outer Mongolia, the Communist-controlled areas of Viet Nam and Laos and the Haipang Enclave. The Smithsonian Library received 71,179 publications and arranged about 650 new exchanges; its holdings now total 951,409 volumes, including 585,592 in the Smithsonian Deposit in the Library of Congress. Publications issued by the Institution during the year totalled seventy-one, including seventeen papers in the Miscellaneous Collections, eight Proceedings Papers of the United States National Museum, four Bulletins of the Bureau of American Ethnology, and Vol. 7 of the Annals of the Astrophysical Observatory; 192,108 copies of the publications and 226,178 miscellaneous items were distributed.

## MALADJUSTED CHILDREN

A COMMITTEE was set up in 1950 by the Minister of Education to inquire into the medical, educational and social problems relating to maladjusted children, with reference to their treatment within the educational system. The Committee has recently issued its report\* and, despite much thought and labour, not unexpectedly offers no novel insight into the nature of maladjustment, or new and revolutionary ideas about the way it should be treated. Fifteen years ago the term 'maladjustment' was not in common use, and too little is still known about maladjustment in children and the ways it can be successfully treated to generalize or offer ready-made solutions. Instead, the Committee adopted the wiser, if more pedestrian, approach of considering, against the background of normal development, what is meant by a maladjusted child and what arrangements are at present available for treating and preventing maladjustment. These arrangements have been considered in relation to the education service, which itself occupies a central position inasmuch as it has continuous contact with most children for ten vital years of their lives.

One of the main difficulties which the Committee had to face was the definition of maladjustment. No one—except, possibly, the completely maladjusted—is completely adjusted to his environment; continual adjustment and re-adjustment are necessary throughout life. Maladjusted people are not necessarily unruly nor need they come into contact with

the law; educationally backward and mentally retarded children do not provide all the maladjusted; intelligent people are also affected. What is known of the maladjusted is that they are insecure and unhappy, tend to get on badly in their personal relationships and may have failed to come to terms with their work.

The worst effects of maladjustment are seen in mental hospitals, divorce courts and prisons. At the end of 1954, for example, two-fifths of the 480,000 hospital beds available in England and Wales were occupied by mentally ill or mentally deficient patients. Surveys of factory workers have shown that 10 per cent had suffered from definite and disabling neurotic illness and a further 20 per cent from neurotic illness. It has been estimated that neurotic illnesses cause between a quarter and a third of all absences from work due to illness of any kind.

Although the worst effects of maladjustment are seen among adults, it is during childhood that most can be done to prevent maladjustment or to treat it. If one child can be helped, it will not only benefit his family and the community but may also have repercussions on future generations; maladjustment begets maladjustment.

The attention of the Committee has rightly been focused on those agencies which affect children. The part which the education service, particularly the school, has to play in the prevention, discovery and treatment of maladjustment is of great importance. The education service does not work in isolation, however, but co-operates with many other agencies. Collaboration is particularly close between the school health service and the hospital service, which provides a number of child guidance clinics and makes available the services of psychiatrists for many clinics run by local education authorities. Co-operation between these two services and the maternity and child welfare service is also necessary if the problems of children under five are to be adequately tackled. It is often in these early years that the seeds of future trouble are sown or the first symptoms appear, even though they may not be noticed until a child goes to school. The Committee has considered these and other agencies and made suggestions which will enable the psychological, educational and medical treatment of maladjusted children to develop on lines which seem the most rewarding.

One of the main suggestions is concerned with the work of the child guidance service. Much of the work at present done by local education authorities is too compartmentalized. The school psychological service, the school health service and the child guidance clinic should work more closely together. The educational psychologist, for example, should, wherever possible, try to help, within the setting of the school, those children who have learning or behaviour difficulties. Instead, as so often happens, of being concerned only with selection tests for the 11+ examination, he should spend part of his time in the child guidance clinic. Nor should the facilities of a child guidance service be withdrawn from a boy when he leaves school. The Committee rightly recommends that the service should be available for boys and girls in or out of school until they have reached the age of eighteen, when they are officially recognized as mature. A valuable suggestion is that parents should have direct access to all child guidance clinics without their children having first been seen and recommended by some intermediary;

\* Ministry of Education. Report of the Committee on Maladjusted Children. Pp. vi+180. (London: H.M.S.O., 1955.) 6s. net.