

of the scientific investigations in Micronesia. Vegetation and soil distribution and character for thirty-three islets at Kapingamarangi in the Southern Carolines were plotted by the geographer and land ecologist, and the general ecological relations between climate, vegetation, soil character, current and wave effects were plotted on the maps as "land use formulae" for later analyses. The total fish fauna was intensively studied, as well as the present and potential fisheries. The programme also seeks to develop criteria for estimating the carrying capacity of an atoll. The Invertebrate Consultants Committee for the Pacific continued its investigation as to whether *Gonaxis kibweziensis* snails effectively control the *Achatina fulica* snails on the island of Agiguan, and completed work on the identification of various scientific collections of importance to the ecological study of Pacific atolls. Scientific investigations in the Ryukyu Islands was limited to the preparation of reports and the completion of the nine-month study of cultural changes in Okinawa resulting from the United States military occupation. E. H. Walker's report on important trees of the Ryukyu Islands was published by the Civil Administration of the Islands. Approved field projects included studies of social and economic life in the Society Islands; of law in a primitive society in the Netherlands New Guinea; of mosquitoes in the South Pacific area; and a preliminary study of social aspects of depopulation among the Murits of British North Borneo. Among the matters discussed by the Conservation Committee for Micronesia were the extension of the season for collecting the shells of *Trochus niloticus*, the proposed Palau reserve, forestry practice in the Trust Territory, the introduction of bamboo and implications of the possible release of carrion crows and land snails on islands other than Agiguan. Details are given of Fulbright awards during 1954-55 for research or lecturing in Pacific and East Asian countries.

An Expedition to Papua

A SUMMARY of the results obtained by the fourth Archbold Expedition to New Guinea (1953)—in fact to E. Papua and adjacent islands—under the editorship of L. J. Brass has now appeared as a bulletin of the American Museum of Natural History (3, 2, 83-152; 1956). The summary report gives brief accounts of the physiography, geology and climate of the regions surveyed, together with notes on the economy of the native peoples, previous expeditions and collections and major plant communities. In conformity with previous expeditions of the Archbold series, the main purpose was the collection of biological materials and ecological and distributional studies of mammals, reptiles, amphibians, freshwater fishes, insects, spiders and plants. As the avian fauna of the region was considered to be fairly well known, less attention was given to the collection of birds. Ectoparasites of mammals and soils for screening for antibiotic-producing micro-organisms were also collected. In terms of these materials, the results of the expedition included the following collections: mammals, 1,954; birds, 91; reptiles and amphibians, 1,645; freshwater fishes, 145; insects and spiders, 80,000; ectoparasites of mammals, 750; materials for antibiotic research, 126; plants, 3,445; anthropological items, 34.

Macrolithic Culture of Florisbad, South Africa

THE explorations at the fossil springs at Florisbad in the central province of the Union of South Africa

will be always associated with the name of the late Prof. T. F. Dreyer, who described the rich archaeological material from the site and had the good fortune to discover the Florisbad skull. A paper on the "Macrolithic Culture of Florisbad" (*Res. Nat. Mus., Bloemfontein*, 1, Part 9, 205; 1956) was in the course of preparation by Prof. Dreyer when he died, and we owe its completion to Prof. A. J. D. Meiring. At the site there are four peats, and while the tools in the upper three are mostly made from lydianite, those from Peat I and below are almost entirely fashioned from dolerite. This early industry may well be considered, then, as a distinct culture from those which occur later on. While carbon-14 dating of the peats, frankly, has not been too satisfactory, it is clear that Peat I was laid down a very long time ago, somewhere about 35,000-40,000 years before our era. The industry here described is very coarse and such as one might expect to be made from pieces of dolerite. There are choppers, coarse points and what Meiring describes as pyramids. One or two specimens can perhaps be termed proto-hand axes; but these rough chopping and pounding tools fall into no very definite category of industry. Some of the dolerite tools were found by Prof. Dreyer in close association with the human skull fragments. Florisbad is an interesting and puzzling site. It cannot be said that we yet have enough knowledge of South African prehistory to fit it exactly into the prehistoric story.

Forestry Commission: Report for 1954-55

IN the Forestry Commission's report on forest research for the year ended March 1955 (pp. 140+12 plates. London: H.M.S.O., 1956; 5s. 6d. net), it is stated in the introduction that changes are taking place owing to the fact that problems of establishing forests are now becoming less prominent while those of maintenance, protection, management and utilization are becoming more important—an experience which every country taking up forestry seriously has been through. As regards research, there still remain several types of land on which research must be prosecuted to obtain an assurance that successful crops will be attainable. An example is the poor *Scirpus* peats of the north and north-west of Scotland. Experiments have achieved success, where the exposure is not too severe, with intensive cultivation; but more research remains to be done, which is being undertaken with the help of the Macaulay Institute of Soil Research, Aberdeen. Another type of land which has received much recent attention is the ground which lies above the Commission's present planting elevation. Here the current problem is to find out whether it is possible to plant higher and at the same time to obtain a satisfactory yield return. There are very considerable areas of this type of land available for possible treatment. A soils section has been formed at Alice Holt Research Station to carry out routine investigations in conjunction with other sections undertaking this type of work. A summary of the year's work is given by M. V. Laurie, who deals with nursery work, pilot plots for afforestation purposes, ecology, genetics, pathology and entomology and grey squirrels, with a very interesting summary of machinery research that shows the remarkable advances made under the direction of the Forestry Commission. The investigations on mycorrhiza which were commenced at Bedford College, London, are being continued. In other respects the report is on the lines of previous ones.