

plier in conjunction with a tuned a.c. amplifier seems to give more accurate results than photographic photometry. The excitation functions of  $N_2^+$  have broad maxima for the Meinel bands at electron energies of 90 eV. and for the first negative bands at 95 eV.

In a discussion of the relation of nitrogen atoms to active nitrogen, P. Gribbon pointed out that uncertainty still exists about many features of the production and persistence of nitrogen atoms in discharge tubes and the upper atmosphere. W. Hayes (Dublin) discussed the interpretation of the high-multiplicity bands of the manganese halides in the near ultra-violet and gave an account of new work on these spectra which has resulted in the discovery of many new band systems.

T. E. NEVIN

## SCIENTIFIC COUNCIL FOR AFRICA SOUTH OF THE SAHARA

### REPORT FOR THE YEAR 1952-53

THE second report of the Scientific Council for Africa South of the Sahara, which covers the year July 1952-June 1953\*, refers to the marked tendency for certain major problems to be considered sub-regionally. There are now soil problem committees meeting in three out of four sub-regions, and this pattern is expected to be followed as collaboration in other subjects develops. Although the mode of operation of the Council has become better defined, the establishment of the secretariat was only completed towards the end of 1952, and in some directions scientific collaboration has made slow progress.

At the third session of the Council during August 11-14, 1952, at Bukavu (Costermansville), Belgian Congo, special attention was paid to maps and survey, geology, meteorology, zoology, fisheries and social studies. A specialist meeting on fauna research was held during October 1952 in Nairobi, and an inter-African conference on fauna and flora, convened at Bukavu for October 1953, was scheduled to review the international convention of 1933 in the light of subsequent experience and to consider whether any modifications in policy concerning wild-life are required. A meeting of specialists in planning social research was held at Makerere College, Uganda, during February-March 1953, which listed a number of joint projects and statements on organizations and institutes engaged in social research in Africa and on work in progress which are being prepared for the participating countries or sub-regions. A symposium on African hydrobiology and inland fisheries was held at Entebbe, Uganda, in October 1952, and a report including summaries of the papers and discussions is appearing as C.S.A. Publication No. 6.

Much effort has been devoted to the preparation of a comprehensive list of maps available for the whole region, and this list, including special subject maps as well as topographical maps, has been issued as C.S.A. Publication No. 4. A meeting to discuss the possibility of greater co-ordination, particularly in special subject maps, was to be convened after the fourth session of the Council in August 1953. Good progress is reported in the co-ordination of geological

work in the various sub-regions, and full agreement is anticipated on the appointment of a geological scientific correspondent to maintain touch with and assist the many geological surveys and other organizations for geological investigation in the region. A project has been developed for the preparation of a climatological atlas of Africa, but it is expected that two or three years will be required to collect and analyse all the data available on rainfall, temperature and winds, etc., and prepare the series of maps. The "Flore du Congo Belge" and the "Flora of East Africa" were enlarged during the year by further publications, and information has been collected for a comprehensive list of taxonomists who are engaged on African problems in the many different groups of plants and animals. During the year particulars of two hundred and forty scientific and technical libraries in Africa south of the Sahara were published in C.S.A. Publication No. 3, and particulars are being collected of the holdings of periodical literature in the libraries of the sub-regions. Publication of a list of these holdings is to be followed ultimately by the preparation of comprehensive catalogues, at least for the major libraries. Steps have also been taken towards the preparation of a directory of scientific institutes and organizations in the region.

## CACAO RESEARCH DURING 1952-53

THE report of the West African Cacao Research Institute for 1952-53\* is brief, giving little more than notes on the many lines of investigation that are being followed. Studies of the swollen shoot virus are, as usual, prominent, and many of them are systematic observations that have been going on for several years. These include the recording of symptoms produced in young seedlings by new virus strains (which are still being found) and cross-protection tests with the view of classification. The search for new alternative hosts goes on, and it is hoped that eventually all species related to *Theobroma cacao* occurring in the Gold Coast will be tested for susceptibility. Transmission trials with possible new vectors are linked up, on the entomological side, with equally systematic examination of mealybugs and their parasites and predators, and with extensive screening of systemic insecticides for control of vectors.

The chemistry section is attempting, by paper chromatography, to discover differences in composition between healthy and diseased tissues, analysing also the secretions of mealybugs that have fed upon healthy and diseased tissues. The botany section has cultured cambial tissues *in vitro* from healthy and diseased trees, so far without finding any differences in growth pattern or histology. Other diseases and pests of the cacao tree are receiving attention, especially capsids and the black pod disease caused by *Phytophthora palmivora* Butler. It is noted that dusting against capsids with DDT seems to have no important deleterious effect on pollinating insects. One dusting machine among a number tried merits further attention. Long-term

\* Scientific Council for Africa South of the Sahara. Publication No. 5: Second Report—July 1952 to June 1953. Pp. 46. (Bukavu, Congo Belge: Scientific Council for Africa South of the Sahara, 1953.)

\* West African Cacao Research Institute, Tafo, Gold Coast: Annual Report April 1952 to March 1953. Pp. 39. (Published on behalf of the Institute by the Crown Agents for the Colonies, London, 1953.) 5s.