

M. Noble, admitted that if Scotland were to overtake the United Kingdom average then its rate of growth would have to exceed 4 per cent, but there was no other indication that the Government's plan might accept the figure suggested in the Political and Economic Planning Broad-sheet. Mr. J. Boyd-Carpenter, the Chief Secretary to the Treasury, stressed the significance of university developments, particularly at the University of Strathclyde. In winding up for the Government, Sir Keith Joseph, while admitting the need for some machinery at regional level,

maintained that this should be achieved by strengthening central Government in the regions and not by instituting a new tier of regionally elected authorities. He also stressed the great influence of central Government as a customer for Government supplies and its opportunities for creating by fiscal and economic policies a climate of opinion which encouraged private enterprise to expand. In co-operation with private and public enterprise it could also help to ensure that unit costs enable private enterprise to remain competitive.

## UNESCO EXPEDITION TO THE LIMESTONE AREAS OF THAILAND

UNDER the sponsorship of the Unesco Science Co-operation Office in Djakarta, the fourth Unesco training expedition was held in Thailand during 1963.

The expedition formed a continuation of the research work on the flora of limestone areas in tropical south-east Asia, made by three former Unesco expeditions, namely, Java (1960), Borneo (Sarawak, 1961), and Malaya (Ulu Kelantan, 1962) (see *Nature*, 196, 1169; 1962). Two preliminary excursions were made to the north and north-east of Thailand by Mr. T. Smitinand of the Thai Forest Department (leader) and Dr. H. Sleumer of the Rijksherbarium, Leyden (instructor), together with several young Thai forest officers. The first was to the Doi Chiangdao, which, at 2,180 m, is the highest limestone massive of Thailand. The flora of this area, at least as far as the upper, more open vegetation, has so far been fairly well collected; however, as yet, it has not been worked out critically. The second excursion was to the Pha Nok Khao south of Loie, which is a very steep limestone hill, c. 900 m, the flora of which was collected for the first time.

The training expedition proper was held during September 17–October 8. The participants came from Malaya (University of Kuala Lumpur), Singapore (Botanic Garden), the Philippines (Los Baños), Java (Bogor Botanic Garden and Herbarium), South Vietnam (Saigon) and Thailand. The party, consisting of 14 members, first went to Surathani in the south of the Thai Peninsula and from there to a camp set up by the local Forestry Department, situated 44 km on the road from Surathani to Takuapa in the region of numerous limestone hills. During the expedition, seven of these hills were climbed: Khao Phra Rahu, Khao Lek, Khao Wong, Khao Na Dang, Khao Pak Chawng, Khao Lang Tao and Khao Dai Kuad, ranging in altitude from 180 to about 500 m; each proved to have a few species which were not found on the others, though in general the flora, especially on the lower slopes, was the same.

On September 28 the camp was left and a visit paid to Ko Prap, an island off Surathani. On September 29 the party returned to Bangkok, and on October 1 started from there on the second part of the expedition to Muak Lek, a forestry experimental station to the north of Saraburi, about 130 km north of Bangkok. From this base the limestone hills Muak Lek, Tap Kwang and Khao Sawng Phi Nawng were climbed; these varied in altitude from 350 to 400 m. The herbarium collections made on limestone hills amounted to a total of 400 specimens, each, so far as was possible, with 5 duplicates (this material will be distributed to the Herbaria of Bangkok (Forest Department), Singapore, Kew, Leyden and Bogor for further investigation). Besides these, living material of about 150 species, especially orchids, was collected to be cultivated and observed in various botanic gardens. In general, it can be said that the vegetation on the limestone hills in the Thai Peninsula near Surathani is remarkably different from that in Ulu Kelantan, Malaya, and is relatively drier. As to the limestone flora in Thailand—where the limestone outcrops are found extending from the very south up to the border with Burma in the north in a broken chain over a distance of about 1,600 km—it must be said that the botanical collections made so far are too scarce to give any indication of the areas and routes of migration of the species of this peculiar flora. It is for this reason that the next Unesco Training Expedition will probably be held in Thailand once more, and hence stimulate further research on limestone there. The flora on many of these ancient (mostly Permian) limestone hills is suffering from human interference; this raises an additional urgency for such botanical investigations, which, up until now, have been too few and far between. A better understanding would also make available the information necessary to present well-founded scientific advice to the Thai Government to consider some of these hills suitable for declaration as nature reserves.

H. SLEUMER

## THE ROYAL SOCIETY OF ARTS

THE tremendous increase in candidates taking the various examinations of the Royal Society of Arts is recorded in the November issue of its *Journal* (111, No. 5088; November 1963). Twelve years ago the number of subject-entries in one year was about 130,000. To-day it is 700,000 and, at the present rate of growth, will exceed one million in two or three years' time. Although entries are mainly from candidates at centres in Great Britain and Northern Ireland, there was an increased demand from overseas centres where the numbers went up from 40,271 in 1962 to 53,543 in 1963. Nigeria is by far the largest of the overseas centres in regard to number of candidates, but the examinations were also in good demand at other centres in West Africa (Gambia, Ghana,

Sierra Leone and West Cameroons). A fuller appreciation of the widespread demand for the Society's examinations can be obtained from the following list of overseas centres in 1963: Aden, Bahamas, Bermuda, British Guiana, British Honduras, Brunei, Cyprus, Ethiopia, Falkland Islands, Fiji, Gibraltar, Jamaica, Kenya, Malta, Mauritius, Nyasaland, Sabah (lately North Borneo), St. Helena, St. Lucia, Southern Rhodesia, Tanganyika, Trinidad, and the British Virgin Islands. In addition, there were a few centres in foreign countries, mainly for the examinations in English, under the control of officials of the British Embassy or of the British Council.

Particularly pleasing was the increase in demand for the examinations for the Ordinary National Certificate in