

include a fast grating spectrograph for the 72-in. telescope and a microphotometer recording directly the intensities of spectrum lines, and a Coudé spectrograph for the new 48-in. reflector is being designed.

An astronomical programme at the University of Western Ontario deals with the photometry and spectrophotometry of peculiar *A* stars. Observations are being made to determine which of these stars are variable and to study the nature of the light vari-

ability. The variations in their spectra are also being studied. A programme of laboratory work on molecular spectra has included the measurement of intensities in many astrophysically important bands, the photography of many bands and the determination of lifetimes of various states. An experimental study of the physical basis of the Hanbury Brown-Twiss intensity interferometer has been undertaken, and further work on this is in progress.

R. H. GARSTANG

THE ROCKEFELLER FOUNDATION

THE President's review from the Rockefeller Foundation annual report for 1959 covers a year of appropriations totalling more than 34 million dollars; 6,769,070 dollars went to programmes in the agricultural sciences, 12,300,071 dollars to those in medical and natural sciences and 4,049,350 dollars to those in the social sciences, while 291 Fellows from 39 countries began advanced study outside their own countries, and 339 other Fellows continued work through earlier awards, besides briefly dealing with the Foundation's operating programmes. Five main topics are discussed. The India International Centre, established at New Delhi in March 1959, with the support of 35 of the 38 universities in India, as well as Government support, is intended to provide a forum for fruitful cultural and intellectual exchange in a congenial setting where foreign and Indian leaders of thought may live together: it should serve as a place where scholars and scientists from Indian universities can meet and live with foreign cultural leaders and provide for more frequent contacts and exchange among the widely scattered Indian universities. A small publishing programme is also planned. Besides a grant of 710,200 dollars for building and selected expenses the Foundation has made allocations of 123,935 dollars for five years towards the operating expenses of the Centre.

To assist the New York University to meet the national needs for research and training defined by the Brooklyn Museum conference as necessary to ensure adequate standards of conservation of the nation's immense art heritage, the Rockefeller Foundation has provided 500,000 dollars towards the initial expenses of establishing a laboratory at the University's Institute of Fine Arts new quarters and, on a declining basis during ten years, towards certain operating expenses. The Foundation has already awarded fellowships to three members of the staff of the All-India Institute of Medical Sciences, in which, it is estimated, the Government of India will have invested the equivalent of more than 9 million dollars by March 1961, as well as six travel grants to members of the faculty and administrators since 1957, and appropriations totalling 300,000 dollars for teaching and research equipment. Still more recently, some 500,000 dollars have been released to meet foreign exchange requirements for the construction of the hospital clinic complex. At September 1, 1959, 50 postgraduate students were enrolled, of whom 40 (selected from 60 applicants) were preparing for teaching and research in the basic medical sciences, but only 13 out of 94 applicants could be accepted for postgraduate studies in the clinical fields. There are now 215 undergraduate students, and the first group

will complete the basic course of study at the end of 1960.

Dean Rusk also directs attention to the unexpected dividends on virtually a world-wide basis which the Foundation's modest agricultural programme, began in Mexico in 1943, is now paying. When the project has been completed, descriptions will have been published of virtually all the races of maize in Latin America and seeds of all races will be in cold storage in three centres in Latin America with duplicate samples in storage in the United States. The seed of these maize races is available to corn breeders in all parts of the world, and the collections, which are serving as models for similar banks involving other crop plants, have been drawn upon extensively and have been widely used by maize geneticists in the United States in connexion with analyses of genetic systems of the maize plant, while classification of the living races of maize has permitted identification of many varieties in the prehistoric collection of maize from archaeological sites. The Foundation has also joined forces with the Ford Foundation in establishing an international research institution to meet the urgent need for rice improvement, and, in co-operation also with the Government of the Philippines, an International Rice Research Institute is being planned on a site adjacent to the College of Agriculture of the University of the Philippines at Los Baños, towards which the Ford Foundation has appropriated 6.9 million dollars for construction and equipment and the Rockefeller 160,000 dollars for operating costs in 1960; the Institute should be in full operation by the end of 1961.

Besides this major advance, the operating programme in agriculture in 1959 saw the inauguration of the Inter-American Food Crop Improvement programme, and as a result in the Central American Corn Improvement Project there are now in the six countries concerned 23 full-time specialists instead of 5 part-time. Development of centres for fundamental research to increase knowledge of varietal improvement, soil fertility, cultural practices and the control of plant diseases is being encouraged. Besides referring to progress in the Mexican, Columbian, Indian and Chilean Agricultural Programmes, Dean Rusk emphasizes the virus research programme of the Foundation for which 1,194,640 dollars was appropriated in 1959, under which 110 agents known or suspected of being arthropod-borne are being investigated, 60 of which fall into four major groups, and very good evidence is available that 84 are transmitted by mosquitoes.

It is becoming increasingly evident that infection of man with an arthropod virus is usually accidental,

and the great problem in the temperate zones is to explain how the arthropod-borne viruses are maintained during the colder months when active insect vectors are scarce or absent. Recent investigations have shown that the young forms of several species of ticks parasitize birds, and it is thus possible that an infected tick could be transported over long distances by migrating birds. The extent and distribution of infections of man with the arthropod

viruses can be determined by antibody survey work, and results of a study of residents of Athens provided evidence that the antibodies persist for at least 30 years following infection. Very valuable information has been obtained in extensive antibody surveys in the Caribbean region and a surprising finding of these immunity surveys is the wide distribution and high rate of infection with some of the recently discovered viruses.

BRITISH AGARICS AND BOLETI

A RECENT check-list of British agarics and boleti* is a logical development from the revised list (1948) of Pearson and Dennis, and embodies a number of suggestions that were put forward in that work. Many unjustified names have been dropped, and a number of new records for Britain have been added. The system used follows in the main that of Singer (1949), thus being narrower than that used in the earlier list. The work is not just the compilation that the title suggests; there are 536 pages in all, including the ancillary accounts, and the work has involved a critical study of actual material of almost three-quarters of the species listed.

Part 1A is a systematic list of genera that will be of assistance to foray secretaries and others who make lists of collections. Part 1B is the check-list proper—an alphabetical list of genera and species with synonyms, misdeterminations, authorities and references. Part 2 is a list of epithets of specific, varietal and formal rank that have been used in the past, and will be of value in translating old names in terms

of the present list. Two papers published in association with the list (Part 3 by P. D. Orton, and Part 4 by F. B. Hora; *Trans. Brit. Mycol. Soc.*, 43, Pt. 2) set out a discussion of taxonomic principles which justifies the treatment given. The view is put forward that genera and species must be accurately fixed as soon as possible, but that as yet we have insufficient information on which to erect varieties and forms. Much useful advice to collectors and taxonomists is given here. Comments on the genera used in the list are given; there is a summary of changes in genera and their subdivisions; validations of new combinations and descriptions of new species are found; and there are critical notes and keys to help understand and use the system.

The work is a massive and comprehensive undertaking, and the authors are to be congratulated on their foresight in visualizing it and on their energy in carrying it to completion. It would be strange if all mycologists were to agree with the decisions taken here: there will no doubt be those who will complain at the changes. But in the long run the sooner a stable and workable system is reached the better. This work is a major step in this direction. D. PARK

* New Check List of British Agarics and Boleti. By R. W. G. Dennis, P. D. Orton and F. B. Hora. Supplement (1960) to *Transactions of the British Mycological Society*.

ENDEMIC AND EPIDEMIC GOITRE IN ITALY

THE almost legendary disease of epidemic goitre re-appeared in 1940 in the Italian Alps and Piedmont, attacking thousands of soldiers in the Province of Cuneo, and in subsequent years spreading to the civil population of the other provinces of Piedmont. It died out in this part of Italy in 1945, but continued to flare up in small foci in Lombardy, Liguria, Emilia, Tuscany and Venetia up to 1948 (*World Health Org.*, 14, No. 8; 1960).

The epidemic appeared in an area where endemic goitre had existed for a long time, raged for several successive years from spring to autumn, affected groups or individuals coming from outside the epidemic areas, and spread to regions from which endemic goitre had disappeared decades before.

The Italian epidemic of 1945-48 affected not only man but also dogs and pigs in some localities. At Monferrato it was shown that goitre appeared both in individuals drinking water from the mains and in those drawing their water from wells and tanks. Most of the goitres disappeared after some months, but some persisted and a few were still visible after some years. Administration of iodine brought no improvement and had no prophylactic effect.

Most of the authors who have studied the Piedmont epidemic admit a relationship between epidemic and endemic goitre. This relationship, however, has been questioned in the case of Tuscany, where epidemics without endemic goitre have been known. An analysis of recent data and of the data available on successive epidemics from the year 1700 have led A. Costa and M. Mortara to the conclusion that the two forms of goitre are diagnostically identical. They emphasize, in particular, the cerebral symptomatology that is clinically manifest to a greater or lesser extent in the two forms, and are inclined to the view that the central nervous system is affected, with elective, but not exclusive, localization in the autonomic centres in the diencephalon. Costa and Mortara consider that the cerebral phenomena manifested in acute epidemic goitre might provide some clues to the cerebral changes that result in the cretinism and deaf-muteness of endemic goitre. An important fact is that endemic cretinism is still to be found in its old sites—the Alps and the southern Apennines, including several surrounding hill and plain areas—but does not appear in association with endemic goitre in the south of Italy. Cretins are rare in the