

Cucurbitaceæ. Below 1000 m. subtropical crops thrive: sugar-cane, oranges, the date palm.

The study of the separate crops is discussed in great detail in eight special chapters. The investigation of varietal diversity of cultivated plants has shown that Afghanistan and adjacent countries, especially the North-Western Provinces of India, is one of the most important primary world agricultural centres, where the varieties of numerous plants have originated. This is objectively proved by varietal diversity of a series of crop plants and by the coincidence of the area of the varietal diversity of many most important European crops. For example, as regards the diversity of club wheats and soft wheats generally, Afghanistan occupies the first place in the world. Though the varietal diversity of cultivated barley is poor, *Hordeum spontaneum* grows abundantly in northern Afghanistan, while eastern Afghanistan, and the adjacent regions of north-western India, are the world centre where the maximum of characteristics of the most important Leguminosæ are found. The region is probably the centre of origin of these crops. Many endemic forms have been found. In regard to flax, Afghanistan undoubtedly borders on one of the principal centres where the forms of this crop have originated. Hemp in south-eastern Afghanistan represents the pro-genital type of *Cannabis indica* Lam. A series of oleiferous Cruciferae have evidently independently become cultivated field crops of Afghanistan and adjacent countries. Northern Afghanistan is the realm of wild melon, with all transitions to the cultivated type, and there is no doubt that Afghanistan is a part of the primary area in which cultivated melon has originated. The extraordinary wealth of varieties of carrots, turnips, and radishes show that Afghanistan is the primary world centre of these crops. The same may be observed with regard to other less important crops, such as spinach.

The botanico-geographical facts definitely direct attention to the south-eastern part of Afghanistan and regions towards the Punjab. It is in this region that the complex of genes of many European-Asiatic crops have been found. Here, and in the adjacent districts, a series of crops have originated, a fact proved by the presence of all stages of evolution. The above-mentioned region includes the Punjab. It is to this small part of India that we turn for the solution of the genesis of the above cultivated plants and not to the rest of India, which has no bearing on the majority of these crops. In regard to climate, relief, and crops, the North-Western Provinces form one undivided whole with Afghanistan. The remaining part of India differs sharply from Afghanistan in climate and soil.

At the end of the book the authors give a detailed description of the route travelled by the expedition, with the indication of distances, the character of landscape, short agronomical notes on the region, the description of the road, and altitudinal data. Good maps are given illustrating geographical, orographical, geological, vegetational, and agricultural divisions of Afghanistan. Most of the photographs in the book are very interesting, but poorly reproduced.

University and Educational Intelligence.

LONDON.—Sir Gregory Foster has been elected vice-chancellor for the year 1929-30.

The following doctorates have been conferred:—*D.Sc. in Biochemistry*: Mr. H. J. Channon, an internal student of University College, for a thesis entitled "The Unsaponifiable Fraction of Liver Oils"; *D.Sc. in Statistics*: Miss E. M. Newbold, an internal

student of University College, for a thesis entitled "Practical Applications of the Statistics of Repeated Events, particularly to Industrial Accidents"; *D.Sc. in Anthropology*: Mr. W. J. Perry, University reader in cultural anthropology, for a thesis entitled "The Children of the Sun".

A SHORT account is given in *La Nature* for June 1 of the inauguration and development during the past hundred years of the well-known École Centrale des Arts et Manufactures of Paris, the principal technical institution in France for training students for private industrial works. Founded by the four savants, Théodore Olivier, a mathematician, Eugène Pécelet, a physicist, Philippe Benoit, a mechanic, and the famous chemist J. B. Dumas, with whom was associated an administrator, Alphonse Lavallée, the school was authorised by the Minister of Public Instruction on Dec. 23, 1828, and its first session opened on Nov. 20, 1829, with 145 students. Its early career was threatened at first by the political upheaval of 1830 and then by the cholera epidemic of 1832, but it gradually grew in importance and in 1862 became a recognised government establishment. Housed at first in the old Hôtel de Juigné, it now occupies a fine block of buildings in the quadrilateral formed by the streets named after Condé, Montgolfier, Berthoud, and Vaucanson, just behind the Conservatoire National des Arts et Métiers. When Lavallée retired from the directorship, the well-known French engineer August Perdonnet succeeded him, while to-day the destinies of the school are controlled by M. Léon Guillet. During the War, between four and five thousand old students of the School served as officers in the French army, while the handsome memorial gateway at the School is to the memory of some five hundred of them who fell on the field of battle.

A FURTHER stage in the development of one of the oldest technical colleges in Great Britain was marked by appropriate ceremony on June 13, when the recently completed extension of the Wigan and District Mining and Technical College was opened by Viscount Chelmsford. The College dates back to 1857, when it began as the Wigan Mining and Mechanical School, which occupied a single room in the Mechanics' Institute and boasted 50 students. It was in 1903 that the present College buildings were opened, and in 1919 a temporary annexe was erected: this was in use until 1921, when the allocation of £32,000, together with £5000 for equipment, by the Miners' Welfare Fund, allowed the erection of the present permanent extension in its place. At the opening ceremony, the chair was taken by the chairman of the governing body, Mr. J. T. Gee, and, after Viscount Chelmsford's address, he, Mr. A. M. Lamb, vice-chairman of the governing body, and Mr. G. H. Winstanley, were presented with the honorary diploma of the College in mining. Speeches were made by Mr. J. T. Browne, president of the Lancashire and Cheshire Coal Association, Mr. J. McGurk, president of the Lancashire and Cheshire Miners' Federation, the Mayor of Wigan (Councillor P. Murphy), and Mr. P. E. Meadon, Lancashire County Director of Education. The work of the College, under Principal J. F. S. Ross, falls into four main categories: full-time courses of university or equivalent standard, full-time junior schools (technical and commercial), part-time day courses, and evening courses in a great range of subjects. The College, which stands on an island-site, has now about 110 rooms, which include nearly 30 laboratories, 9 workshops, 5 drawing offices, and many lecture- and class-rooms.