

and support for what is decided. In these lectures Sir Oliver Franks has set forth very faithfully some of the grave dangers inherent in any bureaucracy, no matter how great its merits. But while he reminds us of the importance of efficient organisation and respect for proved principles, he does not fail to point out that the man is more important than the machine. Whether our post-war organisation of Government proves equal to the immense tasks confronting it does not depend primarily upon the wisdom of our planning in the technical sense. It depends largely upon the men and women to whom the execution of those plans is entrusted. Nor is it simply a matter of their personal integrity, administrative ability and scientific and technical knowledge. It is a question of their physical ability to meet the strain. That, in turn, depends in part only on their numbers. Above all, success depends on whether in the preparation of plans and the formulation of policy the right steps have been taken to secure the approval and co-operation of the general body of citizens whose interests are to be served.

ECOLOGY OF NORWAY

Sikilsdalen og Norges fjellbeiter

En plantesosiologisk monografi. Av Rolf Nordhagen. (Bergens Museums, Skrifter Nr. 22.) Pp. xvi+607. (Bergen: A/s John Griegs Boktrykkeri, 1943.) 30 kr.

LOVERS of Norway, plant geographers, ecologists and systematists in many countries have cause for gratitude that Prof. Nordhagen's monumental study of Norwegian mountain vegetation in general and of Sikilsdal in particular was successfully published in 1943 in spite of enemy occupation of the country. The book is the culmination of twenty years indefatigable pioneer work, and the only cause for regret is that its weight and quarto size preclude its being carried in the pocket by a visitor. In every botanical library it should, however, find a place.

As explained by the author, the work is primarily a review of the ordinary mountain vegetation of Norway, exceptional areas, no matter how interesting, being on this occasion left aside. The vegetation is prevalently that of non-calcareous or poorly calcareous districts with Sikilsdal as the fixed starting point. From the practical point of view it is the region of mountain pasture for horses, cattle or (formerly) reindeer, and the instruction of the potential user is constantly borne in mind in the presentation of the scientific descriptions. Indeed, some of the illuminating details intended for the guidance of the practical man are not the least interesting of the contents, the botanical criteria for the detection of late-lying snow pockets (of importance to a railway engineer) being a case in point.

Prof. Nordhagen's aim has been to reduce the bewildering det is of his country's vegetational types into a manageable system of recognizable units, defined in such a way that comparison with other countries, notably Sweden, Finland and Central Europe, can be carried out, and by doing so to introduce into Norwegian science a standardized ecological language. This, and not the political vicissitudes prevailing at the time of publication, is the reason why the work is written in Norwegian

rather than in some other language of perhaps wider currency; and quarrel with this decision cannot be made, for it will certainly strengthen considerably the further prosecution of ecological research in the author's own country. The non-Scandinavian reader need not, however, be unduly disturbed. The basic ecological classification was published in a preliminary form in German in 1936, and the book itself is very well supplied with indexes, table of contents, diagrams, tables and illustrations from which much information can be gleaned with little need of a dictionary.

The main climatic divisions utilized are first the separation of alpine from subalpine, the latter characterized by birch wood, and secondly, the subdivision of the treeless alpine zone into three regions, the low, middle and high alpine, the last being unrepresented in Sikilsdal. Within these zones the vegetational units are grouped under the following main heads, each containing several subdivisions: dwarf-shrub heath, dry grass heath, the vegetation of the sites of late-lying snow, tall herbaceous mountain vegetation, mountain meadow and grass pasture, nitrophilous weed vegetation near hutments, the vegetation of springs and of open water, grass moors, ericaceous moors, vegetation of unstable ground (scree, etc.), vegetation of precipices. In many cases, for example, in the masterly treatment of the complexities of grass moors, the classification is put forward as provisional, but even in such cases enough is known from the work of other writers to suggest that the units put forward have a validity and usefulness not merely for Norway but also for other northern countries.

It is impossible in a review to quote in any detail the scientific content of a work as richly filled as this. To a British botanist not the least of its value is the light that it can throw on many obscure features of the vegetation of our own islands. Peculiar and rare species, *Scheuchzeria palustris*, *Betula nana*, *Salix lanata*, *Phyllodoce caerulea*, *Athyrium alpestre*, to quote a few at random, too uncommon with us to be adequately studied, fall into an intelligible place as relicts of a former age, in the light of Prof. Nordhagen's remarks. Indeed, it may be said with confidence that this description of Norway is likely to contribute more to an understanding of the general ecology of Scotland than has accrued from work done in that country for many years past.

I. MANTON

CRUDE DRUGS AND OTHER RAW MATERIALS OF VEGETABLE AND ANIMAL ORIGIN

Textbook of Pharmacognosy

By Dr. T. E. Wallis. Pp. ix + 504. (London: J. and A. Churchill, Ltd., 1946.) 28s.

ONE would naturally expect a high standard of attainment from the specialists who are responsible for the teaching of pharmaceutical subjects in the College of the Pharmaceutical Society of Great Britain. By virtue of its connexion with a body in which is vested the authority to grant diplomas for the practice of the craft of the pharmacist, it is right that the College should give a lead to those institutions concerned with instructing men and women for this profession. It is pleasing to see,