

stand up to the strain of the racecourse as well as they do in their home island". Pressure of research in other directions is given as the reason for deferment of intensive study of the role of minor elements; but it seems fair to ask why the question of nutritional quality should be taken so fatalistically. The salary of a chemist or two would surely not be too much to add to an ordinary budget of chemical or veterinary investigation, and in conjunction with a rational policy of land use and nutrition would probably yield a high dividend.

The bulletin contains a large number of suggestive facts. Fiji has no native grass, the so-called 'native' grasses being importations which have run wild. In view of the decline of the natural indigo industry, it is interesting to learn that the cultivation of a trailing species of indigo for fodder and for purposes of soil protection is actually on the increase. What is a pest in one part of the world may be a useful grass in other parts of the world—or, as in Hawaii, in another part of one island.

HUGH NICOL.

ECOLOGICAL PRINCIPLES AND FORESTRY

ON July 2, 1943, members of the forestry associations of Great Britain met at the invitation of the British Ecological Society to discuss problems arising from a paper by Sir Roy Robinson in *Forestry*, the journal of the Society of Foresters of Great Britain (see *Nature*, 152, 196; 1943). A fuller account of the meeting is now available (*Forestry*, 17; 1943).

Prof. A. G. Tansley, in opening the meeting, said he welcomed the desire for a closer contact between ecology and forestry. He thinks foresters would, through ecology, find much to help them to a scientific rationale of their practical operations. Prof. Tansley stresses that scientific ecology is a very young subject of research, almost entirely a product of the present century and only developed energetically since the War of 1914–18. It is in this newness of the subject that may lie the danger for the young forester. As is said, it has only been really developed since the War of 1914–18, and it is in this period that the word 'ecology' has come trippingly from the lips and pens of the young trained forester, the word being often made to serve as explanation for forestry processes as yet but dimly understood or assimilated by the junior. Prof. Tansley says: "I know very little of practical forestry, and I have often wished when I was teaching forestry students their elementary botany, and always from the general point of view of ecology, that I had had a practical training both in forestry and agriculture, just as I wished I had had a practical training in medicine when I was teaching biology to medical students. For just as scientific medicine is really a branch of applied biology, so forestry and agriculture may be regarded as branches of applied ecology."

To increase our knowledge of the ecology of woodlands, Prof. Tansley suggests a "continuous opportunity for access to and study of planting experiments together with the power of suggesting different variations and forms of control which are likely to lead to increased insight into the factors at work"—in fact, research work, which all foresters would welcome. It is, however, at present, a long step from this interesting and valuable work to the ordinary practical operations of the forester based on

the growth of crops to produce marketable timber. Sir Roy Robinson's explanation that in afforestation work some species are pioneers and others are successors is obviously correct. But practical research is required to show how to shorten the experimental period in new afforestation work, if such a step is economically or ecologically possible from the financial point of view.

The experienced practical forester feels that a distinction should be sharply drawn between the true ecological research point of view and its work, and the practical sylvicultural activities of the executive forester who has to acquire a working knowledge of his soils in order to undertake his duties. In other words, the danger nowadays for the younger generations of foresters is that they may be led into sylvicultural inaction pending the outcome of the ecologists' experiments, giving the latter "the power to suggest different variations and forms of control" of the sylvicultural operations of the forester. The highly efficient sylvicultural management gradually brought into being in European Continental forestry departments was not attained by such means, though such research work will always prove of value to the sylviculturist when it has been brought to the point where its practical applications will obviously lead to better results.

BIOLOGICAL STUDIES IN SOUTH AFRICA

THE *South African Journal of Medical Sciences*, published quarterly by the University of Witwatersrand and the South African Institute for Medical Research, is devoted to original work in any of the sciences represented in the medical curriculum. C. de V. Bevan contributes to the February 1944 issue (9, No. 1) an interesting article on the cultivation of the South African *Rickettsia* in developing chicks and the preparation of vaccines from the membranes of these. Dilute egg vaccines do not, he concludes, protect guinea pigs against epidemic infection, although they protect wholly against tick-borne infection and partially against endemic infection. Concentrated vaccines must be used in order to obtain complete protection against epidemic typhus produced by inoculation of guinea pigs with egg-passaged strains. A modified Machiavello technique for staining *Rickettsia* is described. The author finds that clearer staining is obtained if the smears are cleared in benzene. Bacteria and *Rickettsia* ground in a mortar with alundum are disintegrated. The development of the chick-embryo method will provide, the author thinks, smaller quantities of a far more potent vaccine than any that has yet been produced. The advantages of the egg-vaccine over the mammalian vaccines are discussed.

In the same issue, Margaret L. Creed discusses the nutritional value of a poor South African diet and of certain dietary supplements, and N. Sapeika reports on the digitalis action of a glycoside from the liliacean species *Urginea rubella*. More than twenty-five species of *Urginea* have been recorded in South Africa; many of these probably contain a toxic glycoside and a few are known to be toxic to stock. The issue concludes with a paper by O. S. Heyns and S. S. Hersch on the birth-weight of urban Bantu and the incidence among them of syphilis, still-birth and premature labour.