

Secretaries of State for the Colonies changed so continually that forestry could have meant little to them.

By the outbreak of the Second World War it was generally thought that a forest department should be a potential source of revenue and that a drop in revenue should be followed by a cut in the department's activities. Lip service had been given periodically in the various annual forestry reports to the value of the forests to the people and the country and their protection; but exploitation proceeded without a previous knowledge of the possibilities of the forests and the amounts of timber which could be taken out. The Second World War, therefore, found the Colonies once again unprepared, and uncontrolled fellings took place which the paucity of the forest staff were unable to oversee.

That some recognition of the position of the forest departments which possessed the trained men capable of carrying out their job, but had not the staff to give effect to their proposals, had become apparent at home in 1939 is shown by the statement made in 1939 by the Secretary of State for the Colonies: "Forest Departments are becoming more and more involved in the study of general rural development and land use and contacts between them and other Departments engaged on similar work have been strengthened". It was the failure of the Secretary of State to initiate any regular system of annual recruitment for the various Colonies for which he was responsible, such as was followed by the Secretaries of State for India for over half a century, which resulted in overcutting to meet the urgent large demands.

The War proved the value of the forests of the Colonial Empire but unfortunately added largely to the already uncontrolled exploitation carried on between the two Wars and preceding years.

Extensive planting which commenced sporadically in the early years of the century was carried out of exotics in many Colonies, chiefly of tropical or semi-tropical species such as teak, *Cassia*, *Gmelina*, neem, *Cedrela*, *Acacia*, some eucalypts and various species of pines. Some of these have proved themselves; but it has not yet been possible to ascertain for how long short rotations can be taken off the same soils, nor the dangers which may supervene from pests, insects and fungi. But the growth of these short-rotation exotics has greatly helped to solve the firewood situation in big towns where other fuel is non-existent.

It is impossible to mention the progress of Colonies since the end of the War (1945) by name. Considerable progress has been made by some in the assessment of the volume content of now accessible forests and to introduce the necessary control of fellings to keep within an ascertained sustained yield; in other cases a plan of forest management has been put into force which would include exotics where used for fuel plantations. In many Colonies the reservation of the area of forests requisite for the requirements of the country is far from complete. Progress in forestry research has been notable; but at times has been overstressed at the expense of the heel-and-toe work of correct administration in the forest itself. The progress in the training of native subordinate ranks is reassuring.

Dr. Fairbairn, who served in Nigeria and has recently joined the Edinburgh Forestry Department, writes as follows: "Mention may be made of the Colonial Development Corporation which had whole-

heartedly initiated forestry progress in a number of colonial areas; without doubt great advancement can be made if the principles of scientific and sound economics are followed. It is the duty of the Forestry Departments and the Colonial Administrators to see that reasoned exploitation with adequate silvicultural precautions for the replacement of the forest vegetation—not merely of the economic species—is assured." I agree.

It may be suggested in conclusion that the most important action which the Secretary of State for the Colonies can take to assist and safeguard the sound advances being made in forestry administration in the several Colonies is to see that a definite recruitment in trained gazetted staff is annually ensured on the basis required for each Colony. For all future progress in the interests of the community, and the correct forest area to maintain in its interests, depends upon this important factor.

Both Dominions and Colonies are sadly behind in one of the chief requirements of a properly managed forest area. I speak of working plans. It is to be regretted that they did not make a closer study, between the Wars, of the lines upon which India with over half a century of progress had developed her forestry practice. Research in utilization and in silviculture was taken up with keenness in both, but the Second World War showed how much the forest is at the mercy of man in sudden demands; and there were few working plans in force in many of either Dominion or Colonial forests to regulate the war fellings.

OBITUARIES

Prof. H. S. Raper, C.B.E., F.R.S.

HENRY STANLEY RAPER was educated at Bradford Technical College and at the University of Leeds, where he studied chemistry under J. B. Cohen; he graduated with first-class honours in 1903. His first published work, in collaboration with Cohen, was on positional isomerism and optical activity; afterwards he proceeded to the Lister Institute with a research scholarship. He also studied for a time in Germany. His interest in biology being stimulated, he returned to Leeds and completed the medical course in 1910. He afterwards held an appointment as lecturer in pathological chemistry in the University of Toronto, but returned to Leeds in 1913 as lecturer in physiological chemistry. During the War which followed, he did invaluable work at the Royal Engineers' Anti-gas Establishment, becoming commanding officer with the rank of lieutenant-colonel, and receiving the C.B.E. Soon after his return to Leeds he became professor of physiology and biochemistry. In 1923 he was appointed to the chair of physiology at Manchester and he occupied it with great distinction until 1946. He died on December 12 at the age of sixty-nine.

Raper's research interests naturally lay along chemical lines. His principal contributions to knowledge are on the metabolism of fats and in connexion with the tyrosinase-tyrosine reaction. In the field of fat metabolism he published in 1925 in conjunction with J. B. Leathes a classical monograph. The tyrosine studies led him to consider adrenaline formation and the origin of melanin. Latterly he was associated with Harper in work on the separation of secretin and pancreozymin.

His outstanding work was recognized by his election in 1929 to the fellowship of the Royal Society, on the Council of which he afterwards served; he was an honorary Fellow of the Royal College of Physicians. He also served as a member of the Medical Research Council. The University of Leeds conferred the degree of LL.D. upon him in 1943.

In 1946 Raper became full-time dean of the Medical School at Manchester, and by his wisdom and tact was responsible for the smooth operation of the changes in the pattern of medical education which resulted from the passing of the National Health Act. His wide experience was of great value also in the deliberations of the General Medical Council, in the educational work of which he took an important part.

Raper's death took place a few weeks before he was due to retire, and it was characteristic of the man that he should have continued unobtrusively and effectively at work right up to the end. In his personal character he was remarkable for modesty and for his kindly interest in everyone who came in contact with him, young and old alike. As the head of a department it was his policy to encourage by all the means in his power the independent research projects of his younger colleagues; in this way he succeeded in maintaining a variety of interests and of outlook in the teaching for which he was responsible. He was a redoubtable opponent on matters of principle, and his case was always based on complete intellectual honesty; but he was prepared to listen patiently to another's point of view, nor were disagreements ever allowed to affect his universally friendly relations with his colleagues.

Apart from his work, Raper's interests lay in water-colour painting. Though somewhat defective in colour vision, he had a keen appreciation of form and by his enthusiasm encouraged members of his staff to cultivate such talents as they had for sketching. In his younger days he was a keen cricketer, but latterly had given much attention to the magnificent garden of his house at Prestbury.

In Raper's death physiology has sustained an irreparable loss. His pupils, many of whom now occupy important posts, will always remember his teaching and will strive to be worthy of his incomparable example.

W. SCHLAPP

Miss E. C. Higgins

ELLEN CHARLOTTE HIGGINS, principal of the Royal Holloway College during 1907-35, died in Edinburgh on December 13. Born in London in 1871 of Scottish parents—her maternal grandfather being David Ramsay Hay (see "Dictionary of National Biography")—she was educated at Edinburgh Ladies' College and at the Royal Holloway College, London. She achieved the unique distinction of being placed in the first classes, in the same year (1894), in final honours mathematics at Oxford (an examination then open to Royal Holloway students) and in B.A. (Honours) English, with the Gilchrist Prize, in London. She was on the staff of Cheltenham Ladies' College during 1895-1907, latterly as head mathematics lecturer, and had been a governor of that College since 1924. She was chairman of the house committee of St. Gabriel's Church of England Training College for Women during 1932-44. From 1911 until 1935 she was a member of the Senate of the University of London, taking an ever-increasing

share in its business; towards the end of this time she was on four of its five standing committees, as well as the finance and general purposes committee. In particular, she did notable work as chairman of the Matriculation Board (later the Matriculation and School Examinations Council).

The Royal Holloway College advanced in status and reputation during her many years as principal. Its distinguished first holders of professorships in the University of London were appointed; until 1922 these were all in science—Margaret J. Benson (already a college lecturer), botany, appointed 1912; G. Barger, chemistry, 1913, followed by T. S. Moore, 1914; F. Horton, physics, 1914; A. E. Jolliffe, mathematics, 1920. The chemistry building was extended, and in 1926 a building providing good new laboratory accommodation in physics and botany was opened. Students, as well as junior members of the staff, who came under Miss Higgins, later obtained many of the highest academic and scholastic posts open to women or attained distinction in a variety of other careers. The student body became, as it still is, a well-united society capable of concerted effort when required. Miss Higgins maintained dignity and spaciousness in the domestic life of the College and in its public occasions. The benefit of her care for its furnishings is still felt in the present more austere times.

Miss Higgins belonged perhaps more to the pioneering days of university education for women than to the time when their full participation in all academic pursuits is taken for granted. Thus, although the research work of individual colleagues flourished in her time, she scarcely contemplated her College becoming a centre of research as it has done in recent years (when men, as well as women, have been admitted as postgraduate workers). Yet the ease with which this development has occurred is a tribute to the level to which she had done so much to raise the College.

Except in private life, Miss Higgins was brusque in manner. Behind this façade, she was warm-hearted and constantly performed acts of kindness which she herself revealed to none but their recipients. Her independence and practicalness, combined with her concern for the ceremonies of life, found expression in her quite famous clothes—her invariable and rather mannish day-attire and her magnificent but fashion-defying evening-dresses. Until her last brief illness, her vitality remained almost unimpaired: she was an enthusiastic and experienced alpinist, and made her last ascent to the Matterhorn hut at the age of seventy-six.

W. H. MCCREA

Dr. Ivar Tragardh

THE death occurred at Stockholm, on May 22, 1951, of Dr. Ivar Tragardh. Ivar Tragardh was born on September 16, 1878, at Jarfalla, near Stockholm, and studied at Uppsala. In 1901 he became a member of the Jagerskiöld expedition to Egypt and the Sudan, and in 1904, with the help of the Vega Fund, he visited Natal and Zululand. He obtained his Ph.D. degree in 1905.

In 1910 Tragardh was appointed assistant in the Department of Entomology, Centralanstalten för Jordbruksforskning, Stockholm. From 1915 until 1944 he was professor and chief of the Department of Entomology, Forestry Research Institute, at Experimentalfältet, Sweden.