

scientific spirit and so on; but too often science teaching was measured by its efficiency in producing passes at Ordinary Level, and in the sixth form at Advanced Level, in the General Certificate of Education examination; and in many schools, particularly girls' schools, it was not efficient even there.

The secondary technical school in Britain has suffered through lack of equipment and teachers, but in the former there is much improvement. Selection for secondary technical schools is largely unsatisfactory, since the more intelligent children among those who fail to secure places in grammar schools are sent to technical schools. A consideration of the selection problems for children suitable for technical education is long overdue. Finally, there are the secondary modern schools. It is not unfair to say that, even with a certain tradition inherited from the central schools, they have largely failed to find a philosophy or even a scheme of work for themselves. No doubt the problems of staffing such schools with men and women with adequate science and teaching qualifications have been insuperable. Nevertheless, in view of some of the recommendations of the recent Crowther Report, the future of the secondary modern schools is of paramount importance. There can be little doubt that their comparative failure to establish themselves educationally and socially has led to cries, with political overtones, for comprehensive, bilateral and other schools.

The science-teaching triangle is child, teacher, equipment. The best equipment in the world—and much of it in British schools is surprisingly good—does not make a good teacher; and even a good teacher will not improve the intelligence of a child, even if good teaching may awaken interests and may apply whatever natural intelligence is found in the pupil to the best advantage.

Much research is necessary concerning the child-mind in relation to science, and should be undertaken by institutes of education and postgraduate teachers. Various natural bents, intelligences and levels of maturation will have to be considered in relation to the scope and content of science syllabuses, the origins of interest, and the methods and techniques of teaching—and all this in relation to the various aims which educationists have in mind, in teaching science at all.

## THE DILEMMA OF THE FAR EAST

### Population and Progress in the Far East

By Warren S. Thompson. Pp. ix+443. (Chicago: University of Chicago Press; London: Cambridge University Press, 1959.) 56s. 6d. net.

**T**HIS is an important book about an important subject—the struggle of half of the world's people to keep production ahead of population growth. Its merit lies essentially in the wealth of information and analysis it supplies about the basic resources, technologies, economic policies and social customs which governments of Asian countries are desperately attempting to manipulate to break through the Malthusian barriers of subsistence.

Chapter by chapter, Prof. Thompson lays out the patterns in Japan, India, China, Pakistan, South-east Asia and Taiwan and Korea.

The reader naturally hopes that out of the great knowledge which Prof. Thompson displays there will emerge a pattern of hope; but his conclusions are sober, if not gloomy. He warns that even Japan, now generally listed as Asia's most prosperous country and the one clear case of population control, is yet in a precarious position, with a cultivated area still less than in 1940 and a trading area reduced to "about what it was in 1872". Compared with the rest of Asia, Japan is well advanced along the roads of both economic growth and demographic transition. Not so India, where the author concludes that of the vast uncultivated areas of 124 million acres, probably only 25 million are cultivable, or only enough to take care of present rates of population growth for some 4 or 5 years. However, Prof. Thompson does admit some prospect of increased productivity and of raising investment to some 10 per cent of national product, or sufficient to cope with a population increase of about 1.7 per cent and to bring some slight rise in living standards. But short-run gains will become losses unless the rate of population growth can be slowed down.

As for China, Prof. Thompson also doubts some of the more optimistic claims about unused resources; and emphasizes that if the 1953 census and subsequent official pronouncements about the annual rate of population growth of some 2 per cent are correct, the Chinese problem may prove even more intractable than that of India, although China has almost certainly a much greater area of cultivable but unused land than India.

On the general issue of how to achieve a successful take-off in the process of economic growth, Prof. Thompson shows himself to be an ardent agricultural democrat and traditionalist. His warnings against undue expectations from innovations, over-capitalization in enterprises that could best be carried out by more intensive use of labour, and insufficient attention to the strength of traditionalism leading to false optimism about the speed with which controls over the rate of population growth can be introduced, are all timely. Nevertheless one feels that he may be a little too conservative here, considering the rate of change that has occurred, and is so clearly still occurring, throughout the whole Asian and African world.

The biggest issue is whether the processes of economic growth and population control can be accomplished within a democratic framework. Prof. Thompson looks with hope to the Indian pattern, although even here he fears there may be too much emphasis now upon industrialization and not enough upon production of food and fibres, which he considers "will almost certainly be the chief source of capital" in all Asian countries. I share his hope that these great issues will be resolved within democratic frameworks; yet there is no proof that they will be, and we have to face the issue that, however much we dislike their political system, the Chinese do seem to be making as much progress as the Indians in trying to resolve the Malthusian dilemma of keeping the tortoise of production ahead of the hare of population growth.

Prof. Thompson's informative and thoughtful book is warmly recommended to those who want to think on the world's other great explosion—population growth.

W. D. BORRIE