

population increases and the land fills up, he adopts settled agriculture, which upsets the biotic balance. The first stages of settled agriculture are inevitably soil-exhausting, and human societies tend to develop social systems which keep soil exhaustion under control. This was the reason for the rigid medieval three-field system of agriculture, and is also the reason for the present-day appearance of soil-conservation districts, with their communal rules for checking soil exhaustion, in many countries that have not yet reached the stage at which the positive influence of towns in creating soil fertility makes itself felt.

The growth of towns has a powerful influence on the evolution of the soil. Towns create far more wealth than agriculture can create, a rising standard of living and a greater demand for the produce of the soil. To begin with, this results in an accelerated exhaustion of the soil; but if the wealth of the towns increases, a stage is reached at which it pays farmers to increase output per acre and, therefore, to raise soil fertility. Every successful, mature civilization has enormously increased the fertility of the soil.

In Britain a gradual change-over from soil-exhausting to soil-conserving agriculture began with the enclosure of the 'common fields' and the rise of the wool trade. Subsequent improvements in agriculture and soil fertility were brought about because the growing urban population was able and willing to pay for the food and clothing it needed. In North America the earlier rapid exhaustion of the soil has recently been succeeded by a substantial increase in soil fertility (measured by crop yields) as the wealth of American industry begins to flow back into the soil. In the U.S.S.R. the rapid expansion of industry is still starving the land, and no increase in yields is yet apparent. South Africa and Australia, with increasing industrialization, seem to have reached the turning point between soil exhaustion and soil conservation. Future development of industry in India might have a favourable influence on soil productivity, which is at a low level. Much of the rest of the tropics is still at the stage of shifting cultivation, though many Colonial countries have begun to practise settled agriculture and are suffering severe soil exhaustion as a consequence. Social systems are being evolved to check this exhaustion. It seems improbable, however, that the general level of tropical soil fertility can be raised without the backing of large, well-to-do urban populations.

Mr. Jacks ends by asking whether the world, a hundred years hence, will be able to feed the 6,000 million people who may then be living in it, and answers yes, provided most of them live in towns and produce enough wealth to pay for the food they require.

LOCAL SOCIETIES IN THE COMMUNITY OF TO-DAY

IN his presidential address to Section X (Assembly of Corresponding Societies), Dr. F. J. North suggests that a meeting of delegates from corresponding societies is an appropriate occasion for considering the decline in membership to which the reports of local societies refer with increasing concern, and for asking whether the decline is temporary or indicative

of a permanent trend, and what can be done to arrest it.

The history of local societies shows that they were a product of an age when conditions were very different from those which obtain to-day. It was an age of leisured amateurs with both time and means to follow cultural pursuits; an age when the 'fragmentation' of science had scarcely begun, so that an educated person could not only take an intelligent interest in almost any topic that might be considered at the meetings of a local society, but also play a useful part in contributing to discussions or engaging in original work.

The spread of education has provided a greater potential membership for local societies; but recruitment has been hindered for a variety of reasons. There has been a great increase in the number of cultural and professional organizations, and there are new claimants upon leisure time and increased facilities for enjoying it. All these were making themselves felt long before the cinema, sound broadcasting and television entered the field as formidable competitors.

With the view of assessing the relative importance of the circumstances affecting local societies, Dr. North reviews changes in the membership of the Cardiff Naturalists' Society (chosen because it is the one he knows best), indicating the causes to which the fluctuations are due and the effect of the foundation of a rival scientific society in the city. This survey leads to the conclusion that, while the community of to-day would be vastly poorer if local societies were crowded out of existence, the decline in their present strength and popularity is in large measure due to failure to move with the times.

Suggestions are offered concerning the ways in which adaptation to the new conditions will affect lecture programmes, the publication of transactions or proceedings, the co-ordination of the activities of societies by unions and federations, and will involve meeting counter-attractions like broadcasting and television by action designed to profit from the curiosity and interest their programmes create.

Whatever may be done to retain present interest, the future of local societies will depend upon the recruitment of members from among those who, now of school age, will be the adults of another decade. It is not only necessary to stop leakage, but even more necessary to take steps to ensure an adequate intake. With this object in view, advantage should be taken of the interest aroused among senior pupils by the service rendered to schools by museums; this is greater than many people suppose. In the National Museum of Wales, for example, a staff of fifteen, with the active support and guidance of the Director and the departmental staff, is solely concerned with school activities. Being organized by a museum, the service is able to emphasize the inspirational interest of the subjects dealt with, as well as provide assistance to those who are preparing for examinations. It is hoped in this way to create, during school-days, interests that will remain in after-life, and there is ample evidence that this hope is being fulfilled.

Many other museums engage in school services on varying scales but with similar objects in view, and local societies have much to gain by cultivating closer relations than may now exist with museums on one hand and schools on the other, with the view of tapping this reservoir of potential members.