

annual report for 1968 (HMSO, 15s), the plans for metrication are outlined. The more detailed maps are already on decimal scales, 1 : 1,250 and 1 : 2,500, and the survey has decided to adopt the 1 : 10,000 scale in place of the 6 inch. For all these maps, contours will have to be replotted at metric intervals and new spot heights measured. In view of the attachment of farmers to the acre, areas of parcels of land will be marked in both hectares and acres. Converting the smaller-scale maps will be the next step.

This year, more maps than ever before have been surveyed in the field and published, despite the high staff turnover rate. By 1969, surveys of the principal urban areas of Scotland, England and Wales at a scale of 1 : 2,500 will be completed. On the research side, the potentialities of the new hydrostatic levelling technique which involves observing simultaneously the water levels in glass gauges at the ends of a long water filled tube are being tested. This technique should be much more accurate than conventional spirit levelling techniques. The Ordnance Survey spent about £7 million last year and made about £2 million from selling maps, copyright fees and by charging government departments for the special mapping and other services provided for them by the Survey.

Other British surveyors working for the Ministry of Overseas Development are braving volcanoes, sleeping sickness and being mistaken for headhunters to map areas intended for new settlements, agricultural improvement and engineering works. In its annual report (HMSO, 13s 6d), the Directorate of Overseas Surveys summarizes the assistance it has given to fifty developing countries. Particularly interesting projects in Africa include mapping the area around Lake Victoria, which the Tanzanians hope to use for an irrigation project, and surveying Botswana. In the Pacific, a new survey of the Gilbert and Ellice Islands has been made to provide the basis of a property registration system. The directorate has for a long time been issuing maps on decimal scales, and will in future use metric units on maps for countries that use the metric system. The countries themselves will probably undertake the conversion of old maps.

NUTRITION

Disease and Diet

It is perhaps common knowledge that a malnourished person is unusually susceptible to disease, and that infectious diseases can influence the nutritional status. Kwashiorkor, for example, is a disease of protein deficient children which is precipitated by infection. The details of the complex interactions between nutrition and infection are less well known, however. In man, the interactions are regularly synergistic—malnutrition and infection are mutually aggravating and produce more serious consequences than would be expected from a summation of the independent effects of the two. In some laboratory animals, however, a reverse antagonistic effect is observed when highly specific deficiencies inhibit the multiplication of the infectious agent more than they influence the resistance of the host (*WHO Report on Interactions of Nutrition and Infection*, £2 14s).

Bacterial, viral, protozoal and helminthic infections all exert a detectable adverse effect on the nitrogen

balance. Keratomalacia (softening and ulceration of the cornea), scurvy and beriberi are frequent aftermaths of an infectious process in people subsisting respectively on diets deficient in vitamin A, ascorbic acid and thiamine, and there is a large body of evidence confirming the adverse effect of infection on the metabolism of these vitamins. Infections also interfere with the metabolism of calcium and phosphorus, and chronic infections alter iron metabolism and erythrocyte production to such an extent that the so-called "anaemia of infection" develops.

Although there is no evidence to suggest that resistance to infections is increased by the addition of ascorbic acid, B-complex vitamins and other specific nutrients to adequate diets, severe deficiencies of these substances do lower the resistance of man to most infectious diseases. Malnutrition directly affects host resistance by interfering with antibody formation, phagocytic activity, endocrine metabolism and non-specific protective mechanisms. Protein deficiency especially inhibits normal antibody response, and there is evidence that vitamin deficiencies can have the same effects. Vitamin B-complex deficiencies also reduce white blood cell activity, and decreased macrophage activity has been associated with deficiencies of vitamin A and ascorbic acid. Another effect of malnutrition is an alteration in the types, numbers and distributions of intestinal bacteria, and this may bring about a decreased resistance to intestinal infections. Under special conditions, dietary imbalance alters the therapeutic effectiveness of a number of drugs. For example, *Plasmodium gallinaceum* infection of chicks responded four to twenty times more readily to treatment with sulphadiazine or metachloridine when the birds were on a purified casein diet rather than on a regular stock diet, but this accentuated therapeutic effect was later eliminated by increased amounts of soy bean in the diet. Antagonistic interactions between a nutritional deficiency and an infection seem to be caused in most cases by a selective lack of one or more nutrients on which the infectious agent is more dependent than the host.

TEACHERS

Misunderstood Profession

It takes a good deal of courage, or perhaps foolhardiness, for the National Union of Teachers to commission a survey into the reasons why teachers are underpaid. For one thing, it implies that the efforts on the teachers' behalf have been unsuccessful, and it also invites people to reply that teachers are underpaid because of the incompetence of the NUT. But if any did say this, their comments were not reproduced in a pamphlet just published by the NUT and entitled "Why Teachers are Underpaid". The pamphlet is the result of a survey carried out for the NUT (by Research Services Ltd) into the attitudes of those who have some influence on teachers' salaries—elected members of education committees, industrialists and businessmen, academics, careers advisers and the like. The interviews revealed, the NUT says, a great deal of ignorance and misunderstanding about the teaching profession.

Indeed, the picture presented by the responses of those interviewed gives a picture of the teaching profession which the NUT can only describe as "a