

The Manchester Museum

THE annual report of the Manchester Museum for 1958-59 records that the year has been notable for the continuation of the policy of the Committee to modernize display and provide showcases with internal lighting, the receipt of a number of valuable acquisitions including the Raby collection of coins and the Armstrong collection of bones and artefacts from Pin Hole Cave, Derbyshire, and the mounting of a series of exhibitions in the special gallery devoted to this purpose (pp. 20. Manchester: The Manchester Museum, The University, 1960). These latter included the R. W. Lloyd Japanese Collection and the Robinow Collection from ancient Egypt. During the year two departmental guides, devoted to ethnology and mammals, were published. It is also reported that the University has allocated certain funds for the conversion of the Archaeological Balcony into a complete gallery, part of which can be used for the R. W. Lloyd Japanese material. The building programme of the University has made it possible for the Department of Zoology to relinquish the accommodation adjoining the Herbarium, and this is to be used for a much-needed botanical laboratory, an office and for storage.

Geological Surveying by Helicopter

UP to about 1950, after more than a century of effort, only about a third of Canada's 3.6 million square miles of land had been mapped geologically even on a reconnaissance scale. Conventional field work in increasingly remote regions was becoming prohibitively slow and costly, and insufficient trained geologists were available to carry out intensive pioneer explorations comparable to the all-out Russian efforts in Siberia. Clearly a radically new field technique was required to meet the urgent need for geological exploration, development and exploitation in the north. In a recent publication officers of the Geological Survey describe how this new technique has been found in the widespread use of helicopters (Canada: Department of Mines and Technical Surveys. Geological Survey of Canada. Bulletin No. 54: Helicopter Operations of the Geological Survey of Canada. By Officers of the Geological Survey of Canada. Pp. xii + 60 + 7 plates. (Ottawa: Queen's Printer, 1959.) 75 cents). Seven major helicopter-supported geological surveys, instituted as experiments between 1952 and 1958, have covered close on half a million square miles—half as much ground as had been mapped in the previous 110 years. While these helicopter operations have afforded maps on the scale of 1 in. to 8 miles (1:506,880) instead of the 1 in. to 4 miles common in conventional reconnaissance, they have given more uniform coverage and more speedy results at an operating cost (in the region of 1.68-3.63 dollars per square mile) less than that of any other field method known. The rapid progress is indeed remarkable; but Canada still has some considerable way to go before it overtakes the U.S.S.R., now almost completely mapped on scales of between 1:500,000 and 1:1,000,000, and producing on a scale of 1:200,000 between 120 and 150 map-sheets per annum.

Fate of Bacteria in the Small Intestine

RECENT work carried out by J. M. S. Dixon, of the Public Health Laboratory, Cardiff, confirms the view that the empty small intestine of healthy persons contains only a few transient organisms,

even when free acid is absent from the stomach (*J. Path. and Bact.*, 79, No. 1; January 1960). The small gut appears to possess some antibacterial mechanism causing organisms that escape destruction in the stomach to be either destroyed or removed from the lumen before they can multiply. There has been some disagreement as to whether the small intestine is relatively free from organisms because of destruction of bacteria within the lumen or because peristaltic activity removes the bacteria before they can multiply. The *in vivo* experiments were designed to elucidate this point. Test organisms were inoculated directly into subcutaneously displaced loops of small intestine of non-anæsthetized rats together with an inert unabsorbable marker. The animals were killed after periods of time and the number of bacteria and quantity of marker present in regions of the small gut determined. The marker used was a radioactive isotope of chromium which, when tagged to red blood cells, is virtually unabsorbed from the intestine. The results of twenty-eight bacterial inoculations indicated that bacteria were rapidly moved onward and soon removed from the small intestine by peristaltic action. There was no indication of bactericidal action. Mechanical removal by peristaltic action, aided by the secretion of mucus, is probably the main fate of viable organisms that enter the small intestine.

Cave-dwelling Shrimps

THE Australian Museum announces that it has acquired from the Milyering district, Western Australia, some freshwater shrimps of considerable interest to zoologists (*Aust. Mus. Mag.*, 13, No. 3; 1959). The specimens were collected by Mr. A. Snell, of Bunbury, West Australia, in the dark recesses of a well bored through coral and limestone country. The shrimps lack sight and have been identified as true trogloditic (cave-dwelling) forms—the first to be recognized from the Australian continent, and not previously recorded. The task of providing the shrimps with a zoological name and preparing a description of them for publication in the *Records of the Australian Museum* is being undertaken by Dr. Lipke Holthuis, of the Leyden Museum, Holland.

Large Pine Weevil

THE first of the leaflets published by the Forestry Commission has now been issued in revised form and illustrated with attractive colours (Forestry Commission Leaflet No. 1: The Large Pine Weevil (*Hylobius abietis*). Revised edition. Pp. 11. London: H.M. Stationery Office, 1960. 1s.). It deals with the large pine weevil, *Hylobius abietis* L., which is the only species of the genus *Hylobius* of importance in coniferous forests in Britain. It feeds on the bark of young coniferous trees, and, where it is unduly numerous, may cause the complete loss of a newly planted crop. Recent trials, both in Great Britain and abroad, have shown that it is possible to provide protection to young crops by the direct application of various insecticides. Two possible situations may arise—that in which the weevil attack is anticipated, and that in which the weevil attack occurs unexpectedly. In the former case, the dipping of planting stock before planting out should be used; but in the latter the young crop should be sprayed as soon as the attack develops. With both types of treatment the insecticide recommended for use is DDT. The main factor controlling the numbers of *Hylobius* is the availability of suitable breeding sites. When breeding grounds are provided by fellings or