

University and Educational Intelligence

LIVERPOOL.—Through the gift of Mr. William Horton, the Science Library has gratefully received a sum of money, to be expended over a period of seven years, towards the maintenance of science journals.

The Senate and Council have resolved to confer honorary degrees at the summer graduation on the following: Mr. Stephen Gaselee, librarian and keeper of the papers at the Foreign Office, Miss Eleanor Constance Lodge, until recently principal of Westfield College, London, Prof. G. I. Taylor, Yarrow research professor of the Royal Society, Sir J. Eric Drummond, secretary general of the League of Nations, Mr. R. D. Holt, chairman of the Mersey Dock and Harbour Board, Mr. F. W. H. Groom, until recently head of the Liverpool Institute, the Rev. Father Joseph Howard of Liverpool, Miss D. C. Keeling, secretary of the Liverpool Personal Service Society, and Mr. Percy J. Robinson, chief electrical engineer of the City of Liverpool.

Huddersfield Technical College has been able to report a record attendance of students during the past academic year, the increase in the number of day students (461) being specially marked. The volume of work has increased by 121 per cent since 1920, when a new Textile Department was opened. Among other developments reported by the Principal are the formation of additional practical classes to meet the extraordinary demand for instruction in smoke abatement and fuel economy and provision for helping unemployed adult engineers by reserving the workshop at certain times for fitters, turners and machinists who wished to practise their trade and to use machines of which they had had no previous experience.

MEXICO'S new rural schools, known as "Houses of the People", are described in Bulletin No. 11 of 1932 of the United States Office of Education, a brief summary of which appears in the November issue of *School Life*. They are the product of a bold scheme designed to build a new civilisation incorporating a revival of the best features of indigenous culture—Mayan, Toltec and Aztec as well as that of the Spanish conquistadors. The federal government selects and pays the teachers and buys the books, but the local community provides the building and equipment and guarantees an ample attendance of both children and adults. As soon as the teacher has been selected, the building of the school is begun, the labour being provided by the community, men, women, and children, working under the direction of the teacher and using materials (adobe brick) obtained locally. Classes are conducted meanwhile in the open air. Courses are not prescribed by the central authorities but the teacher who lives in and knows the community is left to initiate projects of education adapted to local needs. Health, including dietetics, is a basic school subject and the teacher undertakes such simple medical service as vaccination and dispensing remedies for common complaints. The school garden and playground are regarded as indispensable adjuncts. How Mexico finds teachers competent to perform the varied tasks demanded of them is not explained. Hitherto an enthusiastic belief, on the part of teachers and taught, in the value of the scheme appears to have overcome all obstacles to its success.

Calendar of Nature Topics

The Ice Bridge

The Great Lakes of America and the waterways of the St. Lawrence and its estuary are firmly frozen over every winter. The ice begins to break up towards the end of March, and from the middle of April to the middle of May large quantities of drift ice are swept down into the Gulf of St. Lawrence. The opening of this Gulf is almost entirely blocked by Newfoundland and Cape Breton Island, and nearly every year the gap between these islands is completely filled by great masses of ice. This block sometimes lasts for three weeks; it completely prevents the passage of ships, and is known as 'the Bridge'. As many as 300 ships have been held up at one time, and the Bridge is the cause of frequent wrecks on the coast of Newfoundland.

Clover Mites Invade Dwelling Houses

Clover mites (*Bryobia pratensis*) live amongst grass and upon the twigs and foliage of many fruit trees. In late autumn the females deposit eggs which hatch in spring, and during April the newly hatched individuals have been known to invade dwelling houses in enormous numbers. In such a case investigated by the writer in 1929, the mites appeared on the outer wall of a house near Edinburgh, on the window sills, and within the house upon the woodwork of the window and shutters, in such numbers that although each mite is less than a millimetre in length, their presence attracted the notice of the householder and was regarded by her as disturbing and troublesome (*Scot. Nat.*, 1929, p. 126). The house was recently built and the explanation of the invasion was that close to it was a grass plot, part of the original pasture field in which the site had been chosen. The invasion lasted several weeks, but the thorough spraying of the grass plot with an insecticide put an end to the plague. In the United States there are records of large numbers of clover mites invading houses, but there the invasions have taken place in the autumn.

The Lambing Season in Great Britain

The peak of the lambing season occurs in spring and indeed it is one of the accepted signs of spring for general observers. Watching the young lambs in field or fold, we may not realise that a farming enterprise of some uncertainty is in progress, in which success or failure depends on a high degree of skill on one hand and much applied science on the other. It is a case of the economical production of an article intended for a discriminating market. The first problem is the choice of suitable breeds of both ram and ewe, and this in itself is no simple matter. In a recent survey of the south-west counties of Great Britain, it was found that no less than 82 distinct crosses were in use. Prolificacy and hardiness in the ewe, with early maturity and quality in the offspring, are the main points looked for, and thus an exacting standard is set up.

The first few weeks of life present many dangers both to mother and offspring, and even under good management serious losses are not uncommon. When this critical stage has been passed a keen watch for disease must still be kept. Veterinary science has already done much to mitigate the effect of internal parasites and foot rot (a virus disease), but there are

still obscure troubles, mostly associated with land which has been overstocked with sheep, that cause much unthriftiness and loss.

Knowledge is being sought in two directions. The scientific study of well-recognised problems of nutrition or disease: and the sifting of the very large body of experience which at present exists in an unavailable form in the minds of keen observers—the flockmasters and shepherds themselves. The partnership should turn out to be a very helpful one: the practical man with a highly developed live-stock sense bringing his problems to the scientific expert, and perhaps from his empirical knowledge providing some useful clues for their solution.

Breeding Haunts of the Harp Seal

When the 'fishing' of the whalebone whales in the North Atlantic came to an end, and the whalers from British ports turned to sealing, it was reckoned a lucky day if the ship struck a breeding place of the harp seal (*Phoca grænelandica*) in the early part of April, for then the crew would be able to slaughter as many as the ship could hold. The reason was that the harp seal is gregarious and in those days was also exceedingly numerous, so that, as Dr. R. W. Gray has quoted from a description written in 1870 by his father, a great whaling and sealing skipper, "fifteen or twenty years ago a pack of [breeding] seals extended in every direction as far as could be seen with a good telescope from a ship's mast-head, lying as close as a flock of sheep"; or as Gravill, a Hull whaler and sealer, said, "I've seen them in Greenland [meaning the Greenland Sea] extending on the pack [ice] for a distance of twenty or thirty miles, young ones and old, just a solid body of seals". (*Naturalist*, 1932, p. 183.) The reason why every sealing ship did not return laden when such plenty existed, was that the breeding places were not fixed, their position depending upon the ice conditions and food supply in the Greenland Sea. The harp seal, so named because of the shape of the curious dark line which seems to be stamped on the white coat of the adult, breeds upon the margin of the arctic ice, where it is breaking up into pack ice, for there the seals have at the same time support for their young and the possibility of abundant food in the sea about the ice-floes.

Food of the Harp Seal and its Significance

Harp seals feed upon the small crustaceans in the plankton of northern seas. Dr. R. W. Gray found them to contain *Euthemisto libellula* and *Nyctiphanes norvegica*; and if they also devour the fishes which live upon the plankton, none the less the distribution of the crustacean plankton is of vital significance. Here is a link which connected the whaling and sealing of the nineteenth century, for harp seals and whalebone whales take advantage of the same food supply, so that often enough the whales were captured amongst the floes upon which the seals were breeding. Dr. Gray has analysed, in the paper referred to above, the records contained in the log-books of certain of the Peterhead sealing ships from 1862 until 1891, and has tried to explain the distribution of the former breeding places in relation to the food supply.

The harp seals usually produce their single young in March in about lat. 73° N., north-east of Jan Mayen, where the ice forms a great easterly projecting point exposed to the swell of the ocean on three sides, termed by the old sealers 'the point or

end of the sealing ice'. The very large numbers of seals demanded an enormous amount of crustacean plankton. The presence of such abundance, together with pack-ice suitable for the seals, determined the breeding place in lat. 73° north-east of Jan Mayen or in long. 12° W., west or south-west of that island. In years when the western waters were covered by solid ice, and so were locked up from the seals, the breeding place was confined to the eastern position; whereas if the eastern waters were entirely free from ice, and so for another reason were unsuitable for breeding seals, the herds moved to the localities west or south-west of Jan Mayen.

Societies and Academies

LONDON

Physical Society, Feb. 17. M. C. MARSH: The transmission of heat through fabrics. The results obtained in earlier papers have been analysed to determine the effects of air permeability and of perforations on the thermal insulating properties of fabrics. It is also shown that there is a heat-interchange between the convection currents and the fabric which is important in considering the flow of heat through such insulators. L. F. BATES and B. J. LLOYD EVANS. A compact electromagnet for general purposes. Special attention has been paid to the construction of the coils, which are cooled by the circulation of oil. J. V. HUGHES: On the spurious ring exhibited by fluorescent screens. The spurious ring exhibited by fluorescent screens used for the observation of electrons is explained as being due to total internal reflection of the light at the upper surface of the glass block of the screen. The theoretical intensity-distribution is deduced and is compared with experiment by the use of a specially designed photometer. N. THOMSON: The direct recording of relative intensities by means of a micro-photometer. An addition to the usual form of recording microphotometer, giving a record on which ordinates are linearly proportional to light-intensities.

Geological Society, Feb. 22. T. E. LONGFIELD: Subsidence of London. This subsidence has been confirmed by a recent, and still continuing, re-levelling of London. The principal lines of levels in this area have been completed and it was primarily from these that the deductions have been made. A comparatively new method is described by which levels can be transferred across water up to a distance of about a mile; this method has enabled the levelling network to be connected with accuracy across the estuary of the Thames at Dagenham and Tilbury. Evidence of (1) a more or less general sinking in the area of the south-eastern counties, and (2) a fairly general subsidence in the Metropolitan area has been obtained. As regards general sinking, the observations showed that the land surface at Felixstowe is lower relatively to mean sea-level by 0.17 ft. than it was fifteen years ago, and if this scale is maintained it would give a subsidence of 1.2 ft. per century, a figure which is of the same order as that arrived at by the estimated lowering of the Neolithic deposits and Roman remains in the Thames Valley, which were respectively 60–70 ft. and 12–15 ft. below mean sea-level. If the results of the first geographical levelling of Great Britain are taken at their face value, these also suggest a lowering of the south-eastern counties by 1–2 ft.