really hangs together. Perhaps the most notable of the contributions is Mr. E. Ford's account of the herring investigations conducted at Plymouth during the years 1924–1933, which is a summary of his own work in connexion with the Plymouth herrings covering this period. He shows how far we have now gone in elucidating herring problems—a considerable distance, for we now can predict fairly well the probable constituents of the main portion of the herring fishery some years ahead, although weather and other agents may always upset calculations. The breeding of the herring is now becoming well understood: where the eggs are deposited, where the newly-hatched larvæ are to be found and those slightly older, their migrations out to sea in search of food and their spawning migrations inshore. Intensive studies of bones show how temperature has a distinct influence on the number of vertebræ and therefore of size, and thus the problem of races may be interpreted; and the reading of the scales tells us the ages of the fishes and the year classes to which they belong, so that we may know what classes are likely to make up the fisheries of future years. This full and valuable paper is indeed worth reading.

Mr. G. A. Steven's account of the food of the shags and cormorants round the Cornish coast also appeals directly to the fishing industry. Here a long-standing error is corrected, showing that the shag, which is far commoner on the open coast than the cormorant, is innocent of the destruction of commercially important fishes, its main food being smaller fishes of little value and usually not consumed by man. The cormorant, feeding much farther inland, certainly does considerable damage by preying on our edible fishes, especially flat-fishes.

Trematode parasites of fishes are dealt with by Mr. E. Idris Jones, and Miss D. Atkins describes a very interesting new orthonectid in the bivalve mollusc *Heteranomia* showing quite new features.

The shell-fish industry is represented by an important paper on oysters by Prof. J. H. Orton, following up his previous work on sex, showing the fate of unspawned ova and the change from male to female. The results described here of years of experiment with oysters in cages prove definitely for the first time that male individuals of *Ostrea edulis*, our common commercial oyster, pass into the female condition in significant proportion within twelve months, and that greater proportions attain the female condition in two years.

Information as to the food of fishes and of invertebrates is at all times desirable, and on this subject there are several papers dealing with the plankton, Mr. F. S. Russell on the seasonal distribution of macroplankton, Miss O. Jorgensen on the marine *Cladocera* of the Northumberland plankton, and three papers of great interest by Dr. A. G. Nicholls and Miss S. M. Marshall on *Calanus finmarchicus* from the Clyde area. In these last the copepod, which is of the greatest significance as fish food, especially of the herring, is dealt with in a masterly way, and its reproduction and seasonal distribution, its variation in size and its vertical and diurnal migrations are described. Mr. G. N. Spooner's experiments on the reaction of marine plankton to light are very suggestive and may lead to the elucidation of some of the difficult problems connected with migrations.

From animal plankton we come to vegetable plankton, and find Mr. H. W. Harvey's paper on the rate of diatom growth, showing how the neritic diatom *Nitzschia closterum*, taken from the pure cultures grown by Dr. E. J. Allen continuously for many years, react to experimental conditions, and Mr. F. M. Ghazzawi, on the littoral diatoms of the Liverpool and Port Erin shores, touches a section of these Algæ which has been too long neglected and is of considerable importance in the economy of the sea.

In connexion with the long standing and classic Mendelian work on *Gammarus* by Mrs. E. W. Sexton, which has been going on for many years in the Plymouth Laboratory, it is interesting to find that Mr. Bassindale has discovered abnormal eyes in wild *Gammarus* in the Tay Estuary.

The inorganic element is well to the fore, and in two papers Dr. L. H. N. Cooper continues his work on chemical constituents of biological importance in the English Channel and shows how winds influence the salt content in the sea, whilst Dr. W. R. G. Atkins and Dr. H. H. Poole discuss the use of cuprous oxide and other rectifier photo-cells in submarine photometry, and Dr. Atkins describes a method for rapid estimation of the copper content of sea water.

University and Educational Intelligence

A MATHEMATICAL Colloquium will be held in St. Andrews on July 18–28, under the auspices of the Edinburgh Mathematical Society. Courses of lectures will be given by Prof. E. A. Milne (Oxford), Prof. B. M. Wilson (Dundee), Prof. H. W. Turnbull (St. Andrews), and Mr. W. L. Ferrar (Oxford). The local secretary is Dr. D. E. Rutherford, United College, St. Andrews.

THE educational film has now an assured place as a teacher's tool. The Central Information Bureau for Educational Films, established to further its employment, publishes a bulletin, *Film Progress*, in the December–January issue of which is announced the completion of a catalogue (price 3*s*. 9*d*., post free, Central Information Bureau for Educational Films, 103 Kingsway, W.C.2) of about two thousand films (35 mm., 16 mm. and 9·5 mm.) already made and approved by authoritative associations or individual experts on agriculture, engineering and industry, geography and travel, vocational guidance, and science, including hygiene, physics, chemistry, geology, physiology and psychology.

WE have received from the University of Leeds a handsomely illustrated booklet presenting the salient features of its organisation, actual and projected, and an account of its chief courses of study. It recalls the fact that the land and buildings of the University have been provided almost entirely as a result of private generosity, sometimes unsolicited and sometimes in response to public appeals such as that which has recently produced £430,000. Unshackled by commitments of imperfectly prescient founders of long ago, the University is taking shape in the disposition of its main buildings as an example of planning for maximum efficiency; the departments comprised in the faculties of arts, law, economics and commerce, science and technology being grouped around the new Brotherton library and within five minutes' walk of the medical and dental schools, which are adjacent to the General Infirmary. Attention is directed to the fact that more than a quarter of the full-time students are in halls of residence.