

of inherent pneumatological weakness in the Mesozoic region. He also suggests that rock-lichens have played a not unimportant part in the process of erosion of the grooves, and in some instances may have initiated them.

Mammoth Remains in New Jersey

It is announced by the Academy of Natural Sciences of Philadelphia that five teeth and several fragments of bone of the mammoth (*E. primigenius*) have been discovered near Blackwood, New Jersey, twelve miles south-east of Philadelphia. The discovery was made in the course of work on the golf course of the Hidden Lake Country Club, and the remains were identified by Mr. Edgar B. Howard of the Academy's Department of Zoology. The teeth were found at a depth of 4 ft. within a small radius of what was once the bed of a fairly wide creek, now the bank of a streamlet. Each of the five teeth is fairly whole and one clearly shows the roots, of the size of a man's finger. In size the teeth range from 3 in. × 5 in. × 7 in. to 4 in. × 5½ in. × 9 in. and in weight from 3¼ to 6½ lb. each. The thin enamel ridges which traverse the chewing surface are still clearly visible. This constitutes the most impressive find of mammoth remains yet made in the eastern United States. Previously no more than a single tooth had been found in any one locality. Previous finds were at Trenton and North Plainfield, New Jersey, and five in Pennsylvania. In the Pleistocene epoch the mammoth had a distribution in North America ranging from Alaska, through British Columbia and the northern United States to the Atlantic, being a migrant by way of the Asiatic-Alaskan land-bridge from Siberia, where frozen specimens, complete with flesh, hide and wool, have been found in recent times. The fossils from Blackwood, with the tooth from Chadd's Ford, are now on exhibition in the museum of the Academy of Natural Sciences of Philadelphia.

Botany Collections at the Natural History Museum

The Godman Trustees have presented to the Department of Botany of the Natural History Museum a collection of about six hundred plants made by Mr. R. C. N. Young in north-east Angola (Lunda). The Department is particularly rich in Angolan plants having valuable collections from F. Welwitsch and J. Gossweiler. The present set of plants is of considerable interest as it is from an area so far botanically unknown. Three octavo volumes of British plants have been presented by Miss Jackson. The interest in these is bibliographical, as there is a printed title page giving publisher's name and date (1847); there is also a printed preface. The title reads "Specimen Flora or British Botany exemplified by Plants from a Collector's Cabinet". The plants were "arranged by the author of 'The Pictorial Flora'" [Mary Ann Jackson].

Birds of Northumberland

FOR the third time the Natural History Society of Northumberland, Durham, and Newcastle-upon-Tyne

has published a catalogue of the birds of the district—P. J. Selby in 1831, John Hancock in 1874, and now, as a worthy successor, appears George Bolam's list of 1932. It appears as a special part (vol. 8) of the *Transactions* of the Society, and in order to avoid undue repetition, it takes as its datum line Mr. Bolam's own list of 1912, in his "Birds of Northumberland and the Eastern Borders". Hancock's catalogue included 255 birds for Northumberland, by 1912 the number had risen to 282, now the number well exceeds 300, and this largely because of the finer analysis of species and racial forms. Of course quite a considerable number of the birds in this or any other local list are no more than accidental visitors, the presence of which really means very little from a local point of view. Here, for example, the smew, with four records, takes more space than the swallow, martin, and sand-martin all added together; and yet fluctuations in the numbers of these summer visitors would be more worth recording than the odd occurrences of the winter duck. From a scientific point of view, the day of usefulness of the county list, unless it becomes an intimate and detailed chronicle of local changes and fluctuations, is past, and we venture to think that the third Northumberland catalogue of birds will be the last, notwithstanding its particular value and appeal to the people of the county itself.

Pest Control and Wild Animal Life

IN many parts of the United States of America the destruction of agricultural pests has become an intensified and highly specialised warfare organised by State departments. But it has scarcely been realised that the destruction is apt to reach far beyond the pests at which it is aimed. This would appear to be true particularly of large scale use of thallium and strychnine baits, the former of which is preferred at most seasons and in most areas because it makes 'better kills' than other types of poison. Dr. Jean M. Linsdale has collected further facts concerning losses to wild life in California from these sources, and summarises the reports of 285 observers who have found dead mammals and birds (other, of course, than squirrels and coyotes) unquestionably killed during pest control campaigns (*Condor*, vol. 34, p. 121; 1932). The list occupies 13 pages of the magazine, and it must be remembered that it covers, as a rule, only conspicuous species—many others must have passed unnoticed or unidentified. The author is of opinion that the accelerated development of pest control methods and their uninterrupted practice could so change the native bird life of California within a few seasons that all previous activities for its preservation would be nullified. The publication of these facts, however, should induce the authorities to reconsider their methods of pest destruction.

The Cinematograph as an Aid to Histology

A NEW reconstructive technique is put forward by Messrs. Peacock and Price in the September issue of the *Journal of the Royal Microscopical Society*. Successive photographs of the sections in a uniform series are taken on standard cinema film and after-

wards projected. It is found that an apparently continuous flow of the image on the screen can be obtained if about seven frames are exposed for each section. The camera is mounted between the microscope and a paper screen, sharp focus of the former being secured by exposing a number of frames at recorded settings of the fine adjustment; the camera is then swung out of the optical axis and the image brought to a sharp focus on the screen by means of a supplementary lens. The screen is now used to secure orientation and focus for each successive section, the camera being swung into the optical axis when a suitable adjustment has been obtained. Though much difficulty is at present occasioned through the distortion of successive sections during mounting, the new technique will prove a considerable aid both in teaching and in research.

Development of International Law

THE *New Commonwealth* (monthly, published at Mowbray House, Norfolk Street, Strand, W.C.2., price 6d.), the first issue of which has recently appeared, is the organ of a new international society formed to advocate the establishment of a world system of law and order. If "the common sense of all" is to "hold a fretful realm in awe", effective provision must be made for the administration of international justice, and this can be achieved only, in the new society's view, by establishing: (1) an international tribunal, to deal with all disputes threatening the peace of the world which do not at present come within the purview of the Permanent Court of International Justice; and (2) an international police force as the sanction of international law and a guarantee of security against aggression. On these two objectives the society proposes to focus and interest public opinion. As Sir Arthur Salter says in a letter to the editor, the times are dangerous and moral suasion alone cannot be relied upon to defeat the material forces of the world if these are all allowed to be harnessed to policies of evil. In an open letter signed by Norman Angell, Lord Cecil of Chelwood, the Archbishop of York, Sir Oliver Lodge, Prof. Gilbert Murray and sixteen other eminent citizens of nine of the principal countries of the world, the *New Commonwealth* is commended to all those who are interested in the development of the reign of law.

Production and Employment

IN a pamphlet entitled "The Prevention of Future Economic World Crises", Herr Robert Bosch of the Bosch Company, Stuttgart, points out that the present world-wide business depression differs radically from previous ones which were caused principally, if not exclusively, by a preceding unhealthy boom. He argues that the troubles of the present depression are not due to over-efficiency of production methods as commonly supposed but rather to the inefficiency and backwardness of non-technical branches of the world's activities. Foreign relations are handicapped by antiquated political and mercantilist conceptions leading to armaments and tariffs while national prosperity is handicapped

by wasteful and inefficient administration and distribution and by antagonism between different groups of society. It is necessary to write off superfluous plant capacity so that the remaining factories may be run efficiently. Herr Bosch visualises a reduction of the yearly working time to 1800 hours or less in place of the present 2400 hours so as to guarantee some employment at fair compensation to every worker, but he recommends that the rigid eight-hour day should be replaced by more flexible arrangements so as to provide the maximum economy in the operation of particular factories.

Scientific Treatment of Delinquency

A NEW era in the investigation and treatment of crime was outlined at an inaugural meeting of the 'Institute for Scientific Treatment of Delinquency' held at University College, London, on November 29. The chairman, Dr. Edward Glover, pointed out that existing criminal and penal codes differ in no essential respect from the behaviouristic codes spontaneously evolved by two-year old children. He emphasised the urgent need for centralisation and co-ordination of effort at present made by small independent organisations. In his opinion any research on the subject should be conducted in an attitude of complete detachment from preconceived views as to desirability. The need for such an Institute was emphasised by a number of speakers. Amongst these, Lord Feversham dealt with the problem from the point of view of adequate probationary handling. Drs. Hadfield, Rees and Emanuel Miller recounted medico-psychological experience of handling delinquents at various clinics and welfare centres. The points of view of general science, ethics and politics were presented by Prof. Winifred Cullis, Canon Donaldson and W. J. Brown respectively. The Institute's immediate plans for co-ordination research, treatment and technical instruction were then outlined by Dr. Glover. It is hoped that within a short time a reasoned report on the present system of criminological work may be put before the various Government departments concerned. All communications should be addressed to the honorary secretary of the Institute, 56 Grosvenor Street, London, W.1.

The Study of an Oilfield

SOME observations on this subject were made by Mr. J. W. Weil in a paper read before the Institution of Petroleum Technologists on October 11. The paper was perhaps timely as representing the case for petroleum geology taking its logical place in the systematic scheme of oil production. Latterly there has been a decided tendency to interpret underground reservoir conditions—even geological data—on the basis of such functions as flowing pressures, oil and gas measurements, gas-oil ratios and other physical determinations which have been advanced as part of the standard technique of production engineering. The author pleads, and rightly so, for a thorough geological investigation as precedent to oilfield development and, in this connexion, he stresses the necessity of adequate study of stratigraphy, structure, factors influencing the accumula-