

new crops to replace imported products, by finding new outlets for established crops, and by better utilization of agricultural waste. Among the new crops are the soya bean, which now covers six million acres. Substances extracted or made from it have manifold uses, and Henry Ford has built a large plant for making plastics out of the meal. Tung oil, valuable for paint and varnish making, is to be derived from extensive plantings of the tung-oil tree; and, also in the Southern States, the quick-growing Southern Pine has been planted over 200 million acres to provide pulp for newsprint and as a raw material for rayon and 'Cellophane'. Among the new outlets for old crops are the use of cotton fabric for reinforcing tarred roads, of inferior cotton and cotton linters for making cellulose derivatives, and of maize for the production of starch, dextrin, corn syrup, dextrose, corn oil and cake. Also under investigation is the utilization of the enormous quantities of straw, cotton stalks, and husks that now run to waste. By promoting agricultural industries on the above lines, it is hoped to put the farmer financially on his feet, and to make him a better customer of the factory.

#### Total Solar Eclipse of June 8-9.

THE fact that the expedition of the National Geographic Society and the U.S. Naval Observatory was accompanied by engineers and announcers of the National Broadcasting Company of America has led to the overlooking of the other expeditions organized to observe the recent total solar eclipse (see NATURE of June 12, p. 993). It is good to report that Mr. C. B. Michie, who led an expedition from New Zealand with the aid of the Royal New Zealand Navy also to Canton Island, shared in the good luck in the form of fine weather that came the way of the American party, and secured good photographs of the corona with several very long streamers. Further, it transpires that the Princeton party to Chembote in Peru—and it is hoped the Japanese party there also—had fine weather for the actual eclipse, though as at Canton Island weather prospects were anything but favourable not long before the eclipse. The value of the results obtained by the various parties (and by the party from Princeton, the Franklin Institute and the Cook Observatory on the S.S. *Steelmaker* near the point of maximum totality) cannot yet be assessed, but in view of the number of experienced observers concerned, one may confidently look forward to results of very considerable importance.

#### International Peace

THE annual report of the Director of the Division of Intercourse and Education of the Carnegie Endowment for International Peace for 1936 pleads for further support for genuine world organization and collective security through an effective world police force. Dr. Murray Butler refers to the existence of a deep-seated popular sentiment against war and to the necessity of this opinion finding expression not merely in emotional outbursts but also in support of definite policies of social, economic and political

co-operation and the substitution of judicial process for the threat of force in settling international differences. The advocates of economic nationalism and of neutrality, he said, are making a most insidious attack upon the foundations of prosperity and of peace, for the first involves ultimate national suicide and world-wide disaster and the latter neglect of the highest international obligations. Dr. Butler pointed out that the wars which are most threatening at the present time are between fundamental philosophies of life and of public order, and he referred to the dangers confronting democratic nations.

THE Inter-American Conference at Buenos Ayres in December was the brightest feature of the year and received support from public opinion in both American continents. The report refers to co-operation with the International Chamber of Commerce and the adoption in August by the Joint Committee of thirteen practical recommendations for improving commercial relations between nations and dealing with monetary stabilization. Reference is also made to the distribution of literature, to the Leadership Training Conference held in Des Moines, Iowa, to the work of the visiting Carnegie-professors, to the International Relations Clubs, of which 805 have now been formed, as well as to the work of such associated institutions as the American Academy of Political and Social Science, the Institute of Public Affairs at various universities, the Institute of Foreign Affairs, Earlham College, Richmond, Indiana, and the Institute of Pacific Relations. Details of similar work of the Division in Europe are included, indicating the great extent to which the Division utilizes the opportunities afforded by existing organizations for carrying out its educational work.

#### Archæological Discoveries in Northern Syria

SIR LEONARD WOOLLEY'S first report on the current season's work of the British Museum's Archæological Expedition to Northern Syria records important discoveries, which throw fresh light on the Hittite occupation of that area and would seem to confirm references in the Biblical narrative to the relations of the Hittite people and the inhabitants of Palestine in the patriarchal age, which hitherto have been regarded as anachronisms. The expedition, Sir Leonard reports (*The Times*, June 12), has completed its first season's work in the Amk plain, inland from Antioch. The time available was brief, as excavations begun last year at Mina had to be completed; but an isolated area about twenty yards square in what was believed to be the aristocratic quarter of the city, opened up to a depth of 13 ft., has revealed a magnificent building, one of the finest as yet found in northern Syria. This structure is Hittite. It was built of basalt, mud-brick and timber. The approach was from a tile-paved area by way of a flight of basalt steps between platform buttresses, and led through a colonnade into a wide entrance court. The building had been destroyed by a fire; but the chambers adjoining the court were rich in finds of pottery, local and imported, including

Cypriote pottery of the Bronze age. An important find consisted of portions of two literary texts, which, as the oldest cuneiform documents as yet found in northern Syria, may be expected to yield results of considerable historical interest. The date of the building can be fixed with tolerable accuracy, as information from the main excavation of the year, which was on a much larger scale, indicates consecutive periods ranging from the twelfth back to the sixteenth or seventeenth century B.C. Here, below cremation graves, was found a house, which on the evidence of Mycenaean pottery belongs to the thirteenth or fourteenth century B.C. Inscribed tablets afford evidence of the existence of a royal library. In the fourth level, dated at the sixteenth century B.C., was found a house which in its details corresponds to the larger building previously described, and being characteristically Hittite, serves also to place the Hittite occupation of northern Syria at a much earlier date than hitherto accepted.

#### Swanscombe Skull: Committee of Investigation

THE character of the Swanscombe skull and the conditions of its discovery both in themselves and in relation to the Piltdown skull, suggested that a certain suspension of judgment was advisable for further consideration of the evidence, before accepting the find at its face value as inferred by Mr. A. T. Marston on his announcement of the find (see NATURE of October 19, 1935, p. 637 and August 1, 1936, p. 200). A report was also promised on the palaeontological evidence, which clearly would have an important bearing on any conclusion to be drawn. So far, anthropologists, while admitting the importance of the discovery as reported by Mr. Marston, have been inclined to caution. An announcement, therefore, is welcome that the Royal Anthropological Institute has appointed a committee to investigate the evidence which Mr. Marston has collected, and to co-operate with him in the further investigation of the site. This committee consists of Mr. M. A. C. Hinton, keeper of zoology, British Museum (Natural History), (*chairman*), Mr. K. P. Oakley, Department of Geology, British Museum (*secretary*), Prof. P. G. H. Boswell, Imperial College of Science, London, Prof. W. E. Le Gros Clark, Department of Anatomy, University of Oxford, Mr. H. G. Dines, Geological Survey of Great Britain, Mr. C. F. C. Hawkes, Department of British Antiquities, British Museum, Prof. W. B. R. King, Department of Geology, University College, London, Mr. A. T. Marston, Dr. G. M. Morant, Galton Laboratory, University College, London, and Mr. S. Hazzledine Warren.

#### The Empire Cotton Growing Corporation

AT a meeting of the Administrative Council of the Empire Cotton Growing Corporation held in Manchester on May 25, it was announced that the Corporation has recently acceded to a request from the Indian Central Cotton Committee that Dr. T. G. Mason should be permitted to spend some months in India to advise in connexion with an investigation

into the causes of the periodic failure of the cotton crop in the Punjab. It was also reported that in letters that had been received from Prof. J. W. Munro, who is making a tour in Africa to advise the Corporation on its work on cotton insect pest control, he has written enthusiastically of the high quality of the work that was being carried out by the Corporation's staff, and recommended that it should continue to receive full support. An addition to the staff in Nyasaland may be necessary. It was naturally impossible to say whether it would prove possible to devise any practical measures for controlling these pests, but pests constituted the limiting factor in cotton-growing throughout considerable areas in Africa, and the Corporation should therefore leave nothing undone which might bring to light any information that might possibly lead to a reduction in the loss of crop thus caused.

#### Genetic Theory and Practice in the U.S.S.R.

IN a note on genetics in the U.S.S.R. (NATURE, 139, 185; Jan. 30, 1937), reference was made to the empirical work of Michurin on the hybridization of fruits, and his published work was said not to have been translated into any foreign language. Our attention had been directed to the fact that a translation, in an abridged form, is available for reference in the Bureau of Plant Genetics at Cambridge. The short published abstracts of the Bureau (*Plant Breeding Abstracts*, 5, 56, 376 and 7, 122) make the character of Michurin's work fairly clear. Like the recent work of Burbank in the United States, it belongs to the period of Köllreuter. It uses the assumptions and deals with the problems that were in favour in the late eighteenth century. Indifference to the refinements of later work has led Michurin, as it did Burbank, to somewhat fantastic conclusions in physiology and genetics. The reason for Michurin's indifference, however, is peculiar and significant. He states that the Mendelian principles are not in accordance with the dialectic of Engels, and must therefore be disregarded. It seems that Aristotelianism is appearing in a new quarter under a new guise.

#### Mechanized Farming

THE report on the discussions at the Oxford Conference on Mechanized Farming held in January last has been published. It contains the opening and concluding addresses given by Mr. C. S. Orwin and Mr. Roland Dudley respectively, and full accounts of the discussion that followed the papers dealing with tractor performance and row-crop cultivation, cultivations, the maintenance of fertility, grass drying and combine harvesting. Both the practical and scientific points of view are well represented and the publication is clearly a valuable complement to the papers themselves. The complete Proceedings of the Conference (2 vols.), which includes both the papers and discussions, may be obtained from the Conference Secretary, 10 Parks Road, Oxford, price 2s. 6d. post paid.