

of antiquity which have been destroyed. Apart from the educational appeal of the buildings in their original relation, and so far as possible, in an appropriate setting, they will afford the scholar a constant inspiration to further research, as well as provide a source of evidence for correcting or reconstructing theory in the light of later knowledge, such as never can be derived from a written record, photograph or drawing. The excavations now in progress may reinforce the argument, or should the City's decision be adverse to preservation, justify a delay, which will then be urged, pending an appeal for funds from outside sources for the complete excavation of the site in the coming year. The conflict between duty to local economies and the preservation of antiquities, which are national in their interest, is one which is likely to arise with increasing frequency in view of the rapid development of urban and suburban properties now taking place. When such developments affect relics of wide historic and scientific interest, as at Leicester, it is a question whether national funds should not be called on to assist.

#### Potters of Lincoln

MUCH interest is attached to the discovery of a Roman potter's kiln at Lincoln, fully loaded with a light cream ware, and fired, but unopened. It affords evidence that an industry, which discoveries in 1932 have shown to have been in existence here in the Middle Ages, was also extensively practised in the Roman period. Quite possibly, as 'Pottergate Arch' nearby, and the occurrence of 'Pottergate' as a street name in the thirteenth century would suggest, the industry may have survived throughout the interval between medieval and Roman times with little or no interruption. The kiln was discovered, it is reported in *The Times* of August 21, on a site in Cathedral Street. It contained vessels of the mortaria type, the large shallow basins with a heavy rim, in which the Romans used to grind their food. The kiln was a hole in the ground four feet long and two feet wide, with a well-fired wall on two sides. It was roofed over with a whitish clay mixed with sand; and it contained four stacks of pottery, which had been considerably crushed. Curious short pipes, of which the use is obscure, were also found. Many of the vessels were stamped with the potter's mark, which, when deciphered, should afford a clue to the distribution of Lincoln pottery in Britain. The medieval pottery, which was found in this area, was attributed to the fourteenth century. No doubt the potters of that date drew their clay from the same source as their Roman predecessors. This in itself would be sufficient to account for the persistence of the industry in this area.

#### Minoan Influences in Ancient Syria

SIR ARTHUR EVANS, commenting on the results of Sir Leonard Woolley's recent archaeological investigations in Syria (see *NATURE* of July 4, p. 20 and August 8, p. 235), pronounces the Minoan impact on inner Syria at so early a date, for which the ceramic

relics from Tell-Atchana afford evidence, as "a new historic fact of far reaching importance and revolutionizing all previous ideas". It is, he points out in *The Times* of August 19, a step forward of at least two centuries; for although there are no actual imports from Minoan Crete, the starting point in repeated examples of pottery reflecting Cretan models must certainly touch 1700 B.C. Sir Arthur bases this conclusion on the chronological datum of remains of cups, of somewhat thin make, showing white rosettes on a black ground, recalling the "egg-shell ware" bowls of the great age of Minoan Crete of the Second Middle Minoan period, which goes back to the eighteenth and nineteenth centuries, but in Syria equating with the succeeding Third Middle Minoan style. At the same time, mixed influence is to be seen in the combination of arcaded zones, characteristically Minoan, with highly conventionalized ducks, which find a parallel in early Palestine, while one of the sherds depicts an uprearing goat charged by another, whereas animal designs were excluded from the vase painting of Cretan Palace art. In concluding with an analysis of motifs, which point to a fusion of Cretan and indigenous religious and symbolic ideas, relating to the cult of the double axe, and reference to tradition of a royal alliance with Cyprus, Sir Arthur holds out the alluring possibility that the spade may yet uncover a royal sepulchre at Tell-Atchana.

#### Special Exhibit at Ipswich Museum

IN 1917, Mr. Reid Moir announced the discovery of flint implements, mammalian and human bones, and fragments of rough pottery, in the lower of two superposed 'floors' in a brickfield of Messrs. Bolton & Co. at Ipswich. These occupation levels occurred in sand, and were overlain by a considerable thickness of hill-wash, while the excavations carried out showed that the now dry valley in which the discoveries were made has been deepened by erosion since the floors were occupied by man. Similar results were obtained, at a later date, by Mr. J. P. T. Burchell, in his researches at Ingress Vale in the lower Thames Valley. Here, at the base of an extensive section of sub-aerial loam, surmounted by a hill-wash containing rafts of Coombe Rock, was found a prolific floor, with flint implements, flakes, and fragments of primitive pottery. The third site, where a similar association of relics occurred, was discovered and investigated by Mr. and Mrs. MacAlpine Woods in a dry valley at Bovey Lane, Beer, Devon. In this case, a hill-wash, some 11 ft. in thickness, contained large numbers of flint artefacts, a few examples of bones and teeth of animals, and some pieces of rough pottery. Through the kindness of the discoverers, the Ipswich Museum now possesses representative series of the specimens mentioned, and is making a special exhibition of them. The matter is of considerable interest to archaeologists as, in each case, the flint implements may be said to resemble, in their forms, those of Lower and Upper Aurignacian times, and are not associated with any microliths. Moreover, there seems good reason to believe that the widespread deposits in which the relics were embedded



are of relatively considerable antiquity, and represent the results of geological activity, including an epoch of low temperature, in eastern and southern England.

#### Current Science

WITH the publication of its July issue, our Indian contemporary, *Current Science*, enters upon its fifth year. Founded to supply an obvious need in the scientific renaissance of India, *Current Science* is almost unique in that its editor is assisted by a board comprising the majority of the best-known Indian men of science. The July issue contains much of interest not only to India but also to the West. The leading article comments on the inauguration, by his Excellency the Viceroy, of a Nutrition Advisory Committee. The outstanding investigations of Sir Robert McCarrison in Coonoor have in recent years focused the attention of Indian public opinion upon the importance of adequate feeding for national efficiency. Inadequate nutrition, combined in many areas with endemic malaria, is known to be the cause of the poor physique of many classes. The Royal Society is now assisting in the investigation of the intricate problems of malaria control, and will doubtless co-operate with this new Advisory Committee. Another article in the July issue, of more than local interest, is the summary of a lecture given by Prof. Birbal Sahni on the Karewas of Kashmir, where the geology of the Karewas series in the *Himalayas* is discussed from the point of view of the botanist. We congratulate the editor of *Current Science* on the high standard of the journal, which, if maintained, ensures its continued success.

#### Philosophy and Quantum Theory

If philosophy is, as Descartes claimed, the 'universal science', it should be able to assimilate all new discoveries in the special sciences. There was not much difficulty in dealing with classical physics. When the theory of relativity was put forward, it was soon found that philosophical ideas could be rearranged to find it a place, and even a welcome, but what is to be the attitude to a theory which denies continuity and determinism? An attempt, admittedly incomplete, to answer these questions has been made by R. Dugas ("La méthode dans la mécanique des quanta". *Actualités scientifiques et industrielles*, 283. Paris: Hermann et Cie., 1936). Following Meyerson, complete indeterminism is rejected, and replaced by aggregates ruled by laws of probability. If there is no law, there is no science. Other difficulties arise when we try to discover the basis of Schrodinger's equation. Are we to say that our equations know more than we do, and that, without understanding them, we can rely upon them to furnish the correct results? Are we to believe in *panmathesis*, and in a universe in which electrons and matter have no real existence, but are merely names for mathematical symbols? The trouble with questions such as these is that all the available evidence appears to point to the conclusions that are repugnant to common sense.

#### Photomicrographic Reproduction of Scientific Papers

FOLLOWING on the formation of the Documentation Division of Science Service, a programme of testing mechanical methods of applying photomicrographic duplication of scientific literature is being developed, including a camera for copying upon 35 mm. film, supplementary apparatus such as a book holder for the camera, film container, etc., a reading machine, microfilm viewer, projection printer, and developing and processing apparatus for 35 mm. microfilm and paper projection points. Procedure has already been developed for the publication of scientific material otherwise unable to receive publication in full. Editors of journals or institutions deposit typescripts of those papers or portions of papers which they are unable to publish promptly or completely. With an abstract or summary, they publish a statement that additional matter, illustrations, tables, etc., are available on request from Science Service if the document number is stated and the price remitted. The document is assigned a number by Science Service and on receipt it is photographed on 35 mm. film master negative. The original document is then deposited elsewhere as a safeguard. The photomicrographic duplication is economical when up to twenty-five copies at a time are required and has the further advantage that the document is continuously in print as the negative can be used to supply a copy on demand at any time.

THE relation of microfilms or photo-copies prepared in this way to priority in scientific discoveries has been raised. Opinion is expressed in a note issued by Science Service that microfilm or photo-copy publication is a printed publication in the true sense, and that by considerably reducing the time between the submission of a paper to a journal and the date of publication of the discovery announced therein, this type of publication will be of great assistance in eliminating controversies such as have arisen in the past concerning individual claims for priority in making discoveries. If any doubt exists as to whether photomicrographic publication is a 'printed publication', it is urged that this doubt could be removed by scientific societies merely agreeing among themselves that, in so far as priority in their fields is concerned, photomicrographic publication should be accorded the same weight and effect as publication in a printed journal.

#### Wind Erosion in South Australia

WIND erosion is becoming an increasing danger in the semi-arid regions which form the world's chief granaries. In North America, the Argentine and to a less extent in Russia, the fertile prairie soils are rapidly being swept away as the result of destroying the original grass cover. A similar fate is overtaking vast pastoral regions in South Australia, due to overstocking. The gravity of the situation is revealed in a note by F. N. Ratcliffe, received from the Commonwealth Council for Scientific and Industrial Research. The worst erosion has been in the 'bush' country, where twelve drought years have so