

common motif at Mohenjo-daro, but also it belongs to a cult as alien to Mesopotamia as is the humped bull itself. Its occurrence at Tell Agrab should point to a more than casual or commercial contact. Similarly a further link with the Mediterranean is afforded by a terra cotta relief from a small shrine at Tell Asmar, in which one of the figures, possessing one eye only, and associated with fire, is identified as a cyclops. It is interesting to note how many of the interesting series of finds recorded this year by Dr. Frankfort, such as the bowls which had contained a live snake, are to be referred to cults, popular or otherwise, upon which at present we have no information.

Systematists and Text-Books

IN a recent issue of the *Nederlandsch Tijdschrift voor Geneeskunde* (80, 15, pp. 1675-1677; 1936), Dr. L. D. Brongersma directs attention to the deplorable results which can arise through a lack of understanding of the principles of systematic zoology and zoological nomenclature. As an example of his thesis, Dr. Brongersma surveys the most recent edition of a standard text-book of vertebrate comparative anatomy. The confusion to the student which must arise through different authors using different names for the same animal can scarcely be avoided until the systematists have set their house in order, but there can be no possible excuse for the use of two or more names for the same creature within a single chapter; yet that has happened on numerous occasions. Perhaps even more inexcusable are errors arising from the careless confounding of similar names of very different animals. Dr. Brongersma finds that *Hemidactylus* (a gecko) appears amongst the Urodeles, due to confusion with *Hemidactylium*, and *Neomeris* (intended for a porpoise, but strictly applicable to a polyzoan) is confused with a tortoise and is discussed as a reptile! Further difficulties are due to faulty transcription and proof-reading, which have produced a crop of apparently new names, such as *Chelonia speciosa* written instead of *Chelonia sp.* and *Gecko vertie* intended as an abbreviation of *Gecko verticillatus*. The evils attendant on nomenclatorial changes can certainly be minimized by closer co-operation between teachers of zoology and systematists and by a better understanding of the difficulties which confront the latter in the search for stability. It is consequently gratifying to learn that, as a result of Dr. Brongersma's article, a list of corrigenda will be published in the next volume of the particular work he has criticized, and this will itself be submitted to competent systematists before publication.

A Fire in the Mersey Tunnel

SOME of those who have driven through the three miles long Mersey Tunnel may have thought that it was unnecessary to place fire alarms at distances of fifty yards apart throughout the tunnel and to take the many other special precautions against fire which are described in guide books. Remembering that it cost eight million pounds to build and that 5,000 vehicles per hour use the tunnel, it was necessary

to take every precaution. The first test of the fire alarm installation occurred on July 25, when a lorry carrying cinematograph films from Liverpool to Birkenhead burst into flames inside the tunnel. The driver at once gave the alarm from one of the fire-alarm boxes, and in less than five minutes the Liverpool and Birkenhead fire brigades had put out the fire. An alarm given at any one of the ninety-eight special boxes is received at both the brigade headquarters. At the same time, large neon 'stop' signs on the roof close the tunnel to traffic, and the pay boxes at each entrance are warned by bells and red lights. The 'electromatic' vehicle-actuated traffic signals are automatically interlocked and allow vehicles to leave and prevent them from entering the affected portions of the tunnel. The alarm is also given to the ventilation control room, from which the large electric air fans can be regulated to meet requirements of any situation that may arise.

The Economics of Railway Electrification

THE *Engineer* of July 17, 24 and 31 contains three short articles on main-line electrification abroad, which are devoted to a statistical survey of the financial aspect of electrification. That electric traction has great advantages for suburban traffic and where water-power is plentiful and coal dear is generally admitted, but the fact that only 2½ per cent of the total railway mileage in the world is electrified will, perhaps, come as a surprise to those who advocate the adoption of electrification on a wide scale in Great Britain. Of all European countries, in only one, Switzerland, does electrified mileage predominate, and in only six out of twenty does it exceed trifling proportions. Commenting on this, the *Engineer* says: "It is impossible to believe that this neglect of electrification is due to the supineness and conservatism of so many nations. When it is observed that the German national railway system is only electrified to less than 4 per cent, those who are firmly convinced that there is no more technically progressive nation in the universe will have to admit that the arguments against electrical operation must have been overpowering." Electric traction is undoubtedly an extremely efficient means of transport, but against this has to be put the very high capital costs involved. The arguments against electrification have also been strengthened by the great improvements recently made in steam locomotives and the introduction of Diesel-electric units.

German Road Progress

ALTHOUGH it is only two years since Munich entertained the seventh International Road Congress, the city is holding another road congress and in addition a large exhibition of road building machinery on September 16-27. The Research Department of the German State Highways Commission and the leading road construction firms are in charge of all the arrangements. In *Roads and Road Construction* of August 1, Dr. Otto Reismann outlines the programme for the Congress. He points out that the

present road construction programme in Germany is on so large a scale, and has been pushed forward so rapidly that great improvements in technical matters have ensued in connexion with road and bridge construction. At the Congress these will be discussed by Government, scientific and industrial experts. The road building machinery exhibition will be held in the open on the Munich Fair Ground, and will show the visitors the very rapid progress made in the mechanization of road construction. The quality of the materials used and the design of the machines have been vastly improved. The Congress will not be confined to purely business sessions. The German motor roads are not built merely for transport purposes. An attempt has been made to build them in such a way that they are in harmony with the landscape and the country in which they lie. Included therefore in the Congress programme are excursions and journeys of inspection over specially constructed motor roads and over the German Alpine highways. At the same time as the Congress there will be an art exhibition on roads as seen by modern art. This is an attempt to demonstrate the strong impression modern art has received from the inspiration of the new roads. It is anticipated that the first 600 miles of the new motor roads (*autobahn*) will be thrown open to traffic in the coming autumn. In two years time, thoroughfares will be completed between Hamburg and Karlsruhe, Stettin and Munich, Ruhr and Karlsruhe, and Stuttgart to Salzburg via Munich.

Crops and Livestock in England and Wales

THE Ministry of Agriculture and Fisheries has recently issued the first part of its publication, "Agricultural Statistics, 1934", entitled "Acreage and Production of Crops and Number of Livestock in England and Wales" (London: H.M. Stationery Office, 1s. 6d. net), a report which summarizes the annual returns from all holdings exceeding one acre. An outstanding feature is the arrest of the continuous change from arable to grass that has been going on since the Great War, the area under permanent grass showing a reduction on the previous year, whereas the total area under corn has expanded during the same period. As regards roots, the acreage under sugar beet reached a new record figure; that under fodder roots and potatoes, on the other hand, showed a decline. Yields were generally high, being above the average for all corn crops, potatoes, mangolds, hops and several kinds of fruit, though appreciably below normal for hay, turnips and swedes. The numbers of cattle, dairy cows, pigs and poultry have risen since 1933, whereas those for sheep and horses have declined, and as might be expected the output of meat and livestock products, eggs and milk have all shown considerable increases, while the wool clip was substantially reduced. An interesting feature of the report lies in the attainment of many record figures, the yield of wheat and apples being attributable no doubt to the favourable season, and the output of dairy and poultry products to the increase in numbers of cows and birds maintained. Records in

area, total production and yield per acre were also reached in the case of sugar beet, while the area under oats, turnips and swedes fell to the lowest figure yet attained, reflecting the changes that are taking place in farming practice.

Mining and Fuel Research at Sheffield

WE have received from the University of Sheffield a report on the research work done in the Departments of Mining and Fuel Technology during the year 1934-35. The former includes numerous subjects, such as mine ventilation, mine lighting, research on trailing cables, accuracy of mine surveys (in which we miss, however, any reference to the very valuable work done by the Institution of Mine Surveyors), subsidence resulting from mining operations, gas testing, movement of firedamp, fireproofing of mine timber, whilst in the Department of Fuel Technology the composition and decomposition and analysis of coal have been carefully studied. The formation of coke, the combustion of coke and the testing of coke have also received attention. A perusal of this pamphlet cannot fail to be of interest to colliery managers.

Symbols for Heat and Thermodynamics

AN attempt will be made to relieve the present chaotic situation with regard to symbols for equations in thermodynamics at an international conference which has been called by the American Society of Mechanical Engineers, to be held in New York on September 14-15, 1936. The Conference has been arranged for this time so that some of the delegates to the World Power Conference to be held the week previous in Washington, D.C., may also act as representatives at the Symbols Conference. American usage in regard to such symbols has become fairly well standardized; but other lists have been issued by various European bodies. The Conference will endeavour to compromise the differences in the several lists.

Fifty Years of West Ham

THE jubilee of the incorporation of the borough of West Ham has been the occasion for the publication of a volume illustrated by maps, photographs and old prints on the history and past and present activities of the borough ("Fifty Years a Borough". Edited by D. McDougall. West Ham County Borough Council 1936). The chief scientific interest in this municipal enterprise is the full account of the growth of the borough from Anglo-Saxon times and its relationship to the Lea and other rivers which were important influences in deciding direction of growth. The chapters on the local government and social services are also of considerable interest.

Sterilization Operations in the United States

ACCORDING to a Science Service bulletin, steady increase in sterilization operations performed on insane and feeble-minded patients in the United States is reported by the Human Betterment Foundation, Pasadena. A total of 23,092 such operations