

the growth of fungus on paint films on exposure to weather indicate that substances such as sodium silicofluoride, magnesium borate and tribromophenol, which have proved effective in Western countries for preventing fungus growth, are of very little value in Bengal, but mercuric oxide and mercuric phthalate appear to retard the growth of fungus perceptibly. Work on vegetable oils and lubricants included a search for more effective antioxidants for castor oil in presence of iron, as well as for ground nut oil and for cottonseed oil. The most effective antioxidants found so far for cottonseed oil are not quite effective enough, and the best antioxidants for ground nut oil are less effective than those found for castor oil. Attention is now being confined to castor oil and ground nut oil brands, for which purpose  $\alpha$ -naphthol,  $\alpha$ -naphthylamine and  $\beta$ -naphthylamine appear to be the most effective antioxidants. Other studies have covered the use of vegetable oils as diesel oils. Work carried on in connexion with the glass industry has covered the improvement of glass furnaces and accessories.

#### Delinquency and Psychology

IN the July issue of the *Quarterly Review*, Mr. Claud Mullins, the well-known Metropolitan Police Court magistrate, remarks that some believe that the discoveries of modern psychology completely rob our present methods of trial and punishment of all justification, and that nearly all who have committed any serious breach of the criminal law should pass into the hands of psychotherapists and thus be cured, while others deny that our present legal and penal methods are in any way affected by psychology. Both extreme opinions, however, are gradually diminishing. Psychotherapists, by closer contact with delinquents, have become more modest in their practical attitude, while magistrates and lawyers are beginning to realize that psychologists can be of assistance. Mr. Mullins himself has sent innumerable delinquents to psychotherapists, and in many cases has found the results satisfactory. It must, however, be borne in mind that psychologists are concerned mainly with an individual while the Bench is concerned also and mainly with society. Certain criminals, such as fraudulent financiers, fire-raisers, stealing postmen or railway servants, policemen who accept bribes and alcoholic motorists who kill or maim, cannot be dealt with solely or even mainly from the point of view of what is best for the delinquent, and in such cases severe punishment is required to discourage others. While regarding it as highly dangerous for the Bench to assume the functions of the psychotherapist, Mr. Mullins maintains that some knowledge of psychology and psychotherapy is desirable alike in the judge, recorder, stipendiary magistrate and lay justices.

#### Museums and Education

SIGNIFICANT of the new stress being laid upon the educational possibilities of museums was the presence of the President of the Board of Education, the Right Hon. Earl De La Warr, at the Jubilee Conference of

the Museums Association, held at Cheltenham in July. In an address to the members the President of the Board gave clear evidence of his own interest in museums and indicated that, but for the special financial condition of Great Britain, he would have announced the setting up of an inquiry into the relationships of museums to education and to the State. On the whole, he seemed to be doubtful about the expediency of bringing the museums of the country under the control of the Board of Education, believing that freedom of initiative was greater under the present system, and that a happy combination of official help and collaboration with local or voluntary effort was a source of strength in many spheres of work in Great Britain.

THE same point from another angle was referred to in a subsequent discussion at the Conference by Mr. J. Wilkie, secretary to the Carnegie United Kingdom Trust. He pointed out that at present, so far as legislation goes, museums (other than national museums) are almost all linked with libraries and library authorities under the Public Libraries Acts of 1892 to 1919. But these Acts are adoptive, and there is no Government grant in aid of any service which is carried out under an adoptive Act. So that the Markham Report, in suggesting Government grants with some measure of control, is suggesting something quite revolutionary in library and museum policy—the substitution of a compulsory for a voluntary system. That was the problem which faced educational reformers in 1870, and it raises the question whether public opinion, as represented by the man in the street and the public authority, has reached that point of belief in the necessity of museums as educational institutions which would compel the museum service to be made comprehensive, universal and compulsory. Are compulsory museums to follow compulsory education? An account of these discussions appears in the *Museums Journal* of September.

#### Anthropological Expedition to Brazil

A PRELIMINARY report, the first to appear, on the movements and work of the expedition to Matto Grosso, Brazil, of Dr. Levi-Strauss and Dr. J. A. Vellard, based on the infrequent telegraphic dispatches which had been received to the time of writing, has been published in the *J. de la Société des Américanistes*, N.S., 30, 1939. The expedition started from São Paulo in May 1938, and, proceeding along the line of the Rondon telegraphic system, made telegraph stations its bases for contacts with the Indians. At Utiarity, Juruena, Nhambiquaras, and Vilhena relations were established with various groups of the Nambikwara, of whom there are approximately 2,000 individuals in a territory extending 400 kilometres north of Utiarity. Three linguistic divisions were differentiated. The material culture was poor; but evidence was obtained of their social organization, system of relationships, family life, and of certain aspects of their technology and art. By October the expedition had arrived at Pimento Bueno, which was selected as a base for



further research. Here visits were paid to groups belonging to Guaporé culture, but not classified linguistically. A prolonged stay in a village half-way between Presidente Hermes and Presidente Penna, of which the inhabitants were numerically poor and culturally degenerate, nevertheless proved fruitful in sociological material. Towards the end of the year, on reaching Presidente Penna, the return of the expedition by the normal route towards the south was barred by torrential rains and the ill-health of the members of the expedition. It was, therefore, decided to leave the country by the north in the direction of the Rio Madeira and then west to Bolivia.

#### Research on Lawns

INVESTIGATION of the particular ecological problems which relate to lawns began in America towards the end of last century. It was not until 1920, however, that such research was prosecuted on a national scale in that country, and not until 1925 that any adequate provision was made in Great Britain. The report for 1938 of the Board of Greenkeeping Research, St. Ives Research Station, Bingley, Yorks. (pp. 1-77, price 2s., July 1939) shows to what adequate development the investigation of greenkeeping matters has now attained. There are approximately 1,600 experimental plots at the Station, to inquire into the response of grass varieties to manurial and mechanical treatments, to control pests and diseases, and to select the most suitable varieties of grass for various purposes. Seed of the new strain of St. Ives Creeping Red Fescue is grown and distributed, whilst an improved strain of *Agrostis tenuis* should yield upon a small commercial scale in 1939. Experiments on the control of pearlwort and other weeds are in progress, the effects of sulphur as a dressing for heavy ground are being investigated, treatment of the soil with potassium permanganate for the control of earthworms has proved satisfactory, and various diseases of turf have also been studied. The Station now maintains an extensive permanent collection of greenkeeping implements, and has 'museum' plots of grass and weed species—features which are of great value to students who attend the two courses of instruction which are held during the year. Letters and advisory visits have reached higher maxima than in any previous year, and the results of the Station's researches are published in its *Journal* and in various reprint publications.

#### The Electric Battery Vehicle

ACCORDING to the *Electrical Times* of September 28, one result of the outbreak of war is a considerable increase in the number of inquiries received by manufacturers of electric accumulators and vehicles as to the price of their wares, the charges of electricity required by the vehicles and the distance traversed for a given charge on a smooth road. Petrol rationing has compelled owners of motor-vehicles to curtail seriously their usual transport facilities, and they are considering the relative advantages of petrol and

electricity for transport. Since electric vehicles take their power from storage batteries they are designed as a rule to have only a moderate range of action, varying from about 25 to 45 miles per charge of the batteries. The distance depends on the number of stops that have to be made. If the number of stops are numerous and the average time of a stop long, the advantage lies greatly on the side of the electric vehicle, since it only takes power when it is running. Most retail deliveries are carried out on a 'customer convenience' basis and not on 'transport economy basis'. It has been estimated that the petrol ration for C licence holders is only sufficient for their vans and lorries to cover half the normal mileage. If they have been doing about 75 miles per day, then they would be able to substitute an electric vehicle and still be in the same position as at present. For any distance between 35 and 75 miles per day, an electric vehicle would be an excellent substitute for a petrol one. The electric vehicle has other advantages. It has a long life; low maintenance and cheap running costs enable it, for many duties, to prove superior to alternative transport methods. In addition, it has the advantage of being exceptionally clean, free from fumes and simple to operate. A one-ton carrying capacity petrol van running 10,000 miles a year will use about 650 gallons of petrol, whereas the electric will use 4,000 units of electricity, or about 3 tons of coal. Owing to the grid, if at any time difficulties in transport should arise, then those power stations involving the minimum amount of coal transport could take over much of the load.

#### Properties and Testing of Heat-Insulating Materials

A GENERAL discussion on "The Properties and Testing of Heat-Insulating Materials", organized by the Joint Committee on Materials and their Testing, in conjunction with the Institution of Gas Engineers, will be held in London on November 23. Authorities from Great Britain, the United States, France, and Canada are to take part. Further particulars can be obtained from the Secretary, Joint Committee on Materials and their Testing, Institution of Mechanical Engineers, Storey's Gate, London, S.W.1.

#### Chemical Society

THE Chemical Society will continue to function at Burlington House, London, unless circumstances render it impracticable to do so. It is the intention of the Council to publish the *Journal of the Chemical Society* each month as heretofore and to issue the "Annual Reports on the Progress of Chemistry, 1939" in the early spring of 1940. *British Chemical and Physiological Abstracts "A"*, *Pure Chemistry*, will also continue to be published monthly. The Council has accepted with great regret as from September 30 the resignation of Prof. J. W. Cook from the office of honorary secretary, on his appointment to the regius chair of chemistry of the University of Glasgow. It has expressed its high appreciation of the eminent services Prof. Cook has rendered to the Society during his term of office. Prof. W. Wardlaw, professor of physical chemistry in Birkbeck College, London, has