sheathing to earth is more difficult to specify but in general it is stipulated that its resistance must not exceed one ohm. When it has this low resistance, the cut-out of the faulty main will act and so the sheathing and the metal in contact with it ceases to be dangerous. Where it is economically impracticable to obtain an earth having a resistance of not more than one ohm, earthing must be supplemented by an earth leakage 'trip-coil' so adjusted that it will operate at not more than 30 milliamperes. The resistance of an earth electrode depends very largely on the humidity and the character of the soil in which it is buried.

In many cases when the supply is taken from overhead mains and there is no water supply, compliance with the I.E.E. regulations is very difficult and practically impossible. In this case the neutral main of a four-wire system of supply gives an easy method of getting an approximate earth potential over the whole of the supply area. Where there are no parasitic currents from tramways, this system has many advantages. This system is used in some parts of Australia and New Zealand. The Electricity Commissioners and the Postmaster-General have given their special consent to its use in certain districts in Great Britain. When this system is adopted, no fuse must be inserted in any conductor connected with the neutral main. This leads to a simplification and consequent cheapening of electrical installation work. In Australia, the State Electricity Commission of Victoria has recently altered its wiring regulations. The provision of an automatic circuit breaker is made compulsory in all new installations. In addition, breakers have to be installed in all existing installations at the expense of the supply authority. It will be interesting to see how this works in practice.

The Enforcement of the Rules of the Road

Suggestions made by Dr. H. C. Dickinson, the chairman of the Highway Research Board of the U.S.A., are the subject of a recent report issued by Science Service. Traffic experts to-day are aiming at simplifying the traffic rules and reducing their number so far as possible. Dr. Dickinson has reduced them to four. The first is to keep to your own lane of traffic with only two thoughts in mind, namely, to watch the car ahead and to warn the car behind you whenever you do anything which changes your movement in your own traffic lane. Secondly, to realize that you have no right to cross or turn into another traffic lane. Thirdly, to give a clear signal, or indicate by the motion of your car, whenever you change from your own traffic lane. Finally, never exceed a speed at which the car cannot be stopped without interfering with other traffic in the lane. When an accident causes personal injury or damage to a car—other than fenders or bumpers—it should be obligatory for both parties to attend the action in court. In personal injury cases, the permits of all the drivers involved should be suspended pending the hearing, and the permit of innocent drivers, if any, could then be restored. Dr. Dickinson makes the novel suggestion that when an accident has nearly occurred and has only been prevented by the quick-wittedness of one of the actors, regulations should be used which would enable 'enforcing' officers to issue 'tickets' to drivers endangering other drivers or pedestrians. The charge he suggests is that of 'creating a public danger', and the penalty a small fine or dismissal on probation. Repeated offences could be dealt with more severely. The object of the proposal is to make it very unpleasant for anyone who puts another person in jeopardy even although no harm results.

Zoological Types in India

The series of "Indian Zoological Memoirs" has been enriched by an excellent monograph, illustrated by 65 text figures, on "Palæmon, the Indian River Prawn", by Dr. S. S. Patwardhan (Pp. xi+100. (Lucknow: Lucknow Publishing House, 1937.) 2 rupees). These monographs are intended to assist in the teaching of zoology in India by the selection of a number of readily obtainable types, which can be worked out fully by students in their own time and perhaps at their homes. A single animal studied closely in respect to its anatomy with the consequent consideration of the function of all its parts is bound to be of great help. To this is added, in the judicious selection of types here, the possibility for the student to study his forms in Nature. The illustrations are good black and white drawings in close proximity to the descriptions of the parts, and there are directions for the necessary dissections. If we are to make any suggestions, we would plead for a greater consideration of function, and references might be inserted freely, so that interested students may be induced to examine their types in a more intelligent manner. For example, in this prawn a consideration of the mode of action of the mouth appendages may be deemed essential to the study of their anatomy—and we find no references to the considerable bulk of recent work on this matter. Form and function are inseparables, and both are essential to the study of the living animal. For a young student, the author assumes a little too much, the monograph being more useful to his teacher.

Institution of Professional Civil Servants

The eighteenth annual report of the Council of the Institution of Professional Civil Servants covers the year 1936 and refers to a large increase in membership, which was 50 per cent greater than in 1935, when the figure of 10,000 was reached for the first time. One of the outstanding achievements of the year was the successful prosecution of salary claims on behalf of architectural and civil engineering and mechanical and electrical drawing office staffs. The satisfactory settlements which were reached are attributed largely to the extensive research of the Committee, which proved that such staffs were underpaid in comparison with similar employees outside. The report again emphasizes the importance of the National Whitley Council to members of the Institution. The

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