

of some two hundred Eskimo skeletons, which were obtained by excavation. Dr. Stewart's observations point to the possibility that they may prove an exception to the generally accepted view that the human body has attained a high degree of specialisation, which shows little tendency to vary. Approximately 12 per cent of these Eskimo skeletons have 25, instead of the normal 24, presacral vertebrae. The anomaly is present in nearly sixteen per cent of the males, but in only less than one per cent of the females, and it is considerably more frequent in skeletons secured north of the Yukon. In a preliminary report on these results, which has been issued by the Smithsonian Institution, it is pointed out that this frequency is nearly twice as much as the maximum previously recorded among the northern Eskimo. Among Europeans it runs to only 3-6 per cent; but one study notes 7 per cent among the Japanese. In the material examined by Dr. Stewart, the tendency seems to be towards a lengthening of the spinal column from the sacrum. There is no variation in the cervical vertebrae to show a tendency towards the lengthening of the neck. The predominance of the anomaly among males is held to give some indication of a hereditary character. Dr. Stewart's material will appear in full in the *American Journal of Physical Anthropology*.

#### Research Work of the Metropolitan-Vickers Electrical Co. Ltd.

NOTWITHSTANDING the industrial depression the activities of the Research Department of Metropolitan-Vickers have not been in any way curtailed. The research on the properties of steel at high temperatures is being continued, particular attention being paid to an examination of the combined influence of time and temperature on the changes of physical properties. The investigations of carbon steels have raised difficult problems in connexion with carbide spheroidisation as well as the obscure phenomenon of embrittlement shown by some of them. The results already obtained have been useful in determining suitable working stresses in advance of present practice. The general problems of the corrosion of metals and methods for their protection have been under continuous investigation. Experiments have been made on the corrosion of aluminium alloys when in contact with beverages and food stuffs. The importance of studying engineering noise problems is shown by the fact that the acoustics laboratory has been more than doubled in size. Using the methods of continuous evacuation developed in the Metropolitan-Vickers laboratories, rapid progress has been made in the technique required for the production of high vacua and its many applications to engineering problems. An X-ray set specially adapted for studying engineering problems has been developed and standardised and is now on the market. Progress has been made in inventing methods of protecting zinc and zinc base alloys by means of electro-deposited coatings. Special solutions have been discovered for cleaning, pickling and plating base metals of this kind. Accelerated corrosion tests have been devised

which enable the protective value of different thicknesses of deposit to be rapidly determined.

#### Tariff of Electricity Supply

THE Central Electricity Board in conjunction with the National Consultative Technical Committee has prepared a form of tariff laying down the principles under which electricity will be supplied directly to authorised undertakings. This form of tariff applies to the whole of the supply given to undertakings which do not own 'selected' stations. It applies also to that part of the supply to selected stations which they do not generate for themselves. The new tariff consists of three parts. The first is a service charge in respect of each point of connexion to the grid, the second a fixed annual power charge based on the maximum demand for power during the year at each point of connexion, and lastly, a running charge for each kilowatt hour supplied. No service charge is made for the first point of supply. The kilowatt charge is based on the maximum demand for the year. This maximum demand is taken to be twice the largest number of kilowatt hours supplied during any half-hour in the months of January, February, November and December. This tariff has been agreed with the District Committee for mid-east England and the central Scotland tariff will be decided shortly. The tariff system, although at first sight complicated, is based on sound principles and should prove practical. Various modifications have to be applied when the energy supplied is less than the product of the volts and amperes, that is, when the power factor of the load is low. The application of the Act has necessitated the evolution of instruments which will measure both kilowatts and kilovolt amperes respectively. Accurate instruments of this type are now available. It will be interesting to see the magnitude of the reductions in price to the consumer in mid-east England.

#### Restoration of Prosperity to Transport

AT the present time the industry of transport seems to be far from flourishing. In the aggregate, statistics show that road, rail, air and water transport are losing money. We welcome therefore the paper by W. Rees Jeffreys, chairman of the Roads Improvement Association, on transport problems of the Empire, which was read to the Royal Society of Arts on November 29. He takes a world-wide view of the whole problem, pointing out some of the causes of the depression and making many helpful suggestions. All forms of transport are the servants of the community. They serve trade and industry, and so long as they are serviceable they are entitled to a fair remuneration. They are not entitled to place a burden upon trade or industry by excessive charges or by dictating to the producer and the manufacturer what kind of transport he shall employ. Anti-road transport legislation within the Empire for the purpose of protecting State investments in railways has failed to bring prosperity to the railways concerned. Railway finance has often failed because