

that the managers of nationalized industries should not take it upon themselves to furnish some facilities at less than cost if this is done at the expense of their better-paying customers. The small road hauliers cannot serve the public except on terms which pay, so what will happen to those traders and travellers who demand facilities which do not cover the direct costs of operation to the carrier affording them?

The British Transport Commission is proposing to invest £1,200,000,000 in modernizing its plant. More is to be spent on the highways of Britain. There is no organization the duty of which it is to examine and compare the returns to these two quantities. No reduction in the price of carriage by road need be looked for from a programme of road improvement even although costs might be lower, unless the supply of vehicles plying for hire and reward can be increased. The conditions on which the licence to carry by road is being issued by the licensing authorities, first established for passengers by the Road Traffic Act of 1930 and by the Road and Rail Traffic Act 1933 for goods, is recommended as a subject requiring the most careful attention now that competition is to be relied upon as the instrument of policy.

OIL AND INDUSTRY

THE presidential address of Mr. A. C. Hartley to Section G (Engineering), entitled "Oil and Industry", traces the vital parts which civil, mechanical, electrical and other phases of the engineering profession have played in evolution of this industry since Drake drilled his first oil well in Pennsylvania in 1859 up to the present day. In oil exploration, the civil engineer is concerned with surveying, road-building, providing means of access, and subsistence, all contributory to geological and geophysical prospecting. In oil-well drilling, the mechanical engineer, and in oil production, the chemical engineer, both contribute substantially to modern methods of winning crude petroleum. Transportation both of crude oil and refined products again concerns mechanical (pipe-line) engineers, and Mr. Hartley stresses the great opportunities still open to them "to develop and improve plant and techniques and so enable the rapidly increasing quantities of oil required to be transported". Oil-loading in sea-going tankers is another phase of the petroleum engineers' activities, which, with a rise from pre-war 16,000 tons to present-day 32,000 tons capacity of tankers, has brought about not only re-designing of these oil-ships, but also construction of deep-sea jetties for accommodation of multiple tankers of heavy tonnage as well as cargo vessels; the case of the Kuwait Oil Co., with its 4,200-ft. jetty out to sea, exemplifies present-day trends. Oil distribution concerns pipe-lines, road or rail tank cars, barges for coastwise traffic; many of the specialized engineering professions are concerned in this.

Mr. Hartley includes some reasoned comments on the growth of the industry during the past sixty years; discussing the present and future position of the oil industry, he considers that, while it is likely that atomic energy will be developed in Great Britain as rapidly as anywhere else in the world, by 1975 that energy will only be equivalent to about 40 million tons of coal. From this it is concluded that

it is unlikely that atomic energy will contribute as high a percentage as hydro-electricity is now doing. Thus the petroleum industry has a long way to go to meet the steeply rising demands of oil consumers, anticipated to be about 70 per cent on last year's (1955) consumption, making 1,200 million gallons in ten years time and increasing to at least 1,600 million gallons in 1975. World oil reserves are discussed, and we may expect "the ultimate recoverable quantities of oil in the ground to be sufficient to enable the increasing demands of world economy to be met until it moves into the age of atomic power". A section on 'oil in war' is a brief survey of what petroleum engineers and others accomplished during the Second World War to enable our Fighting Services to maintain superiority. The oil industry has still a vast effort to make and a long future before it, if only "to take over so much of the percentage now being filled by the coal and gas industries until nuclear power brings relief".

The vital part that oil has played in past years in the life of Britain is nothing less than transformation of the whole industrial life of the nation. When it is considered that 4½ million vehicles for carriage of passengers and goods in Britain alone depend on petrol or diesel oil; aeroplanes, naval and most merchant ships rely on it as fuel; heavy industries require substantial quantities of oil fuel; lubricating oil has to be provided from petroleum for 90 per cent of the world's requirements; and, finally—the latest phase of production—hundreds of petroleum derivatives are now available to be used in manufacture of insecticides, detergents, plastics, rubber goods, paint and artificial silks, then beyond all question oil and industry to-day are inseparable and are likely to remain so for many years to come.

BLOOD GROUPS AND HUMAN EVOLUTION

DR. A. E. MOURANT, in his presidential address to Section H (Anthropology), states that, whereas in the past the study of human anatomical characters and, more recently, of blood groups, has been directed mainly towards the establishment of static classifications, we are to-day becoming more interested in the processes which have led to the development of the existing characters and of their distribution.

The external characters of the body were for a long time the only available basis for anthropological classification. They are mainly determined by heredity, but also in part by the external environment. Moreover, their genetics is complex and has been little studied. Each character appears to be controlled by a number of separate genes known as polygenes.

The blood groups are genetically much simpler and better understood: they are entirely under genetical control and unaffected by the environment of the individual. Nine genetically distinct blood-group systems are known, each comprising a number of genes, the frequencies of which vary from one community to another in a manner which permits a classification of those communities. Most of the existing information, however, refers solely to the ABO system. A number of other simple genetical systems are of anthropological interest, perhaps the