

IN the latter part of his lecture, Sir Martin discusses a number of problems arising out of the impact of science, and makes many shrewd comments on the attitude of chemists in such matters, which should stimulate a more rational attitude and wider scientific outlook in determining the conduct of the scientific worker as a citizen. In particular, he refers to the need for a practical attitude to the question of national defence if our liberty of thought and action is not to be lost, and of the need for more practical solicitude, enlightened by wider scientific outlook with increasing inter-communal tolerance and courage, to face ugly facts if the problem of productivity and distribution is to be solved. Equality of opportunity cannot be completed without equality of reception, which the human divergences render chimerical. The development of a community is the algebraic sum of self-development by its component members, although noteworthy material and ethical advance follow mainly from the deeds and ideals of its ablest members. The pursuit of science still does not liberate us from common human failings, and Sir Martin considers that one of our most serious problems is to prevent greatly increased comfort and opportunity for amusement from robbing our young people of self-reliance and ambition. On the solution of this problem the progress and happiness of our race will depend.

The Roads of France

IN a paper on "Transport in France" presented by F. J. Wymer to the Institute of Transport on October 19, it is said that the image which generally lingers longest in the mind of an Englishman who has motored through France is a section of 'route nationale' stretching ahead of his car into the far distance, with poplar trees passing the eye on each side like the pales of a fence. The same type of road was to be found 1,700 years ago in Great Britain from Dover to London and York, from Southampton to London and Chester, and many other roads, as the system in France is, like our own, undoubtedly descended from that of the Roman Empire. In contrasting the present roads in Great Britain with those in France, it has to be remembered that no hostile force of any appreciable dimensions has landed upon the shores of Britain for nearly a thousand years; our defences have been upon the sea and so the roads were built with this end in view. Hence the roadways of England tended mainly to be local links from village to village and so in a meandering way passed through a maximum number of towns and villages. In France they were designed on a plan connecting by the most direct routes the capital with the military centres. Having such different road systems, it is interesting to note that both France and England seem to be following similar tendencies in developing their systems unlike other great European countries. In France, after the Great War it was decided, instead of concentrating upon a few selected routes, to improve the standard of the whole system just as is being done in Great Britain. In France, the roads are being modernized by widening,

by the elimination of level crossings, by the re-designing of road junctions and the provision of modern surfacing.

THE construction and upkeep of the French roads depends upon their status. The 'routes nationales' are maintained by the State and the 'routes départementales' by the departments. The smaller roads known as 'chemins vicinaux de grandes communications et d'intérêt commun' are looked after by the communes, but sometimes the departments give them financial assistance. The 'chemins vicinaux ordinaires' and the 'voies urbaines' are kept up by the communes and municipalities alone. Taking 125 francs to the pound sterling, the total sum expended annually on the construction and upkeep of the road system is nearly eight million pounds, or about one seventh of the amount expended upon the roads of Great Britain. As a whole the roads of France are on a lower standard than those of Great Britain, and it is difficult to draw a direct comparison between expenditure in different countries as 'values' and 'exchanges' are always altering. Taxes are imposed on road vehicles, and also on their fuels. The total sums collected by the French treasury from this source amount to nearly four times the annual expenditure on the roads.

Golden Gate Fair

THE completion of 'Treasure Island' in San Francisco Bay has added about 400 acres of new territory to the United States. This man-made island will be the site of the 1939 Golden Gate International Exposition. It was formally delivered to the Government by the U.S. Army Corps of Engineers, who made the reclamation on November 21. The site of the Fair is an outstanding engineering achievement. It is happily situated between the world's two largest bridges. A special feature of the Exposition will be British Empire Day, which will be celebrated on May 27, 1939. A committee headed by Mr. A. G. Charlton, the British Consul General, is making plans for the occasion. In spite of the fact that the last of the filling material within the 17,760 ft. seawall has only recently been placed in position, two million pounds' worth of building construction work is already in progress. Large concrete and steel hangars have been completed. This Pageant of the Pacific will celebrate not only the completion of the San Francisco-Oakland and Golden Gate Bridges, but also the latest developments of science and engineering skill. These will include the Halls of the Mineral Empire and of Science, the Palaces of Business Progress, including electricity and communications, and pavilions devoted to Agriculture and Homes and Gardens. A new type of architectural design which is called 'Pacific' will combine Eastern and Western styles in a harmonious way. To beautify the grounds, £300,000 will be spent on landscape gardening and horticulture. The western States jointly with California will be hosts at this Pageant of the Pacific. British Columbia has announced that she will participate. Fifteen foreign nations have