

go at that with a "Don't you do it again." Getting back to the roads, our purpose is to ventilate the subject, not to make reflections on valuable men doing good work in our midst.

The above statement about the prime object of all engineering we find in an interview which Mr. Mace, of Wellington, the well-known contractor, gave to a representative of the "Dominion" recently, after his return from a visit of some length to the Old Country. During this visit Mr. Mace studied roads very closely, and came back with a considerable amount of information which only an expert could have assimilated. His interview is therefore a fine paper on modern roading. It throws needed light on that subject. For example, in its multitude of anxieties on this subject the general public will learn that roads may be grouped into two kinds for work at certain grades, but that for roads of a grade of over one in fifty-five there is nothing practicable but macadam. Now, a great many of the grades here are above that, therefore for them macadam is the only possible wear. We know that it rapidly becomes "motley"; we see its dust with our eyes shut, and we slosh into its mud in spite of the best regulated aspirations for a clean dog life. In this respect, however, we must be just before we are critical. We must admit that there are some very good macadams in our steep grades that are free from the extremes of the above faults which afflict all macadams. But for all that it is possible to have better macadam than we have, possible to seal that material better against the wet, and bind it better against the dust. Of these improvements Mr. Mace in his paper affirms the need, sketching at the same time a remedy, "Make the road of hard macadam, exceedingly well rolled, and bound with its own chippings, with the least possible admixture of binding as ordinarily understood," and that, he says, will make a very satisfactory solution of the road problem. Mr. Mace says that a road so made is seldom seen. We think perhaps Mr. Morton might show him some roads of that standard. The matter is important, as Mr Mace points out that in first, second, and third-class streets where the grade exceeds 1 in 35, water-bound macadam must still be the method of construction.

Of the other methods he has seen, he discussed chiefly wood blocking and the bituminous roads, and he gave the palm for cheapness and durability to the bituminous. This is his experience after seeing and investigating the roads of some 30 first-class cities. The broad fact that wood blocking at 20s. the square yard lasts 18 years, while after 28 years the bituminous surface at 18s. has remained practically intact, together with the fact that the price of wood is going up, and that of bitumen is going down, and that other fact that hardwood will probably not be obtainable in a few years, these make a combined factor which should prove decisive.

But there is a form of bituminous road which Mr. Mace speaks of which he found in use in the Borough of Fulham in the London area, the only borough which has not had to raise its rates on account of the traffic effects on the roads and streets. The reason is that this method costs only half what the wood blocking does, and three-

quarters of the cost of rock bitumen. This 50 per cent. saving at no sacrifice of superior durability is secured by "a tar concrete foundation (tarred macadam) with a bitumen surface deposited whilst hot and rolled with a special roller," admitting, as it does, of "a reasonable crossfall (or crown) which wood blocks do not, it sheds the water more easily, and is flushed by every shower of rain," can be easily relaid after disturbance, and is of course far more sanitary. Mr. Mace saw a section of road in Fulham which had been in use for three years carrying 50 tons per foot of width per day, with its surface perfectly intact, "apparently as good as when it was first laid." Here is material for consideration, which we hope our Councils will consider.

Admitting the difficulty of the subject and its economic importance, Mr. Mace says, "Had this method been used a few years here, Wellington could have saved £50,000," which saving Mr. Morton, City Engineer, Wellington, says is impossible. Mr. Mace suggested the engagement of an expert from the centre of European road activities by the Government for the purpose of advising all local authorities. The road expert of the present day understands the cardinal principle of road building which regards the vehicles as being part of the road machine, just as much, for example, as the railway wheels are a part of the road, the other being the rails specially designed to carry them under great loads at high speed. The consequence is that the expert can advise every local body about its roads according to the traffic those roads have to accommodate. Here is such saving in sight that the local bodies whose main trouble is roads, roads, and always roads, should be glad to pay a very large salary by their fees. On the whole Mr. Mace's "interview" is a very welcome contribution to the study of a most important subject.

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In the building trade another startling thing has been evolved in London, out of the big recent strikes. "A federation comprising eleven large trade unions has arranged to take over a £100,000 contract to build the Theosophical Society's headquarters in Tavistock Square." So runs a cable of June 2nd. This is more sensible than throwing away money on strike pay and howling for nationalisation of all things. As advice to do likewise was plentifully given to coal miners during their big strike, we may conclude that the world is moving. There is really a vast reserve of talent in the British people, which only wants education to open up all the opportunities and galvanise the nation into new life.

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There were twenty-three designs sent in for the Dilworth Ulster Boys' Institute Competition for a boys' school at Papatoetoe, near Auckland. At a meeting of the trustees held on June 9th the matter was referred to the board's architect, Mr. E. Mahoney, for report at a subsequent meeting. We understand several designs were from Australia.

Just as we go to press we have received telegraphic advice that the winners of the Competition are Messrs. Park & Savage of Orehunga, while Mr. Geo. Goldsboro' of Auckland is placed second.