

and yards. On page 195 he says that, "No window would look out onto a neighbor's backyard." The plan seems to suggest that each house would front onto a congestion of back yards.

My own idea is that the whole of the central circle enclosed by the circular drive should be developed as a community park and play-ground under control of the civic park department. The rear end of each lot would allow as much space for vegetable garden as that provided by Mr. Lamb, and some lawn in addition.

Discussion on the utilities tunnel revolves so much around the table of unit capital costs that I could offer no intelligent criticism without a very detailed analysis from the economic standpoint. As this would require more engineering knowledge and experience than I possess, I would leave this discussion in more capable hands.

The table of comparative costs does not seem to be entirely removed from all chance of criticism. How, for instance, does the circular system, or the tunnel, save \$100,000 on cost of houses? This is presumably arrived at by construction of a whole court at once, instead of individual building. Construction of large blocks of houses of the same pattern, however, is perfectly feasible under the existing layout and, moreover, is continually being done.

Mr. Lamb shows a saving of 75% on excavation by means of a steam shovel. Even if all the houses were in line, this would be hard to believe. With the houses staggered the difficulties would be greatly increased. In accordance with modern model housing practice, Mr. Lamb shows his houses wide and shallow. Such houses should find front and rear lighting sufficient. A more architectural grouping of the houses would be more restful and pleasing.

In estimating roads it does not look as though main thoroughfares have been allowed for. Mr. Lamb would also have to provide cross communications between his seven blocks. Trunk water mains, sewers, etc., would have to be included.

Summing up the above remarks, I would point out that the ideal town will never be accomplished by standardization. It takes all sorts of people to make a world and all sorts of different surroundings to happily house the individuals in a town. To disregard the human element is fatal. The human element asks not for standardization but for something more akin to itself. Order, system, and a definite balance of parts it demands, but with them must come variety of interest and subordination working up towards a definite climax.

As Mr. Lamb says, "The housing problem is fast becoming a national one." So much is this the case that one can scarcely pick up a paper without finding a reference to some phase of housing or town planning. This is due partly to congestion resulting from concentration of war industries, partly to a general national demand for better housing conditions, and partly to the universal interest which model housing enterprise, in more thickly populated countries, has aroused.

The period succeeding the war is likely to be one of considerable social reconstruction. Soldiers of all countries returning to their homes will not accept quite so readily existing social systems as the unalterable law. Fundamental anchor principles sanctified by generations of acceptance will be dredged up and laid out for inspection. Civilization has fought for a world worth living in. She will see to it that the new world, to which she returns, is still more worth living in than the old one she left.

H. B. DUNNINGTON-GRUBB

Toronto, Ont., November 11th, 1918.

England's Roads

Sir,—*The Canadian Engineer* devotes more space and attention to road construction and maintenance than any other journal known to the writer. Obviously conditions in England differ widely from those in Canada, but the essential problems remain the same.

Road construction ceased with the outbreak of war and only the minimum repairs have been made since August, 1914. It speaks well for their original condition that the roadways of England are in as good condition as they are to-day. Obviously, however, a very large sum will have to be spent during the next few years to rehabilitate conditions and further reconstruction. A sum of anything from \$250,000,000 to \$500,000,000 is mentioned as essential.

The following paragraphs clipped from the London Evening News of October 21st, 1918, may be of interest to Canadians engaged in road construction, who may or may not, however, agree with the material advocated:—

"The Broken Roads of England.

"Need for Reconstruction Suitable for Greater Motor Traffic.

"By Francis Wood.

"Editor's Note—Mr. Francis Wood, M. Inst. C.E., the author of 'Modern Road Construction,' emphasises in the following article the need for immediate action in reconstituting the main roads of England, which have fallen into disrepair through the heavy traction of the war:—

"On the return of all the motor vehicles built for the War Department in all stages of disrepair, they will not of necessity be put upon the scrap heap; they will be put in order and used. Previously to 1909 only a small proportion by comparison of the present day number of these vehicles caused such damage to the roads that Parliament passed the Development and Road Improvement Act, the Road Board was formed, and a tax on petrol was imposed to assist in providing the necessary funds to help alleviate the difficulties that had arisen. Since then there had been an improvement, but the war intervened at a critical moment; funds, labor and materials have been in a large measure cut off, and the roads have in consequence been starved. Vast sums of money will be required to bring them into good condition.

"The class of structure that has proved the most successful as regards its wearing capacity and general economy is the two-coat bituminous or asphalt pavement. The standard section of this type of pavement laid by the Road Board at Sidcup has scarcely required any attention during the past seven years, while the majority of the others have failed or required annual treatment to maintain them in serviceable condition. But the price of bitumen, which forms a very important proportion of the composition, has risen to such a figure that unless the post-war price approaches that of the pre-war figure, it will not be as favorably considered as it ought to be. Here is, therefore, a question that should be inquired into.

"On pre-war prices the whole of the main thoroughfares could have been reconstructed with a two-coat bituminous pavement for £70,000,000; on present prices it could hardly be done for £200,000,000.

"The financial aspect of maintenance is a serious one and demands careful examination. Whatever the cost, it will be greatly in excess of the amount that the authorities have been accustomed to provide.

Local authorities know what is before them, but there is no concerted move on their part at the present. It would seem desirable that a committee should be formed by the Government to inquire into:—