

Canada Lags in Road Building

Overseas Men See Great Contrast to Highways in Europe—Experience of England Shows what to Avoid

Returned soldiers, who took part in the "big push" during the autumn of 1918, will recall the frequent signs "Dry weather track." They were very useful, those tracks; not being marked on the map, the Hun did not have them registered, and even if he did discover one, it was easy to abandon it for another. Thus, as the weather was good on the whole, these tracks were quite serviceable. But, if it had been rainy, that would have been another story.

Away from shell-fire, however, as every soldier knows, the French roads were serviceable in all weathers. They stood up admirably against the rough usage of the swarms of motor trucks and other abnormal traffic brought by the war.

What would have happened to our Canadian roads under the same conditions? Alas! they are nearly all only "dry weather tracks." A good road is a road which is good in bad weather. In road construction, we are a century behind France, although we pride ourselves on being a very progressive people.

It is not sound argument to say that this condition is due to the fact that Canada is still a "new" country. The fact is that some of the oldest sections of Canada have the worst roads.

It is largely due to the continuance in force of an antiquated system of providing for public road-building and maintenance. The same system has been tried in England and found wanting, and we refuse to profit by the Old Country's experience, which the *Britannica* describes as follows:

"The almost incredibly bad state of the roads in England towards the latter part of the 17th century appears from the accounts cited by Macaulay. It was due chiefly to the state of the law, which compelled each parish to maintain its own roads by statute labour, but the establishment of turnpike trusts and the maintenance of roads by tolls do not appear to have effected any great improvement."

Let us hope that the *Canada Highways Act*, passed at the late session, spells the end of statute labour and of 'turnpike trusts' in Canada. Toll-gates have been found unsatisfactory elsewhere—let us abolish them here. When governments themselves undertake the construction of roads, we may look for better days.—P.M.B.

One very frequently noticed danger glass on the streets. It is dangerous to rubber-tired vehicles and may cause serious injury to bare-footed children. Milk drivers seem to be responsible for a good deal of it. The matter calls for vigilance and appropriate action on the part of the police.

Conservation of Our Resources Must Assist in Reconstruction

Citizens Should Recognize Collective and Individual Responsibility to Aid in Making Good War Losses—Summary of Programme

More figures convey but little to the mind. Everyone realizes that the war has cost us an enormous sum expressed in money. We should endeavour to visualize what this sum represents in materials and services. For example, millions of tons of metal and vast quantities of cotton and various chemical substances, as well as millions of hours of human labour have been consumed by the munitions industry. In times of peace, the metal would have been put into buildings, machinery or tools, the cotton would have been made into clothes, and the chemicals would have found a wide range of uses, of which not the least important would have been as fertilizer. A great bulk of these wasted substances will never be recovered; in other words, a considerable fraction of the world's capital has been utterly destroyed. Even in normal times, such destruction is inevitably going on through wear and tear, but the war has greatly accelerated the process. There is a further difference in that war uses are never productive in their ultimate purpose, so that, whereas in peace we earn an interest on our capital, in war we consume the principal.

By far the most serious war loss, however, is the labour loss. The more one probes this question, the more far-reaching is it seen to be. Everyone realizes the loss of labour force, due to the enlistment of huge numbers of men in the army. It is not, of course, that the soldiers did not work, but that their work was generally non-productive. Likewise, those engaged in the manufacture of munitions, munition plant, guns and other machinery of warfare, were engaged in wasteful industries. In other words, millions of men were not only transferred from the productive to the non-productive class but actually to the *destructive* class. Again, unprecedented and unusual demands were made on all our transportation facilities, for large bodies of men were sent overseas who would otherwise have remained at home and supplies for their maintenance had to be shipped to them. The abnormal transportation of troops and of war material required an increase of human effort expended in carrying and was also an economic waste. On the other hand, the decreased output of luxuries compensated to some extent for the munition business and the curtailment of holiday travelling partly made up for that undertaken for military reasons.

Included in the labour loss must be the deaths and all casualties which have left men less efficient for their peace-time occupations. Upwards of sixty thousand able-bodied Canadians in the flower of their manhood, have given their lives for our cause. This death-roll

represents a serious diminution of the labour force of the country. Some men have been totally incapacitated and must be maintained henceforth by the labour of others. Many have been so wounded or injured in health that their labour is not as productive as formerly. Also it must not be lost sight of that most of our soldiers have suffered some loss of skill, due to being away from their work so long, but with a little patience this will generally be restored. There are, again, a number of youths whose period of training for their life work was broken into and who must practically begin all over again. The cumulative effect of all these things means that a tremendous blow has been delivered against the productive labour energy of the nation.

The greatest need to-day, therefore, of Canada, as, indeed, of all other countries, is conservation (A) of our material and (B) of our human resources.

Under the first head, we must attempt to (1) increase the fertility of the soil and reclaim areas not now cultivated, (2) protect our forests from fire and reforest denuded areas, (3) guard certain species of fish and wild life against extinction, (4) exploit our mines conservatively, extracting the maximum output of ore, (5) develop our potential resources of hydro-electric power, (6) organize our manufactures to secure greatest efficiency and to recover by-products, (7) eliminate extravagance in consumption and (8) find an economic use for materials now treated as refuse.

Under the second heading, *i.e.*, conservation of our human resources, we should (1) make up our minds individually to do some useful work and to do it thoroughly, (2) promote the better organization of industry from a social standpoint, in other words, a good understanding between capital and labour, (3) organize our systems of transportation, storage and distribution so that products may be conveyed from producer to consumer with the minimum of effort and expense, (4) encourage the work of soldiers' civil re-establishment by practical sympathy with the returned soldier, (5) as voters and citizens insist on efficiency in public hygiene and sanitation, (6) reduce our abnormal infantile mortality, and (7) support all sound schemes of town planning and better housing and never relax our efforts till every family in the country has a decent home to live in.

The aims enumerated above embody a programme of reconstruction. Some of them lie outside the field of the Commission of Conservation, but most of them are within the scope of the work that it exists to promote.—P.M.B.

Education of Fish Culturists

Professor Prince Suggests Technical Training for Fish Hatchery Officers—State of Washington Starts Fisheries College

That fish culturists in the past have been principally "practical" men who, through enthusiasm, perseverance and hard work, have certainly made notable progress, yet who would have done far better if they had had scientific training is the contention of Prof. F. E. Prince, Dominion Commissioner of Fisheries. As an instance of the crude blunders of unscientific men he cites the case of certain fish hatchery officers who were accustomed to blow through a elastic tube into cans containing young fish in order to oxygenate the water. Yet the veriest schoolboy ought to know that the vitiated air from the lungs contains carbonic acid gas rather than oxygen and must be injurious to the young fish.

Fish eggs, as much as the rest of any other creature, are marvels of Nature, being extremely delicate, living and developing organisms. As such, they should be handled only by experts. A hatchery officer must have enthusiasm for his work, exactness, care and accurate knowledge. It is the last-named qualification which too frequently is lacking.

Prof. Prince suggests that the deficiency should be remedied by short courses of instruction at a Biological Station, spread over perhaps, three or four years. Our agricultural colleges give short courses for those engaged in animal husbandry; knowledge is just as essential for men who raise fish. The curriculum should include embryology, physiology, the physics and chemistry of water, biology and pathology as related to fishes.

An Imperial Fisheries Institute has been in existence in Japan since 1897 and has so conclusively proved its worth that a number of subsidiary schools have since been established. That country gives a systematic training to its hatchery officers, and in France and Scotland some attempt is made along the same lines.

A fisheries college has recently been started in connection with the University of the State of Washington, at Seattle. The college will offer four-year courses, covering the biology, technology, and business management of the fisheries and fish culture. Seattle is a very favourable place for the establishment of such an institution, and it is probable that Canadian from the Pacific coast at least, will take advantage of the facilities offered by the new college.

Do not put too many stacks in the same yard. The more stacks in a yard the bigger your wages that they will not be destroyed by fire.

Insist, when the thresher comes that he has his spark arrester in place and working.