

WARFARE AND THE ENGINEERING PRESS

VIEWS FROM ABROAD OF THE EFFECT OF THE EUROPEAN TROUBLE ON THE PROGRESS OF ENGINEERING.

THE effect of the outbreak and magnitude of European hostilities upon engineers and engineering has been reviewed with a general feeling of confidence by the engineering press. The first expressions of concern, while naturally reflecting retrenchment in constructional activities and readjustment of many factors influencing engineering, exhibit no trace of forebodings of a panicky nature. Even in England, where, according to the daily press, one might expect engineering and industrial work to cease, except that for the production of military supplies, the industries are active, the unemployed are comparatively few, and the British manufacturer has already set to work upon the task of preparing to secure as large a share as possible of the export trade which will be set a-begging when peace has again been secured.

The following editorial observations, which appeared in various engineering papers of England and the United States, should be read carefully by Canadian engineers. There is substantial argument to uphold the belief that the arrest by war of engineering work will not be long drawn out, and that it will be succeeded by greater activity than has been experienced of late:—

We can all perceive the ugly features of the war. Let us note a few of the consolations. Plant to the value of some hundreds of thousands of pounds must be re-ordered in this country. Against the factories which will run on reduced time must be set several others which have already started overtime. We heard yesterday of an electrical manufacturing firm who were compelled to work all through the last two week-ends. But we are not thinking so much of electrical works proper as of other industries which buy from us. For instance, the big armament firms are working day and night, the electrical equipment of ships has been accelerated, the Reading biscuit firms are on overtime, so are the army clothing establishments, the arsenals and certain dock-yard departments.

So that, without wishing to argue that the war is, on balance, a benefit—it is obviously an immense evil altogether—there is not the least occasion for despondency. Our home trade is immensely greater than our foreign trade, and our trade with the affected countries was largely an importation of manufactured goods in exchange for our coal and semi-manufactured products. The very considerable imports from Germany and Austria will not simply be dispensed with, to a large extent they must be replaced.

As the Government insure the safety of ocean traffic, America and the Colonies will not be deterred by war risks. Shipping will be continued, after some initial check, with Canada, United States, Africa, Australia, and the East. British manufacturers stand to replace German and Austrian competitors on a large scale, and for many years to come; now is their opportunity. They should supplant them, not only in our home market, but in such neutral ones as South America, an immense purchaser. These firms partly importing and partly manufacturing in this country will probably decide to increase their British works, though not immediately. What we cannot produce ourselves, or get from Europe, we

can probably obtain from America or elsewhere. Even the greatest of calamities bring good to somebody or other; the present upheaval will probably divert our trade to different channels. But we sincerely hope and believe that our trade does not, like that of Germany, incur any risk of crushing, or even of arrest, taken as a whole. What, it may be asked, of our sales to Germany? Assuming their stoppage for a long period after the war, it must be remembered by way of consolation that Russia, one of Germany's very best customers, and afflicted with some sentiment in her temperament, will go elsewhere for her manufactured goods. England, France and America can no doubt oblige. Beyond hazarding these few guesses as to the probable tendency of events, it is early as yet to discuss the precise developments. The general summary is that things might have been very much worse. The public are accepting the calamity with unexpected calm, things wear their normal aspect, trams and trains run much as before, the shops are all doing good business, there are really few signs of the upheaval, apart from the placards and the scarcity of London general omnibuses.—*The Electrical Times*, London, August 6th, 1914.

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It is needless to take an alarmist view; on the other hand, it is wise to be fully prepared for the fortunes of war. The municipal engineer has at all times a great responsibility, but in time of war this responsibility is surely increased. To consider one of the many works for which he is responsible—the water supply. The greater the work, the greater is its vulnerability; one man with a spade could easily start a burst in an earthen dam, and one small cartridge might wreck the conduit which supplies a city. How soon might the most perfect pumping machinery be put out of gear or utterly ruined. Again, one may imagine how easily a great sewer might be blocked or even wrecked, and how seriously this might, under certain conditions, affect the district served. The same applies to power and electricity stations, to bridges and to docks. In the case of dock basins the malicious bursting of a wall might easily lead to the wrecking of a large number of vessels, while injury to dock-gates and caissons would be followed by the most serious consequences. It is idle to enumerate or to suggest the various ways in which harm might be done; every engineer knows only too well how easily the greatest works could be injured or wrecked, seeing that they have been designed and constructed for the purposes of peace, and not to withstand malicious attack.

Bearing these facts in mind it is clearly the duty of the municipal engineer at the present time to take every possible precaution against the possibilities mentioned. Reservoirs certainly ought to be watched and guarded where the supply of large communities is dependent upon them; similarly, long, exposed pipe lines ought to be watched. At present it would not be difficult for our country's enemies to damage aqueducts or reservoirs. It is a case in which the municipal engineer should carefully consider what works under his control are sufficiently important and vulnerable to require special