

## Editorial

### GOVERNMENT AID FOR RESEARCH WORK.

Before the Empire Club of Toronto last week Prof. A. B. Macallum, the chairman of the newly created Advisory Council on Industrial and Scientific Research, outlined some of the methods which the council intends to use in the conduct of its work.

He showed how essential it was that a spirit of co-operation between industries, engineering colleges and the State be brought about. These are the media through which scientific research in Canada can be placed in the position which it should occupy. If we as a people hope in the future to compete with other countries, more intelligent attention must be paid to scientific research work, so vitally important at this period in our history.

Professor Macallum laid down as one of the first requirements a largely increased supply of competent researchers, coupled with a spirit of co-operation on the part of scientific men, working men, and business men. In addition to this, if the work of the council is to be resultful in the fullest meaning of that term it must secure and retain the hearty sympathy of scientific societies, universities, local authorities and governmental departments. This it will unquestionably receive. Neither condition will be effective without the other. The first cannot be secured rapidly at any time, and is for the moment out of the question. It was indicated, however, by the speaker that plans were now being formulated by which a number of research scholarships would be established by the government.

Much good work has been done in scientific research in our engineering colleges and this in the face of very serious handicaps so far as appliances and funds are concerned. Then there is the research work which might be done by individual firms or groups of firms representing certain specific industries. Much more might be done in this direction.

All this simply means that more money must be forthcoming on the part of our Federal and provincial governments in the way of larger grants to colleges to be so used in part at any rate, as research studentships, in the establishment and maintenance of national laboratories similar to the Bureau of Standards in the United States or the National Physical Laboratory at Teddington, England.

Only in the measure that our industries are willing to employ scientific methods will they be able to compete with the outside markets. The period following the war will be a testing time to very many of them. It behoves them at this time, therefore, to lessen the handicap which will surely be put upon them if they are reluctant to use highly educated labor or to adopt up-to-date methods.

In the national interest it may be stated as a general principle that improved methods of production should be made available for all who may be interested.

### WHEN AMMUNITION ORDERS CEASE— WHAT THEN?

One of the problems that is very naturally causing anxiety to manufacturers of munitions, heads of engineering corporations, steel manufacturers and others engaged in similar work, is what use is to be made of the great quantities of machinery, much of it of special design, after the war orders cease. It is estimated that from 50 to 75 per cent. of the machinery now being used in the turning out of munitions in Canada will have to be discarded. At least that is the estimate which has been made by a number of the more prominent manufacturers, who have intimate contact with this particular class of work.

Should the proportion of this machinery that will need to be scrapped turn out to be smaller, is it not likely that much of it will be used in lines of manufacturing in which there is already sufficient plant to supply the normal demand? If so, this can only have one effect, namely, the introduction of unhealthy competition, the slashing of prices and the disturbance of market conditions which will inevitably follow.

Could Canada secure a large volume of permanent export trade following the war, it would undoubtedly put a different complexion on the situation. Under normal conditions, the manufacturing capacity of Canada is not very much in excess of home consumption, and to enter the export trade on a permanent basis would involve considerable outlays of money for extension of plant and increased output. This is actually being done by some Canadian manufacturers and they stand to profit by the adoption of such a policy. Such firms as are making sure of strong and vigorous export connection in the countries which have more directly suffered from the war will unquestionably feel the effect of this changed condition less after the war, as by such connection they will be able to supply the demand for materials so necessary in the countries which have been devastated by war, and so be enabled to find work for much of the machinery now in their possession which otherwise might have to be relegated to the scrap pile.

Then, again, there are those who take the view that, as stocks of manufactured goods are very low, and there is a steady consumption going on which constantly is reducing these stocks, and as the railroads, for instance, have bought but little new equipment for two years or more, that the supplying of the domestic requirements immediately following the war will keep manufacturers fairly well employed for some little time after the war.

One of the by-products of the intensive manufacture to which many plants have been subjected is that they will in future be more efficient in their organization. Before the war, for instance, there were few concerns in Canada that understood how to work the higher grades of steel or working to close limits. Now there are hundreds of factories who can do these things successfully.

What shall be done with the special machinery after the war is but one of the problems which are engaging the thought of the best men in our country.