

times of war, that the influence of prices becomes insignificant. In such circumstances scientific or technical considerations rather than market influences decide the availability of essential commodities. Finally, the supply position is affected by the accessibility of deposits, the availability of labour and power, and such political factors as taxation and royalties.

Significant as these economic factors are, however, they do not affect the over-all position of the extent and variety of our mineral resources - except as they may advance or retard the current rates of consumption.

It is significant that in the cases of agriculture, forestry, fisheries and certain other fields of resource development some progress has been made in the direction of conservation. All these are renewable resources. Yet in the case of minerals, which are not renewable, there has been practically no effort, except in time of war, to interfere with the free play of a market that is interested only in profits. This anomaly cannot continue indefinitely.

IV

If we cannot give an adequate estimate of our present resources we may find some significance in an examination of the certain trend of future demands. If these should, in any instances, expand beyond all likelihood of any comparable new discoveries, that fact will be immediately pertinent to our inquiry.

There are certain basic factors which are clearly distinguishable. The first of these is the rapidity with which the number of human beings on the earth is increasing. Success in the battle against famine and disease is contributing directly to this result. Not only is the population increasing, it is increasing at an accelerating rate. At the present tempo the population of the world will double in less than 90 years. The current increase is approximately 20,000,000 persons per annum or about 60,000 every day. Even in the length of time occupied in the presentation of this paper over 1,500 more human beings will be born than will have died. In military terms, two new battalions are added to the population of the world every hour of every day.

A second fundamental factor is found in the almost universal demand for a higher standard of living. This will mean, inevitably, an expansion of the demand for mineral products.

As an indication of how this might affect the world's mineral resources, a distinguished American scientist recently prepared a study of the consumption of pig iron in the United States as compared with that in the rest of the world. In 1945 the utilization in the United States was 790 pounds per capita; for the whole world, including the United States, it was 97 pounds; for the world, not including the United States, it was 47 pounds. He then went on to say that these figures deserve careful thought by those who envisage supplies for the whole world even remotely approaching those of the present highly industrialized countries.¹

Consider what would happen if the rate of consumption of iron were to rise throughout the rest of the world to one-half

¹
Sampson, Edward. "Some Aspects of Mineral Adequacy". Paper presented at the Annual Meeting, Canadian Institute of Mining and Metallurgy, Montreal, April 1949.