

haustible. We are not recovering over 60% of our coal, through defective mining, or through our greed, working out the thicker beds because they are more profitable than the thinner, which we may thereby lose. We are blowing away the by-products of 90% of the coal which we are cooking in beehive instead of by-product ovens. We are sweeping away our forests, not even sparing the saplings now that we make paper out of wood. We thus kill the trees before they are old enough to be fertile and reproduce themselves. This waste is going on everywhere. Your forests cover enormous areas, but when you consider that many acres are stripped of wood to print the Sunday editions of the New York papers you can begin to conceive how rapidly the whole continent will be denuded of its forests. Some of you, I suppose, are going to be foresters. If so, you should go to Sweden and learn what conservative forestry means. On rivers whose water power is moving many a sawmill you never see a particle of even sawdust. Everything that is of legal size to cut is utilized. The best lumber is converted into pulp; second-class into dimension lumber; third-class is used for metallurgical purposes. Waste large enough to make into charcoal is burnt in kilns, for making pig-iron, and sawdust, twigs and everything that will burn in generators is converted into gas for making that extraordinary Swedish steel which brings \$100 a ton when ordinary steel will fetch only \$20, because no breath of sulphur has ever been allowed to reach it in the process of manufacture. About 700 tons of sawdust and slabs, and waste of one kind and another, are burnt at a considerable expense on the Ottawa daily, which all might be used as fuel for making just such steel out of the great iron ores of Hull and other mines not far distant from the Ottawa.

You have a magnificent field of work before you in developing the great Northwest, but a higher duty still is incumbent on you to do it on conservative lines—I use the word “conservative” in its highest and literal sense. We may measure the probable area of arable land in Manitoba, Saskatchewan and Alberta, and calculate the number of families it can support and the millions of bushels of wheat it may export, but we cannot imagine the mineral wealth that may lie hidden in the great Labrador peninsula, or in the millions of square miles of the Northwest Territories, even in the forbidding but not on that account worthless Arctic possessions of Canada. But, no matter how great these resources are, when they come to be utilized it is a crime to waste them, even supposing they were inexhaustible, which they certainly will not prove to be.

The aspiration of the farmer should be to produce more out of mother earth by carefully nursing her, and not robbing her of her fertility,—of the forester to raise a better tree every time than the one he has cut down, and of the electrical engineer to combine his ingenuity and knowledge with that of the mechanical engineer to make the winds and tides and all the forces of nature that now run waste, and sometimes run riot to our hurt, serve the needs of man—heat his houses, move his railroads, and perform other purposes we do not even dream of to-day. And the chemist and the mining engineer must move more rapidly than ever in the past along the lines now clearly pointed out to