mentioned as examples of improvements in methods. Not only have producers perfected to the best of their ability the processes employed for making iron and steel, but the furnace gases—formerly allowed to escape into the air—are now treated in such a way as to extract from them many useful substances which are of themselves of great market value.

As that of the chief actor in the development of the modern high explosive the name of Alfred Nobel must be a familiar word in all civilized countries. Ordinary black gunpowder is now seldom used except for producing the slow rending action required in blasting the faces of quarries, where a shattering effect would be undesirable. Schoenbein discovered gun-cotton in 1865 and nitro-glycerine was first made by Sobrero in 1847. Nobel made these nitro-compounds his special study, and in 1866, by absorbing nitro-glycerine in a porous siliceous earth known as kieselguhr, produced a brown pasty substance, and named it "dynamite." The chief constituents of the modern explosives, blasting-gelatine, cordite, gelignite and ballistite are gun-cotton and nitro-glycerine. The discovery of blasting-gelatine was accidental and deserves recording. Nobel, when in his laboratory experimenting with nitro-glycerine, cut his finger slightly, and to cover the wound applied collodion, which is a solution of nitro-cellulose in ether, to the part affected. Having done so he emptied the contents of the phial into the vessel which held the nitro-glycerine he was experimenting with. The mixture became gelatinous, and thus accidentally came about the discovery of one of the most used ingredients of modern explosives. Lately we have heard much about lyddite and its effects. This is also a product of the last decade in so far as its use as an explosive is concerned, though it has been employed for dying silk for many years.

I have endeavoured to show in this short address to what an extent scientific and industrial chemistry has progressed during the century now gone. It would be interesting to speculate as to future developments. The atomic theory which has so long been our chemical creed may be overthrown as was the theory of philogiston. Elements may no longer be regarded as simple substances and may even be looked upon as different forms of one ultimate kind of matter, or again as varying modes of motion. Speculation and theories regarding this have even now been advanced by men eminent in the world of science. Chemistry and physics are drawing closer together and the investigation of physico-chemical phenomena is occupying the attention of many workers. Great have been the advances made in pure chemistry, and to no less a degree has the application of these principles to industrial chemistry progressed. I feel I cannot close without some reference to the part that may be taken by chemists in the development of the natural resources of Canada, and more particularly of this province. I see from that useful volume a "Handbook of Canada" published by the local executive of the British Association meeting of 1897 that our province is possessed of almost untold mineral wealth. The metals gold, silver, copper, nickel, lead and iron are in abundance. Of sulphur in combination there is plenty, while