

shale in the red-hot retort was transmitted. To the same vessel a pipe and jet were fixed for burning the gas. Its illuminating power appeared to be greater than that from coal gas, and the lecturer stated that, while the London (England) gas contained on an average not more than from four to six per cent, of the illuminating principle which is called olefiant gas, and very good gas rarely possessed more than ten to twelve per cent, of its valuable constituent; this gas from the bituminous shale of Collingwood or Oshawa, held fifteen per cent, of the illuminating principle in the samples of gas which he had made and examined. The shale varies in the amount of bitumen it contains, so that the strength of the gas is not always the same. A valuable property of the Collingwood shale is that it does not swell or expand upon being heated, like bituminous coal, so that a retort may be filled with it, while it is well known, that it is not safe to fill a retort more than two-thirds of its capacity with bituminous coal. The Lecturer considered it possible that the shales of Collingwood and Oshawa may yet become of economic value, for the purposes of gas-lighting. Similar shales, but of very different geological age, are found in great abundance in the valley of the Sydenham and the Thames rivers near Chatham, and throughout the country between lake Huron and lake Erie, drained by those rivers.

“The geological name of the Collingwood and Oshawa shales was said to be “the Utica slate,” and those of the western part of Canada, “the Hamilton shales.”

“The lecturer also exhibited the mode of ascertaining the presence of noxious impurities in illuminating gas, and showed the absence of such impurities in the Toronto gas, by illustrative experiments. The tests for sulphuretted hydrogen and sulphuroeus acid, established conclusively that our Toronto gas, as then taken from the pipes in the St. Lawrence Hall, is perfectly free from those noxious impurities. The lecturer further expressed his opinion, that in isolated factories, and even in private families in the country, gas illumination from fat and oil, or other similar substances would soon become by no means uncommon. The apparatus is extremely simple and cheap, and attended with very little trouble, while the cost of lighting a large building or private house, when compared with candles or oil, was very trifling. The only objection that could be urged against its introduction in or near a private house, was the smell occasioned by the formation of volatile compounds of Carbon and Hydrogen, which chemists had not succeeded in separating by economical processes from common gas.

“The possibility of the economical manufacture of illuminating gas from our Collingwood, Oshawa, and Western shales, is a very interesting and important question, as many cubic miles of those shales, very rich in bitumen are found in Western Canada. Professor Hind also stated that the other products of the distillation of the shales, such as oil, tar, and naphtha, are likely to be valuable. We hope we shall hear more of this subject, and that experiments will be set on foot to ascertain the commercial value of the Canadian rocks to which Professor Hind has now called the attention of the members of our flourishing Mechanic’s Institute.”