

says Mr. Suplee, "than ordinary illuminating gas, while its characteristic odor causes leaks to be readily detected. A number of experiments by Vicille and Berthelot have demonstrated that at atmospheric pressures, a decomposition originated at any point is not propagated through the mass of the gas. Neither a spark, an explosion of fulminate, or direct contact with flame causes any action beyond the immediate vicinity of the heat. When, however, the gas is subjected to a greater pressure than two atmospheres, it exhibits all the properties of an explosive mixture; hence, the danger is clearly marked, mixtures of acetylene are, or are not explosive, according to the proportions of the two components, the limits being between three of gas to one of air, up to twenty of gas to one of air, this being a somewhat wider range than is found with ordinary illuminating gas." When the gas is better understood, the liquefied form may be safely used, as it would have great advantages, considering that the liquid is only one four-hundredth of the volume of the gas—that is, a foot of the liquid would make 400 feet of the gas. One remarkable thing about liquid acetylene is its expansibility. A given volume at a temperature of 32° F. becomes 1.07 volumes at 62°, and 1.24 volumes at 96° which shows it to be the most expansible liquid known. Cylinders should not be filled full, as when brought from a low to a high temperature it would rupture a very strong vessel. "In no case, however, should explosions of the liquefied gas be confounded with supposed dangers of the gas at ordinary pressure, as the two are absolutely distinct." In concluding his interesting article, Mr. Suplee says: "While it may be too soon to draw definite conclusions upon all the points at issue, we may infer that acetylene as an illuminant has a positive value, which for many purposes is immediately available; that it can be produced and used without greater risk or danger than is involved in the use of ordinary illuminating gas; that in the compressed or liquefied form it should be handled by experts under well ascertained conditions; but that notable advances must be made in its economical production if it is to compete broadly with coal and water gas as an illuminating agent." The writer here refers to the cost of manufacturing the carbide, which he puts at 2.02 horse-power per pound of carbide.

#### BREAD VS. BOUQUETS.

Among the many attributes of perfection which are ascribed to the Ontario Government, that of Defender of the Beautiful has not hitherto been one. Culture its members have been known to possess, and a commendable interest has been shown in various cultures and cultivations from pigs to preachers, but their absolute devotion to the Beautiful has escaped public attention. The Parliament Buildings may be supposed to have had something to do with this; people who spent much time there could not but have their perceptions of the True and the Beautiful dulled, while it was generally conceded that any one who had anything to do with authorizing their erection must be entirely ignorant of the existence of these words, when spelled with capitals. But the public, as is generally the case, was wrong. The Ontario Government is prepared to sacrifice much to Beauty, and keeps the Niagara Peninsula a garden, a place of green grass and flower beds, and falling streams and trees; the resort of newly-married couples, and the people of Toronto on Saturday afternoons. The Government accepts \$25,000 per year to keep in idleness a water-power whose development would be worth more to the Province than the timber limits about whose possible destruction we are at present so much agitated. We are well advised

to look to our timber supply, of course; but if every stick of merchantable timber in Ontario were cut down, it could be replaced in time, though not without vast expenditure. But once permit the turning aside of natural and industrial forces, and who dare assume their return even with the most enormous expenditure? If the power of Niagara is once handed over to the citizens of the United States, it is lost to Canada forever.

In industry as in all living things there is no standing still; growth and death go on side by side and when growth is outrun by death the end comes. In the same way the industries of Ontario, and chiefly of Toronto and Hamilton, cannot go on in the next five years as they have in the past. Quebec has cheap labor to-day and to-morrow will have unlimited electrical power. We have only to name the great development companies over to remind ourselves of that: Chicoutimi, Montmorency, Shawenegan, Chambly, and Lachine. How can Ontario meet this competition except by power as cheap or cheaper than that in the neighboring province? If there were a tariff wall between the provinces, or if communication were slow and expensive, there might be some chance that the mill wheels of Ontario might still be turned by steam-power, but with the two best railways of the continent and the world's greatest waterway competing to reduce transportation charges there is no such chance. The only possible relief would be cheap coal, and Ontario has no coal, and southern Ontario has no power except what is derived from Niagara, and natural gas in a limited area of the West. Both of these are handed over to enrich aliens.

Some months ago in an article on this subject THE CANADIAN ENGINEER ventured the prediction that Niagara Falls would in future be more of an industrial force than an objective point for sightseers. We are pleased to notice that Lord Kelvin, during his recent visit to Niagara, at the time of the meeting of the British Association for the Advancement of Science, stated in an interview that he believed that all the waters of Lake Erie would ultimately find their way to Lake Ontario through electrical machinery. His Lordship said:

"I think we already see the beginning of what is destined to grow into a great industrial district around Niagara Falls, within ten or twenty miles of Niagara, both on the United States side and on the Canadian side. I do not prophesy anything, but I anticipate industry will advance on both sides of the border, and that the power of Niagara will be taken advantage of to any extent we may imagine. . . The originators of the work so far carried out and now in progress, hold concessions for the development of 450,000 horse-power from the Niagara River. I do not myself believe any such limit will bind the use of this great natural gift, and I look forward to the time when the whole water from Lake Erie will find its way to the lower level of Lake Ontario, through machinery doing more good for the world than that great benefit which we now possess in the contemplation of the splendid scene which we have presented before us at the present time by the waterfall of Niagara. I wish I could think it possible that I could live to see this grand development."

We hope the silence which the Ontario Government preserves with regard to this subject is only a cover for the discretion which they are about to display in the development of the natural resources of the country. It is remarkable that a body of men, who display such admirable judgment in the management of their private affairs, and whose administration of the public domain should be in most cases so excellent as to defy criticism,