

The foregoing words suggest these others from the *Witness*: "But Canada does not want annexation. Mr. Butterworth's mistake arises out of the gross darkness out of which he and a majority of his people look at Canada. They look on Canadians as a subject people panting to be free. They think the forms of governments of Canada and the United States are substantially identical, and that Canadians are inclined to think little of the difference, or even to prefer that of the United States. This is a great mistake. Our constitution is much more advanced and much more popular than theirs, and our Government is far more directly responsible to the people. It would be a retrograde step in Canada to accept the national government of the United States. If political union between Canada and the United States is ever to come about, there will have to be radical changes in the constitution of the United States in the direction of freedom and democracy or Canadians will not be satisfied with it. We are not accustomed to four-year irresponsible despots like the President, to irresponsible appointments to office, nor to irresponsible members of an executive, and would never be at rest under such a condition of things."

COAL IN THE NORTHWEST.

The wealth of the Nova Scotia coal mines is well known, and needs no special mention at this time. But the extent of the layers of this indispensable fuel, in the Northwest, is a matter of vital importance, in view of the fear which was felt, for a long time, that there would be a dearth of wood and coal in the mighty region. Providence, which rules all the behests of man, has provided otherwise, and scientific men have not been slow to discover that fact. Mr. Maltby, a distinguished mining engineer of Chicago, searched, last summer, a number of localities in Alberta and British Columbia, about which he came to Montreal lately, to make report to the Directors of the Canadian Pacific Railway Company, for whom he had undertaken the examination. Mr. Maltby worked chiefly on the Crowfoot Creek, fifteen miles east of Gleichen, and a few miles off the "Cipiar." The operator continued the shaft—which had been unsuccessfully sunk in 1886—down to 470 feet, piercing four seams of coal, the first being eighteen inches thick; the second, nine inches; and the third and chief only nine feet. Mr. Maltby mined this last seam, and took several carloads of the coal, which were tested in the Canadian Pacific locomotives with most satisfactory results. This bed of coal extends from near the Canadian Pacific, where the outer croppings are seen, to the Red Deer River, a distance of thirty-five or forty miles. The coal is similar to the Lethbridge, but while it has a strong blaze, it does not emit any smoke, and is suitable for steam or domestic purposes. Mr. Maltby made an examination of the coal at Cochrane, where a company has been mining on the outcroppings. He says that good coal will not be obtained there until deeper shafts are sunk to the beds that have not been affected by the upheaval of the mountains. He also says that the Canada Anthracite Company made a mistake in working the outcroppings instead of sinking deep shafts. Mr. Maltby made an examination of land in the vicinity of Vancouver, and expresses the opinion that vast coal beds exist there, but at a depth of 1,000 feet. He thinks it is the same bed that crops out on

Vancouver Island. Being asked as to the probable extent of the coal beds in the Northwest, Mr. Maltby said there was sufficient coal in the country to supply Canada with fuel for centuries. The Canadian Pacific Railway will probably open mines in the Crowfoot district next year. Mr. Maltby has been engaged for years in coal mining in England and the United States, and understands the practical as well as the scientific branch of the business. He is now superintendent of several mines in Illinois.

EXPERIMENTAL FARMS.

According to the promise made last week, we shall give an account of the four Experimental Farms of the Dominion, with material drawn from official reports. In 1884, this subject came up in the House of Commons, and a committee was draughted to take evidence, with the result that these Experimental Farms were recommended, the Act passed, and the Farms established, under the direction of the present Minister of Agriculture, Hon. John Carling. Professor Saunders was appointed Director-General, and here is his report on the work after a visit to all the Branch Farms, made during the past few weeks.

At Nappan, N.S., the Farm embraces some 300 acres, and the work there will probably consist mainly of stock raising and dairying, the growth of native and foreign grasses, clover, and thus endeavour to work out for the people of the Maritime Provinces all that is desirable in fodder plants in order to increase the products of the land, and also improve their stock, and thus enable them to carry on their farming with better profit and advantage. Nova Scotia is celebrated for its fruits, and experiments will be conducted there with a view to introducing new varieties of fruit to be tested, and the information gained scattered over the different Maritime Provinces, so that every farmer may know what varieties he can grow with success. He will thus be enabled to beautify his home, add comfort to his table, and at the same time increase the attractiveness and productiveness of the country. At the farm in Ottawa a large variety of Russian fruits have been introduced. The climate in some parts of Russia is much like ours, and at times the temperature falls lower in winter than it does with us. The more tender varieties of American and European fruits will not endure very low temperature, but it is hoped that by introducing from colder climates fruits which endure there, valuable additions will be made to our fruit growing capacity here, and if these fruits succeed, we shall be enabled to increase very largely the area over which fruits can be grown successfully in Canada. In Manitoba efforts will be made to introduce new varieties of grain, especially early ripening sorts, for, notwithstanding the fact that occasional frosts occur, we may confidently anticipate that that country will continue to produce millions upon millions of bushels of wheat, tenfold more than it produces at present, as the country becomes more settled, and we have a sufficient number of farmers there to till the fertile soil ready cleared at their hands. Then, also, the question of stockraising and dairying will be considered, and the important subject of forestry receive attention. There are comparatively few trees in Manitoba, and the winds sweeping over the plains produce a condition of things not so agreeable as that which the shelter of the woods

and trees affords. Now, if this shelter can be provided—and there is no doubt that it can—it will add to the comfort of the settlers' homesteads, make them more beautiful, and by supplying a tempering influence to the winds, make that country more desirable to live in. The same class of experiments will be carried out at the Branch Farm at Indian Head, in the Northwest Territories. The land on this farm is all open prairie, and this spring, when operations began, there was not a shrub or tree in sight. By the introduction of trees it is hoped to make quite a change in this Farm in a few years; 20,000 young trees were planted there this spring, and from 40,000 to 50,000 have been raised from seed, and it is expected by the end of another year to have somewhere in the neighbourhood of 100,000 growing trees on it. These experiments will be instructive examples to the farmers of the districts in which the farms are situated, which they will not be long in imitating. Everyone there loves trees, and the feelings of the settlers of the Northwest are quite different from those of the early settlers in Ontario, who were obliged to look upon trees as enemies, and to be cut down in order to furnish space for agricultural operations. With a growing love of trees among the farmers, it is hoped, in a few years' time, to see plantations of trees all over the Northwest. In British Columbia the climate is milder. The Farm at Agassiz is situated below the coast range of mountains, and has a climate much like that of England. It is admirably adapted for fruit culture, apples, pears, plums and cherries growing there with a luxuriance surpassing anything we can do here. Many of these fruits are much larger than the same varieties grown anywhere in Ontario; and it is believed that in that province, although the quantity of agricultural land is limited, it will be possible to produce there a large quantity of fruits to supply the mining population of the mountains and the less favoured districts in the Territories.

LITERARY NOTES.

In spite of tempting offers Lord Tennyson refuses to write his memoirs. Who says Tennyson is not a great man?

Professor Roberts has a paper in the *Christian Union*, of New York, on "The Teaching of English," from which we shall give our readers a few extracts.

Rev. Arthur J. Lockhart, of East Corinth, but a Nova Scotian by birth and in heart, has sent the editor a thrilling account of the Miramichi Fire in 1825.

Who will inform us whether or not Cransworth Langstroth Betts, the translator of Béranger, is a New Brunswick man or not? "Carl," of St. John, N.B., who wrote to Laclède, of the *Gazette*, on the subject, may tell us.

The literary event of the week is the first number of "Canadiana," a new monthly issue devoted to the study of Canadian history—all original matter, out of the beaten paths. The editor is W. J. White, M.A. In our next we shall review it.

Our readers will hail the return to his own column of Acus, with his bobbin full of sharp and shining "Points." Our friend has run the gauntlet of a professional examination and, from what we know of him, he must have done so with flying colours.

We have received from C. G. D. Roberts, M.A., the welcome news that the author of "Snowflakes and Sunbeams" is rector of St. Stephen, N.B. "He is very strong in a sort of impassioned lyric description, and his winter verse is of our very best in that line." We shall now take occasion to have another look at his little creamy pamphlet.

A *Star* reporter has been shown a small pamphlet, printed at Mr. John Lovell's, in 1839, which contains the report of the proceedings at the trial of Cardinal, Duquette and Lepailleur, reported by a law student. The only survivor among the names it contains, apart from Mr. Lepailleur, is that of Mr. Justice Johnson, who is there denominated as "Francis Johnson, reporter." Apart from the evidence, the little volume contains an elaborate argumentative petition in favour of the prisoners, and signed by Mr. Aaron P. Hart and Mr. Drummond, their counsel. Copies of this volume are said to be very scarce.