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THE
Canadian Agriculturist,

AND

JOURNAL OF THE BOARD OF AGRICULTURE
OF UPPER CANADA.

VOL. IX.

TORONTO, MAY, 1858.

No. 5.

PROVINCIAL EXHIBITION FOR 1858.

We are happy to be enabled to inform our readers that grounds every way suitable for the purpose of the Association have been secured; the Provincial Government having granted to the City Corporation the fee simple of that portion of the Garrison Reserve lying immediately south of the Lunatic Asylum, for the purpose of a Public Park, on condition that not less than 20 acres of said land shall be appropriated for the holding of the Provincial Agricultural Association's Exhibitions, whenever it may be required for that purpose. This ground has been already enclosed by a good and substantial fence, and is now being drained and levelled, and will be, when completed, the best site for the purpose that could probably have been found in the neighbourhood of Toronto; being near to the Queen's Wharf, and in close proximity to the Great Western, Grand Trunk, and Northern Railways—from which a switch is to be immediately constructed, so that goods coming in by any of these roads may be unloaded at the southern entrance of the Exhibition building—thus avoiding the expense and labour of cartage from the different stations.

The ground having been secured, plans for a Building, to be principally of Iron and Glass, were advertised for, and on the 24th of April 13 were sent in in competition for the prizes offered, namely—two prizes of £30 and £20 respectively. Two of these plans having been selected by the Committee, the motto letters accompanying them were opened, when Messrs. Fleming and Schrieber, Architects of this city, were found to be the successful competitors for both prizes.

Certain portions of each of these plans meeting with the approval of the Committee, the Architects were instructed to prepare a modified plan, and on the 22nd of May tenders were received for the erection of the building—Messrs. Smith, Burke & Co., of this city, being the successful tenderers, at the sum of £4,879 10s.

Towards the erection of an Exhibition Building, as a permanent structure, the City Council of Toronto had previously voted the very liberal sum of £5,000, and the County Council of York and Peel the sum of £350, which has been since increased to £1,000, which, added to the appropriation from the County and Township Agricultural Societies, enable the Local Committee to erect a building suited to the purpose for which it is intended, and which we believe (judging from the plans) will be creditable to the Association and to the country; and to which the Committee may with confidence invite Exhibitors to send their goods, without fear of their being injured from weather or other causes—as has too often been the case where temporary buildings only have been erected.

The building—which is being constructed principally of cast iron and glass—will be 256 feet in length, and 144 feet in its extreme width. The total floor space in the building, exclusive of four spacious stairways, will be upwards of 32,000 superficial feet; or 7,000 feet more than was required to be given in the competition designs. The extreme height we believe will be 55 feet.

Great care will be taken, and every precaution used, to have the building of sufficient strength for the immense number of visitors that may be expected to attend. Each of the iron girders will be tested before being placed in the building, by a strain of about three times the weight it will ever be required to carry, so that there may be no risk of accident during the Exhibition. The glass to be used in the vertical walls, is similar to that used in the Dublin Exhibition Building. The roof is to be covered with tin. We believe the building will be very correct in its proportions, and when completed will be pleasing to the eye and appropriate to the purpose for which it is being erected.

So far as we are able to judge, the work appears to be progressing satisfactorily. The stone piers on which the columns are to rest, are mostly finished; a considerable number of the iron columns and girders are in their position, and a large portion of the material for the roof is on the ground, while the tin is being prepared, so that there may be no delay when the building shall be ready to receive it.

Every exertion is being made by the Local Committee to have the whole completed in time, and, under the management of the Building Committee, (composed of Mr. J. E. Pell, Chairman, E. W. Thomson, Esq., W. B. Jarvis, Esq., Rev. Dr. McCaul, Alderman Read, Alderman Brunel, and R. L. Denison, Esq.,) we doubt not that success will attend their efforts.

We would here urge on the artists and manufacturers of the Province, that, as every exertion is being made for the special accommodation and proper exhibition of their various products, they should on their part endeavor to make the exhibition worthy of the building being erected for it, and creditable to our young and rising country.

AGRICULTURAL INTELLIGENCE.

RING'S PATENT BROADCAST SOWER.—The *Rural New Yorker* gives an account of the invention and construction of a machine for sowing broadcast, which is said to perform its work with precision and dispatch. In many situations in this country, owing to stumps, stones, &c., the drill cannot be advantageously used, and as the art of sowing by hand is one which many farmers only acquire imperfectly, machines of the kind in question may be of no inconsiderable service.

The present one was invented by A. Rings, of Maine, and is manufactured and for sale by E. D. Hallock, of Rochester, who says, "it will sow all kinds of grain and field seeds, broadcast, from peas to clover and timothy. It is capable of distributing evenly over the ground a space of from 30 to 60 feet, thus sowing from 60 to 120 feet each "bout," and doing the work as well, if not better than the most experienced sower could by hand, besides performing three times the amount of work in the same time. Its construction is simple, being merely a sack with a hopper at the bottom, under which is a revolving cylinder, turned by means of a crank, with arms or tubes through which the grain passes, it being thrown out by centrifugal force. The width of space sown depends upon the specific gravity of grain. The quantity is regulated by a slide, and can be changed in a moment. The machine is made of heavy tin, and can be repaired by any mechanic in that branch of business." The price is seven dollars.

IMPORTED AYRSHIRE COWS IN LOWER CANADA.—The *Witness* observes: "A vessel now in the port of Montreal has brought six fine Ayrshire cows, selected in Scotland by a French Canadian farmer for and on account of French Canadian farmers in this vicinity. This is an instance of enlightened enterprise which demands special notice and commendation."

ORNAMENTAL PLANTING.

BY PROF. BUCKLAND.

(Concluded from page 84.)

All the trees which have been enumerated in the preceding part of this paper are easily attainable—besides others which I have not time to particularize—are generally adapted for planting, either singly or in groups, in grounds of sufficient extent. In lawns, however, of *very small area*, it is not advisable to plant trees that attain to a great size. *Variety* is also an object to be sought as far as practicable in all situations; and a fitness or adaptation should always be observed in accordance with the dictates of correct taste, both in outline and detail, in every thing that is attempted in landscape gardening.

In selecting trees for ornamental planting in the immediate vicinity of the dwelling house, ample scope is afforded for the exercise of taste and judgment, as pointed out so fully by Repton, and other writers, on these subjects. Trees, in their contour and general expression, should, as far as practicable, harmonize or contrast with the style of architecture with which they are associated. Styles, for instance, which abound in horizontal lines—such as characterise the dwellings of the classic lands of Italy and Greece—are mellowed and their characteristic features more fully and pleasingly brought out by trees of a tall and spiral

growth;—such as the Larch, the Balsam Fir, the Spruce, the Hemlock, and the Lombardy Poplar. The Gothic style, abounding in perpendicular lines, with pointed roofs, is much more effectively exhibited by trees of an opposite character—those that possess massive towering tops—such as the Oak, Elm, Maple, Beech, Bass Wood, &c. Besides, in ornamenting grounds, it is desirable to introduce as much variety as possible; yet the extent of the grounds, the character of the soil, situation, and climate, and also of the size and style of the house and buildings, these constitute the principal elements in determining the numbers, kinds and arrangement of the trees for ornamental planting. In a lawn of very limited area trees of the smaller kinds are more in keeping, and afford greater variety of scenery, than a less number of a larger growth. In fact, in such a situation a dozen large forest trees planted sufficiently wide apart to enable them to attain to their full natural size and beauty, would occupy nearly the whole available space. In laying out a place, then, it becomes a matter of primary importance, one indeed frequently neglected in practice, viz: To maintain throughout in the various details, those just and harmonious proportions, which will give to the whole the pleasing and necessary attribute of unity.

The limits usually assigned to a single paper are such as to forbid the introduction of many particulars. I will, however, just refer to a few by way of suggestion that may probably be of some small use to such as contemplate the laying out of new grounds, or the improvement of old ones.

Perhaps the commonest mistake committed by amateurs, and occasionally even by professional landscape gardeners, is *attempting too much*. All true natural beauty is characterised by simplicity. Persons unaccustomed to generalize, who are incapable of taking in a number of objects at a glance, and of determining the character and effect of their combination, must be quite unequal to the task of setting out a lawn or shrubbery in a tasteful and pleasing manner. The whole of the principal outlines should be finally settled before any operations are commenced; for, to arrange and plant grounds piece-meal not only involves much unnecessary trouble and expense, but will be sure to end, more or less, in disappointment. A common source of error which should be most carefully guarded against, arises from the somewhat natural desire of introducing to one's grounds whatever novelty may be observed in others that seems pleasing to the eye, without due regard to its fitness for the locality, or its relation to what has previously been done.

A place may be irretrievably injured by being too much broken up in its *general arrangement*; and owners of small grounds are peculiarly liable to this mistake. In such situations attempting to introduce the features of extensive grounds, by adopting all their detached portions in miniature, and planting too largely, borders so nearly on the ludicrous that it will be sure to excite ridicule by violating the relations of harmony, and the most obvious dictates of correct taste. In all places—more particularly in moist climates and under clouded skies, characteristics, by the bye, not generally pertaining to Canada—sufficient open space should always be left in grass, to show the extent and figure of the grounds to advantage, as well as to admit the necessary amount of light and circulation of air, to promote the growth and healthy condition of trees and flowers.

It is objectionable in every way to plant thickly immediately around or close to a house, unless it be to hide some offensive deformity. In a climate like ours some amount of shade to a dwelling house is a means of comfort during the heats of summer, while trees afford a desirable shelter against the strong and piercing winds of winter. *Thick* planting, however, not only obscures the house and excludes all prospects of the surrounding scenery from its windows—objects in themselves of great interest and importance to secure, but it sometimes has an

injurious effect on the health of the inmates, by causing dampness and too great an exclusion of light and air.

Belts or strips of trees, forming the boundary lines of small grounds, are quite inappropriate, confining the view, and causing a place to appear much smaller than it would do by a more natural and picturesque distribution of plants and trees. These belts also create in the minds of the observer, the disagreeable feeling of confinement, and they ought never to be employed for the purpose of securing privacy, unless under peculiar circumstances, when there is something positively objectionable which it is desirable to hide.

Mounds and clumps should be only sparingly introduced; they require to be disposed with a sound judgment and cultivated taste, or they will appear but little better than disfigured spots on the landscape. Except in large domains, or situations where it is necessary to hide adjacent buildings or objects, *Alcoves* are not to be generally recommended. When planted in straight lines they become too monotonous to be highly pleasing;—gentle curves greatly increase their beauty, and give the observer an impression of more extensive grounds, and consequently of the higher station and wealth of the owner.

The strictly geometrical style of planting should always be avoided, except in large grounds, and even then its details require to be extremely simple. An elaborate and complicated arrangement of parts looks exceedingly artificial, and ill accords with the simple beauty and majesty of nature. Many places, more particularly small ones, convey to the mind of a discriminating observer a feeling near akin to the ludicrous, mainly arising from the violation of this simple natural law. The great thing to be observed in ornamental planting is to adapt the number, sorts and arrangement of trees to the size, situation, and leading purposes of the grounds; to avoid all unnecessary crowding together of ornaments, and to make art the *handmaid* rather than the *mistress* of nature. In no portion of the world are the true picturesque laws of landscape ornament better understood, or more successfully practised than in the British Islands;—from the simple flower garden and embowered cottage of the peasant, through various gradations, up to the stately mansions, parks, and pleasure grounds of titled landowners or merchant princes: nay, to complete this beautiful chain of associations, we may ascend to a yet higher link, and include the royal and time-hallowed residences of monarchy itself.

The subject of fences, whether viewed in reference to ornamental grounds or the ordinary divisions of the farm, is one of great interest and importance. Rail fences are the only kind at first adapted to a densely wooded country like Canada; and although they detract much from the beauty of the landscape, several generations must pass away before they will be generally superseded by living hedges. There are, however, a number of old settled parts of the country in which fencing timber is already getting scarce, and consequently dear; especially near large towns and cities, where live fences might be attempted both with economy and success—a change that would add much to the beauty and richness of the scenery. The *Buck thorn* has been sufficiently tried in some parts of the neighbouring States to warrant the conclusion that it is well suited for making hedges in our northern latitudes;—it being easily raised from seed, a fast grower, quite hardy, and when properly trained it produces a strong, uniform, and handsome hedge, quite adequate for all ordinary purposes of defence. There can be but little doubt, also, that the common thorns indigenous to Canada, would, under proper treatment, answer for hedges admirably well. The principal things to be attended to are, to place the young plants carefully in well prepared soil, cutting back moderately every year the perpendicular growth; keeping the sides well trimmed so as to encourage width and thickness of growth at the bottom, gradually narrowing off to the top. This form is not only the one most pleasing

to the eye, but it does not allow so great a weight of snow to lodge on the hedge as would otherwise be the case. No hedge can flourish if placed in the shade, or near large trees; and every thing depends upon the attention and kind of treatment it receives, particularly during the first half-dozen years. Indeed this remark applies with equal force to all species of planting. A tree, it should be remembered, is a thing endowed with the wonderful and mysterious principle termed *life*: it is an organic structure, abounding in cells and vessels, many of which are of the most minute and delicate texture. The plant, unlike the animal having no power of locomotion, must passively submit to the influence of the conditions in which it is placed, and the influences by which it is surrounded. Yet from the manner in which planting is commonly performed, trees might be thought to be as hardy as stones. To tear a young tree from the seed bed or the forest, thereby mutilating its roots, which are frequently exposed for several days to the parching action of the sun and air, and then digging a hole scarcely large enough, perhaps, to receive without compression, what roots remain, and after carelessly filling in, pronounce the work of planting done. The results of this fatal mistake are unhappily to be seen, more or less, everywhere. What large numbers of plants under such treatment die the very first year! how many keep up for a series of years what perhaps is even worse, a constant struggle between life and death, a phenomenon any thing but pleasant for an educated eye to look upon; and it may well be asked how very few indeed—by what must be considered the merest chance—ever reach the point of perfect maturity, and their natural proportionate development.

For planting of any kind to succeed, the ground must in the first instance be deeply worked, and when necessary manured and drained. The young plants should be carefully removed, and as carefully placed in their new and final situations; the depth to be regulated, in some degree, in accordance with the natural habits of the tree, but *deep* planting, especially in wet soils, must in the generality of cases inevitably result in failure. Nor is the planters care at an end when the young tree has been placed in the ground, even though the most liberal and scientific preliminaries may have been scrupulously observed. The *after management*—especially in case of fruit trees—such as loosening the surface and keeping down weeds, occasional manuring or mulching, (the latter a practice in our hot summers of the greatest benefit) judicious pruning, and protection against cattle, swine, and even insects, as far as it is practicable, is absolutely necessary to insure uninterrupted progression, and complete and final success.

But I must draw these, which I cannot help feeling will be thought somewhat desultory observations, to a conclusion. I am unwilling, however, to do so without adverting distinctly to the great importance of promoting through our public institutions and by all the practicable means in our power, the knowledge and love of nature and of art among the great masses of the people. To enlarge their minds and the exercise of their social sympathies, and to purify and elevate their tastes, should be the great work which all who are friendly to the advancement of their country and race should undertake in an earnest and hopeful spirit. To form that habit of mind which enables us to associate with all the works of the Creator, reverential and elevating feelings, opens up an unfailing source of true and permanent enjoyment. The beautiful as well as the sublime in landscape has a moral, a refining, and an ennobling power over the soul, favorable to the growth of the higher virtues, and of a pure and exalted piety. The intelligent observer of nature cannot fail to find,

“Tongues in trees,
Books in the running brooks;
Sermons in stones,
And good in every thing.”

THE PROGRESS OF ENGLISH AGRICULTURE.

[The subjoined article from the current number of the *Quarterly Review*, we are tempted, from its great intrinsic value and practical applications, to give entire. It scarcely admits of abridgment, and it will no doubt be read with both profit and pleasure by many of our readers. To trace the various stages of the advancement of agriculture in England, will afford a generally correct indication of the way which we must pursue in Canada, in order to secure similar results. We should be happy to see a similarly able pen employed on the history and progress of Scottish and Irish Agriculture, thereby covering the entire area of the British Islands.]

In the year 1856 a few Englishmen accepted the invitation of the French Government, crossed the Channel with their best live-stock and implements, entered into competition with the picked agricultural and mechanical skill of continental Europe, and found themselves by a long interval first in the arts and sciences required for producing meat and corn in the most economical manner, under a climate not eminently favourable, and on land which has long lost its virgin fertility. This is the problem which modern cultivators have to solve.

The live-stock of the British Islands are distinguished for three merits—the early period at which they become ripe for the butcher, the great amount of food they produce in return for the food they consume, and the large proportion of prime meat which they yield.

The agricultural implements of England are distinguished for solidity of construction, simplicity of details, and economy in price, as well as for the rapidity and completeness with which they execute their work—especially that class of work which in other countries is more imperfectly and expensively performed by the labour of men or cattle.

The best evidence of the superiority of British live-stock and agricultural machinery will be found, not in the premiums and medals awarded to them in Vienna or Paris, but in the constantly increasing exportation of both to every part of the world where scientific cultivation has superseded the rude expedients of earlier times. As to implements, said the Earl of Carlisle, in addressing an agricultural gathering of Yorkshiremen, “I saw on the plains of Troy the clod-crusher of Crosskill, the drills, the horse-hoes of Garrett, and the ploughs of Howard and Ransome.” On the banks of the Danube, Scheldt, and the Po, of the Mississippi and the Amazon, on the shores of the Baltic and the Black Sea, in the new continent of Australia, or in Flanders, the cradle of modern agriculture, English implements have the same preference as on the plains of Troy.

Farmers are prosperous, landlords are intent on improving their estates, labourers have ceased to hate the drill and the threshing machine; during the past harvest the reaping machine has come into working use; and competent judges are of opinion that an economical steam-cultivator has been almost perfected. The time seems propitious for reviewing the series of events which during the last hundred years have combined to place English agriculture in the position which it now by universal consent enjoys. Different men and different means have, in important particulars, founded the agricultural prosperity of Scotland, although the two kingdoms have more than once exchanged improvements. A Scotchman only can do justice to the unwritten history of Scotch agriculture.

There is rarely a great invention received by the world of which the germ is not to be found in some preceding age. This is the case with the system of

artificial manures, which has recently worked such wonders in agriculture, and which is touched upon as follows in "The new and admirable Arte of Setting Corne," by H. Platte, Esquire, published in 1601 by "Peter Shorte, dwelling at ye signe of ye Starne on Bred Street Hill:"—

"Shanvings of horne, upon mine own experience, I must of necessity commend, by means whereof I obtayned a more flourishing garden at Bishopshal, in a most barren and unfruitful plot of grounde, which none of my predecessors could ever grace or beautifie either with knots or flowers. I have had good experience, with singular good success, by strewing the waste sope ashes upon a border of summer barley. Malte duste may here also challenge his place, for foure or five quarters thereof are sufficient for an acre of ground. And sal armoniake, being a volatile salt first incorporated and rotted in common earth, is thought to bee a rich mould to plant or set in. Dogges and cattes and other beastes, and generally all carrion, buried under ye rootes of trees, in due time will make them flourish and bring forth in great abundance."

Thus we find that so long as two hundred and fifty-seven years ago an Englishman "had discovered the utility of ammonia in bones and flesh." Even in agricultural implements great inventions were suggested, and forgotten, because the farmers of England were not prepared to receive them. The reaping-machine carries us back to the agriculture of the Gauls. The horse hoe, the drill, and the water or wind driven threshing machines were employed in a few obscure localities, but it was not until necessity made farmers adventurous, and facilities of communication rendered one district conversant with the doings of another, that they grew into general use. Whatever, therefore, might have been effected on particular estates, the condition of English agriculture at the close of the eighteenth century nearly resembled that of the greater part of continental Europe at the present time. Wheat in many districts was rarely cultivated and rarely eaten by the labouring classes. Rye, oats, and barley were the prevailing crops: a naked fallow, that is to say, a year of barrenness, which was too often a year of exhausting weeds, was the ordinary expedient for restoring the fertility of soil. Farm-yard dung, exposed to the dissolving influence of rain, and carelessly applied, was almost the only manure. Artificial grasses, with beans, peas, and cabbages, were rarely grown, and turnips were confined to a few counties, where they were sown broadcast. Cultivation (except ploughing and harrowing) was performed almost entirely by manual labour; the rude implements were usually constructed on the farm, and often in a way to increase labour instead of to economize it. The cattle were chiefly valued for their dairy qualities or for their powers of draught, and were only fatted when they would milk or draw no longer. The greater number of breeds were large-boned and ill-shaped, greedy eaters, and slow in arriving at maturity: while, as very little winter food, except hay, was raised, the meat laid on by grass in the summer was lost, or barely maintained, in winter. Fresh meat for six months of the year was a luxury only enjoyed by the wealthiest personages. Within the recollection of many now living, first-class farmers in Herefordshire salted down an old cow in the autumn, which, with fitches of fat bacon, supplied their families with meat until the spring. Esquire Bedel Gunning, in his "Memorials of Cambridge," relates that, when Dr. Makepeace Thackeray settled in Chester about the beginning of the present century, he presented one of his tenants with a bull-calf of a superior breed. On his inquiring after it in the following spring, the farmer gratefully replied, "Sir, he was a noble animal; we killed him at Christmas, and have lived upon him ever since."

The reclaiming wild sheep walks, an improvement in the breeds of live stock, an increase in the quantity of food grown on arable land for their support, and a better rotation of crops, are the events which distinguish the progress of

English agriculture during the last century. The next step, after some advance had been made, was to break down the barriers which separated the farmers of that day, and which left them nearly as ignorant of what was going on in every district besides their own as of what was passing in China or Japan. The active agent in this work was the son of a prebendary of Canterbury—the well-known Arthur Young, one of the most useful and sagacious, if not one of the most brilliant of men. Within the last twenty years, railways, the penny postage, and a cloud of newspapers have rendered personal and written communication universal. Let a superior animal be bred, an ingenious machine invented, or a new kind of manure be discovered, and in a few days the particulars are circulated through the press round the whole kingdom, and bring visitors or letters of inquiry from every quarter. But in the time of Arthur Young the most advanced counties communicated with the metropolis and each other by thoroughfares which could hardly be traversed except by a well-mounted horseman, or a broad-wheeled waggon drawn by twelve horses, while as “not one farmer in five thousand read anything at all,” the printing-press could not supply the place of personal inspection. Norfolk, with a subsoil which allowed the rain to filter through, boasted her natural roads, and the inhabitants quoted with pride a saying of Charles II., that the county ought to be cut up to make highways for the rest of the kingdom. But this only proved how deplorable was the condition of the other parts of the country, for when Young visited Norfolk he did not meet with a single mile of good road. In Essex he found lanes so narrow that not a mouse could pass a carriage, ruts of an incredible depth, and chalk-waggons stuck fast till a line of them were in the same predicament, and it required twenty or thirty horses to be tacked to each to draw them out one by one. The thorough-fares in fact were ditches of thick mud cut up by secondary ditches of irregular depth. In attempting to traverse them, Young had sometimes to alight from his chaise, and get the rustics to assist him in lifting it over the hedge. Such was the state of things when, in 1767, he abandoned the farm in which he had experimented too much to be successful, and, availing himself of the frank hospitality which has in every age been the characteristic of our farmers and country gentlemen, made those celebrated “Tours,” which are absolute photographs of agricultural England, and are models of what all such reports should be—graphic, faithful, picturesque, and philosophical! His work, however, affords numerous instances of the danger of any man pronouncing opinions upon subjects which he has never studied. His candid confession that he has no technical knowledge of the fine arts does not diminish the absurdity of the judgments he frequently passes upon the houses and paintings he met with in his journeys. He viewed the human form in much the same light that he regarded cattle for the butcher, for after enumerating three pictures by Rubens at the seat of Sir Gregory Page on Blackheath, he adds, “They are fine in his general style; the females *capitally plump*.” Of a poulterer’s shop in the same collection he says, “The exact imitation of the basket will make you smile with pleasure.” Nothing more can be required to show that he looked at paintings with the eye of an agriculturist.

About half a century after Young had published his principal English tours, another celebrated man copied his example, and made his “Rural Rides” through various counties between the years 1821 and 1832. It would be natural to refer to this entertaining work of Cobbett to discover the changes which had taken place in the interval, but scarce a notion can be gleaned from it of the condition of agriculture. Superior to Young in talent, in force of language, and in liveliness of style, though not surpassing him in lucidity, which was impossible, he is, beyond comparison, inferior to him in information and candour. The “Rural Rides” are little better than a collection of reckless invectives, hardy assertions,

and insolent bigotry. Clever as is Cobbett's abuse, it derives much of its amusement from its effrontery and its ludicrous disproportion to the occasions which excite it, like the fits of passion of Sir Anthony Absolute. His very prejudices raise a smile by their extravagance, and it is no paradox to assert that a large part of the merit of the book is in its faults, if there is merit in a piquancy which the reader relishes while he condemns. Beyond a certain perception of the beauties of Nature, there is an entire absence of elevating sentiment. His ideas for improving the condition of the peasantry, about which he talked so much and so furiously, usually centre in fat bacon and strong beer, the superiority of which to Christian instruction is one of his favourites' vaunts. The ministers of religion of all sects had a determined opponent in him, and he classes them among the pests of society. "Coming," he says in his "Rural Rides, through the village of Benenden, I heard a man at my right talking very loud about *houses! houses! houses!* It was a Methodist parson in a house close by the road-side. I pulled up, and stood still, in the middle of the road, but looking, in silent soberness, into the window (which was open) of the room in which the preacher was at work. I believe my stopping rather disconcerted him, for he got into shocking repetition. Scarcely had I proceeded a hundred yards from the place where this fellow was bawling when I came to the very situation which he ought to have occupied—I mean the *stocks*." And then he proceeds to bawl himself upon the uselessness of stocks unless the legs of Methodist parsons are seen peeping out of them. This was the toleration of a man who assumed to himself a greater license in speaking and writing than any other person of his age, not even excepting O'Connell, and who was always demanding unbounded liberty to say anything however extreme, in any language, however virulent. But his inconsistencies of opinion and conduct were endless. "I got clear of Tunbridge Wells," he relates in one part of his "Rural Rides," "by making a great stir in rousing waiters and boots and maids, and by leaving behind me the name of a noisy, troublesome fellow." This seems to have been his pride in his works as well as his travels, and, provided he could be noisy and troublesome, he cared not at all to be just or decent. Devoting a large portion of his life to agriculture, and having won by his talents and his pungency the ear of the public, he did nothing whatever to advance the science. His powerful and reckless pen was chiefly employed in maintaining errors; and while Young, by the accurate record of impartial observations, has left his footmark deeply printed upon the soil, the turbulent cleverness of Cobbett was like a wind which makes a great stir at the moment, and then is hushed for ever. The name of Arthur Young will always be mentioned with gratitude in every record of British farming; the name of Cobbett, if it is mentioned at all, will only be quoted as a warning. On recurring to his "Rural Rides," we have found them next to a blank upon the subject of which they profess to treat; and though abuse, egotism, conceit, dogmatism, and prejudice, when set off by vivacity, may make amusing reading, they contribute nothing to the promotion of agriculture.

Foremost among the men whose merits Arthur Young helped to make known to his contemporaries and hand down to posterity, was Robert Bakewell of Dishley; a man of genius in his way, for he laid down the principles of a new art. He founded the admirable breed of Leicester sheep, which still maintains a high reputation throughout Europe and the United States of America; and although he failed in establishing his breed of "Long-horn cattle" and of "black cart-horses," he taught others how to succeed. The yeoman farmer had not yet removed to a "parlour," and Bakewell sat in the huge chimney-corner of a long kitchen hung round with the dried joints of his finest oxen, preserved as specimens of proportion, "a tall, stout, broad shouldered

man of brown-red complexion, clad in a brown loose coat and scarlet waist-coat, leather breeches, and top-boots. There he entertained Russian princes, French and German Royal Dukes, British peers and farmers, and sight-seers of every degree." Whoever were his guests, they were all obliged to conform to his rules. "Breakfast at eight o'clock, dinner at one, supper at nine, bed at eleven o'clock; at half-past ten o'clock, let who would be there, he knocked out his last pipe. There he talked on his favourite subject, breeding, 'with earnest yet playful enthusiasm;' there, "utterly indifferent to vulgar traditional prejudices," he enumerated those axioms which must ever be the cardinal rules of the improvers of live stock. "He chose the animals of the form and temperament which showed signs of producing most fat and muscle," declaring that in an ox "all was useless that was not beef;" that he sought, "by pairing the best specimens, to make the shoulders comparatively little, the hind-quarters large;" to produce a body "truly circular, with as short legs as possible, upon the plain principle that the value lies in the barrel and not in the legs," and to secure a "small head, small neck, and small bones." As few things escaped his acute eye, he remarked that quick fattening depended much upon amiability of disposition, and he brought his bulls by gentleness to be as docile as dogs. In sheep his 'object was mutton, not wool, disregarding mere size,' a vulgar test of merit. Dr. Parkinson told Paley that Bakewell had the power of fattening his sheep in whatever part of the body he chose, directing it to shoulder, leg, or neck, as he thought proper, and this, continued Parkinson, "is the great *problem* of his art." "It's a lie, sir," replied Paley, "and that's the *solution* of it." The account of Parkinson was, indeed, a mistake as to the mode by which Bakewell produced his fat stock, but it was no exaggeration as to the result.*

The great physiologist, John Hunter, confirmed in one essential particular the observations of Bakewell, for he asserted that in the human subjects he had examined he found small bones a usual concomitant of corpulence. Mr. Clive, the celebrated surgeon, who paid much attention to the breeding of cattle, also came to the conclusion that extremely large bones indicated a defect in the organs of nutrition. But "fine-boned" animals were in fashion when Bakewell commenced his career, and to the majority of people it seemed a step backwards to prefer well-made dwarfs to uncouth giants. One or two enlightened persons having suggested at Ipswich fair that a piece of plate should be presented to Arthur Young for the public service he had rendered in introducing the Southdown Sheep into Suffolk, a farmer determined to put forth the counter-proposition, "that he was an enemy to the county for endeavoring to change the best breed in England for a race of *rats*." The tenantry of that period were strong in the self-confidence of ignorance. "To attempt to reason with such fellows," said Young of some of those he met with in his tours, "is an absurdity," and he longed to seize a hedge-stake in order to break it about their backs. Even if they were persuaded to try some improvement to which they were not previously inclined, they reported that "their experience" was

* Archbishop Whately has adduced Bakewell's discovery to illustrate a position in his treatise on "Logic," and he puts in such a clear light one portion of the great cattle-breeder's mode of proceeding, that we quote the passage: "He observed in a great number of individual beasts a tendency to fatten readily; and in a great number of others the absence of this constitution: in every individual of the former he observed a certain peculiar make, though they differed widely in size, colour, etc. Those of the latter description differed no less in various points, but agreed in being of a different make from the others: these facts were his data. . . . His principal merit consisted in making the observations, and in so combining them as to abstract from each of a multitude of cases, differing widely in many respects, the circumstances in which they all agreed."

unfavourable to it—their experience being in reality the forgone conclusion which was antecedent to experience, and which blinded them to the results of experience itself. The graziers who adhered to the old huge-skeleton race of stock were accustomed to give as the reason for their preference that a beast could not get fat unless there “was room to lay the fat on.” It would have been just as rational to argue that none but farmers of large stature could have felt Young’s proposed application of the hedge-stake, because in smaller men there would not be room to lay it on. Numbers of short, round, tub-like agriculturists, who uttered the current excuse for breeding bones in preference to flesh, were living representatives of the fallacy of their assertion. But there were others who were not slow to see the truth. A Southdown ram belonging to Arthur Young got by accident to a few Norfolk ewes of a neighbouring farmer. When the butcher came in the summer to select some lambs, he drew every one of the Southdown breed, which, he said, were by much the fattest in the flock. The owner instantly took the hint. Upon the whole the principles of Bakewell were more favourably received than most innovations in that day, and some of the pupils succeeded in improving upon the stock of the master. The brothers Collinges in Durham established the Durham or Teeswater breed, now known as the “Short-horn,” which soon superseded the Long-horn, and every other kind where both flesh and milk were required. It is this which furnishes the true meat for the million; and it appears from the account of Mr. Robert Morgan, the great cattle salesman, who sells about 400 beasts a-week, that, while other favourite breeds are on the decline, this, with its crosses, has increased upwards of 10 per cent. Quarty successfully applied himself to improving the curly-coated North-Devon. Price took up the Hereford, and Ellman of Glynde the Southdown sheep, then little better than half-a-dozen other heathland kinds. The emulation gave rise to the forerunner of the modern fat cattle show, in single oxen of monstrous size, dragged round the country in vans, and with such success that in 1800 a Mr. Day refused £2000 for the Durham ox he had purchased two months previously for £250. Graziers who were not able to join the sheep-shearings of Holkham or Woburn, who did not read the agricultural works of Arthur Young, and would not have been convinced if they had, found their prejudices in favour of local breeds shaken by a personal interview with gigantic specimens of the Teeswater ox.

THE SPRING SHOW OF THE ROYAL DUBLIN SOCIETY.

The Annual Exhibition of this long established and important Society, was held in the last week of April, on the Society’s premises, in Kildare Street. A glass and iron building of large extent, and possessing a pleasing architectural expression, is in the course of erection, and which, on this occasion, was so far advanced as to be partially used. It has been pronounced among the best Exhibitions of the Society. The *Mark Lane Express* observes:—“The short-horns came out very strong, and were beyond all praise,—134 yearling bulls. The beauty of the short-horn stock was the common talk.” *Lamp of Lothian*, a remarkably beautiful yearling short-horned bull, belonging to Mr. Douglass, of Athelstaneford, Scotland, obtained the first prize and gold medal, and was purchased, to be retained in Ireland, for 250 guineas! Another prize yearling of this breed, was hired for the season at 100 guineas. In the two year old section, the first plate, and the medal as the second best of all the prize bulls, was awarded to Mr. Christy’s *Foundation*, a well-executed wood engraving of which, and also of a very fine two-year old short-horn heifer, are given

in the *Irish Farmer's Gazette*, a weekly agricultural paper of the first class. *Foundation* is described "as a bull of immense substance, wide and deep chest and carcass, good quarters, and altogether an animal which has never belied his first promise. His services for the season have been secured by the Marquis of Waterford for 100 guineas, with the option of purchasing at the end of the season for 200." The Herefords were poorly represented, as were the Ayrshire and Alderney breeds, and the Devons appear to have had nothing very remarkable. The show of Kerries is described as being uncommonly good and numerous. "It is to be hoped," says the *Gazette*, "that some Kerry Collings will yet arise to develope the peculiarities and otherwise improve this very nice breed. As pet villa cows, really good Kerries cannot be surpassed."

The sheep department is described as being extensive, and generally of good quality. Mr. Beale Brown exhibited a magnificent shearling ram, and pen of three hoggets rams, of the purest Cotswold blood. It is said that these sheep constitute a portion of the *Seventy Cotswolds*, with which Mr. Brown, as the breeder, has challenged the world for a thousand guineas to produce their match.

In pigs the Exhibition was numerous, and of superior quality. Three prize sows were sold for £50, and a prize boar for 10 guineas. The poultry department was unprecedentedly extensive and of superior quality; but the show of horses was considered inferior to previous Exhibitions.

In implements and machines the Exhibition was unprecedentedly rich and extensive; many of the principal makers, from different parts of the United Kingdom, having stands, well filled with their characteristic productions. Among the novelties may be instanced a newly invented self-acting *Corn-meter* for stables, by which the feeds can be regulated at pleasure, at from 6 to 16 measures per bushel, and the number of feeds abstracted registered from 1 to 200. Mr. Harper is the inventor, an Irish manufacturer.

Mr. Haywood, of Derby, England, exhibited his two and three horse portable steam engines with vertical cylinders. "We look (remarks the *Gazette*) upon these small power steam-engines as a desideratum in Ireland; they are capable of threshing, grinding corn, and driving chaff cutters, turnip shears, or pulpers, cake breakers, saw mills; and the steam may be turned off for preparing chaff, &c., for feeding. We have examined them closely, and to our judgment they are made of durable materials, in the best manner, and perfectly safe with ordinary care, and the price, not more than that of a pair of good horses, is within the compass of most farmers holding from 50 to 100 acres, they are easily drawn about by a small poney, and may be stored away when not in use in any ordinary shed. The fuel used was Irish turf, and that of not a very good quality, which raised the steam just as well and rapidly as coal, a further proof of their being available in the interior of the country. With the exception of the last London Smithfield Show, this is the first time they have been exhibited at any agricultural exhibition." Machines of a similar kind, cheap, portable, and not easily put out of order, are well suited to the wants of our better class of farmers in the older settled districts of Canada.

JUVENILE HORTICULTURAL SOCIETY.

We learn, with much pleasure, that a Juvenile Horticultural Society has been organized at Berlin, C. W., with every prospect of success.

"Mr. A. Young, (observes the *Telegraph*), a lover of improvement in the cultivation of plants and flowers, has been instrumental in forming the above

named society, and has kindly consented to superintend it. The object of the society is to create and encourage a taste for Horticulture in its various branches. Mr. Young deserves great credit for his exertions in organizing this society which must prove of great advantage to the rising generation. We hope the parents and others will do all in their power to aid him in forwarding so laudable an undertaking."

This is a most praiseworthy example, to which we wish every success, and hope to see it followed in many parts of the Province. In all the older settled portions of the country Horticulture should begin to receive special attention. It is a most interesting and valuable pursuit, the natural ally of agriculture; they mutually illustrate and assist each other. The culture of flowers falls peculiarly within woman's province, and we shall be happy to be assured that our fair readers are generally interesting themselves in so beautiful and refining a pursuit. Who that has ever seen the cottage-homes of England, with their bowers of honey-suckles, roses, &c., and small patches of tastefully-arranged and carefully-cultivated flowers, but must desire to witness the reproduction of such refining and attractive objects in this country. A taste for these things is, like order and cleanliness, closely allied to the higher moral virtues, and may be ranked among the safeguards of domestic purity and contentment. While the cultivation of fruits and vegetables occupies a position of high economic importance in all civilised communities, and ministers largely to the comfort, health, and happiness of mankind. Let the spirit which animates our young friends in Berlin only become general,—a result to which all true education should tend,—and instead of a few Horticultural Societies, indifferently supported in a few of our larger towns, such organizations would shortly cover all the older settled portions of the Province, and exercise a powerful influence in refining the taste, and in adding to the solid comforts and material happiness of all classes of the community.

CANADA—ITS PRODUCTIONS AND RESOURCES.

The Journal of the Society of Arts, England, contains a very interesting paper read at a meeting of the Society on 12th May, 1858, by Professor Jno. Wilson, F.R.S.E., "On Canada, its productions and resources." Although much of the information contained in the paper, will not be new to many of our readers, still, as it is always more or less interesting to hear what is said of our country at a distance, and as information promulgated by so important an institution as the Society of Arts will exercise great influence in England, we copy a considerable portion of the paper and of the discussion upon it. We may add that Professor Wilson has shown himself a warm and active friend of Canada in connection with the display of her products at the great Exhibitions at London, Paris and New York, and on various other occasions. The learned Professor commences with a hasty sketch of the early political history and settlement of the Province, of its geology and physical geography, and of its mineral wealth. He then continues:—

This slight sketch of the mineral produce of the country, so far as at present explored, is, or ought to be, sufficient to show what immense resources can be offered to industrial enterprise when agriculture has occupied her surface and pioneered the way, and few countries can offer more temptation to the occupier of the soil. Although Canada has been denuded of all those secondary and tertiary formations which give such interest to the geology of our own country, the older rocks, which we are accustomed to associate with ideas of a thin, cheerless, and unfertile surface, have been largely covered up by post-tertiary, the most recent of our terrestrial deposits. Here we have both the chemical and physical elements of fertility, and happily these are spread over extensive areas throughout the Province. The greater portion of the surface of the country is occupied by the inter-stratified clays and sands of these deposits, giving, according to their relative admixtures, every variety of texture, and forming soils of great fertility, especially when in contact with the outcrops of the limestones and feldspars of the subjacent rocks. In this formation those beds of peat are met with, which, in the absence of coals, and with the decreasing supplies of wood, are already becoming of importance to the district in which they occur.

You have only to run your eye over the map of Canada, and you will see the admirable disposition of land and water throughout the entire extent of the country; the magnificent St. Lawrence, the backbone of the system, with its head waters in Lake Superior, and its other extremity in the broad Atlantic, 2,000 miles off, is the main link in the chain of Canada's present and future prosperity. Along the waters of this grand river, every district of Canada, ay, and of the mighty "West" too, finds a high road to the ocean—there free to take its produce to the markets that pay the best. Its tributaries, some hardly inferior in importance to itself, stretch right and left into regions where the woodman's axe alone breaks the solitude of the primeval forest, and connect the lakes and rivers of the interior with the ocean—and with those better known to us, on whose shores man has fixed his abode. Look at the Saguenay, with a tidal range of 10 feet to a distance of 80 miles from its mouth; the St. Maurice, with a length of some 300 miles; the Richelieu—connecting Lake Champlain with the St. Lawrence; the Ottawa, or Grand River—a river destined to occupy an important page in the future of the country—not only as a rival highway for the commerce of the west, but as possessing on its banks the newly-chosen Capital of Canada.

The enormous fresh water lakes or inland seas are too well known to need more than a passing notice. The first we come to, 756 miles from the sea and 234 feet above its level, is Lake Ontario, 180 miles long and 50 miles wide, with a depth of 100 fathoms, and having a surface area of nearly 6,600 square miles. Then comes Lake Erie, 1,041 miles from the sea, and 564 feet above its level, the difference in level being overcome by the Welland Canal, one of the finest specimens of canal engineering in the world. Here we have an expanse of water 240 miles long by 54 miles broad, covering an area of nearly 12,000 square miles. Crossing the small Lake St. Clair, 24 miles long by the same in breadth, we reach Lake Huron, 240 miles long by 90 miles broad, with a surface area of about 18,000 square miles, at a distance of 1,350 miles from the sea, and 573 feet above its level. We now approach Lake Superior, the head waters of the St. Lawrence—a short but stupendous canal, constructed by the United States, connecting the two lakes, and completing the chain of navigation for sea-going vessels 2,000 miles into the interior of the country. The vast expanse of water of this lake, the largest in the world, with a length of 333 miles by 160 miles broad, giving a surface area of 32,000 square miles, is at present the end of the St. Lawrence navigation; but a glance at the map will show you that there are chains of rivers and lakes stretching far out into the north-west which some day will play the same part as those already named have done in the advancement of civilisation, and be made subservient to the purposes of man's welfare.

This bountiful distribution of water, and beautifully developed river system, has a broad bearing not only on the general welfare, but upon the very existence of the country. The great and ready powers of transport it affords are as nothing compared with its influence over the climate, the vegetation, and the health of the country. In these we recognise the bounteous provision which gives to the inland portions of the country almost an insular climate, and softens down those extremes of temperature which form such permanent barriers to the occupation of the "mighty West."

The two points most affecting climate and vegetation are temperature and rainfall. Let us see what the meteorological records of Her Majesty's Observatory at Toronto tells

us. We have a digest of the range of the thermometer for 11 years, from 1840 to 1850 inclusive :—

	Max.	Min.	Range.	Mean.
January.....	45.33°	4.41°	49.74°	24.67°
February.....	46.35	4.37	50.72	24.14
March.....	53.31	7.59	45.92	30.83
April.....	71.44	17.96	53.48	42.17
May.....	76.76	28.82	47.94	51.84
June.....	76.44	35.72	40.72	61.42
July.....	88.11	44.05	44.06	66.54
August.....	83.98	45.02	38.95	65.76
September.....	80.19	32.07	48.12	57.11
October.....	66.10	22.17	44.30	44.50
November.....	57.03	13.38	43.60	36.57
December.....	45.25	3.52	46.27	27.18

Annual Mean, 44.39°

These data show us that February is the coldest, and July the hottest month in the year; that there are four months—December, January, February, and March—when the average temperature is below 32°; there are three months—April, October, and November—during which the temperature remains below the mean temperature of the year; and that there are five months—May, June, July, August, and September—when the temperature is above the annual mean, and which constitute the growing season in Canada.

The average rainfall, calculated from the records of a series of years, gives the following results:—

	Days.	Inches.
January.....	4.6	1.701
February.....	3.9	1.038
March.....	5.7	1.613
April.....	8.7	2.571
May.....	10.3	2.975
June.....	10.7	3.042
July.....	8.9	3.720
August.....	9.3	2.719
September.....	10.6	4.458
October.....	11.2	2.929
November.....	9.2	3.026
December.....	5.1	1.522

Thus showing an average rainfall of 31.364 inches occurring on 97.3 days, and distributed nearly equally over the agricultural year.

To this must be added the average snow-fall, which amounts to 61.9 inches per annum. If we compare the extremes of temperature (taking summer and winter means,) between Toronto and the Western States of the Union, we find them entirely in favour of Canada.

	Latitude.			Deg.
	Deg.	Min.		
Canada, at Toronto.....	43	39	the difference is	39°
Iowa, Muscatine.....	41	30	“	45°
Illinois, Fort Armstrong.....	41	23	“	49°05
Wisconsin, Fort Crawford.....	43	03	“	50°89
Missouri, Council Bluffs.....	41	45	“	51.34
Minnesota, Fort Snelling.....	44	53	“	56°60

If we compare the temperature and rainfall with those of this country, we find eth equally favourable results, our mean temperature being about 50° and our average rainfall about 28 inches, occurring on 155 days, showing a slight difference in favour of Canada.

As a proof that this excess, so important to vegetation, is not so high as to be injurious to health, the vital statistics of the province, compared with those of other countries, gives satisfactory evidence.

In Turkey, the deaths are to the population as	1	in	30
“ Prussia “ “ “ “	1	“	39
“ Portugal “ “ “ “	1	“	40
“ Spain “ “ “ “	1	“	40
“ Switzerland “ “ “ “	1	“	40
“ Austria “ “ “ “	1	“	40
“ Norway and Sweden “ “ “ “	1	“	41
“ France “ “ “ “	1	“	42
“ Belgium “ “ “ “	1	“	43
“ Russia (Europe) “ “ “ “	1	“	44
“ Denmark “ “ “ “	1	“	45
“ England “ “ “ “	1	“	46
“ United States “ “ “ “	1	“	71
“ Canada “ “ “ “	1	“	98
“ “ (Upper) “ “ “ “	1	“	102
“ “ (Lower) “ “ “ “	1	“	92

These remarks refer chiefly to Canada West, the meteorology of Canada East not having received the same attention. We know, however, that the extremes of summer and winter temperature are greater in the valleys of the St. Lawrence and Ottawa than south of the 44 deg. parallel; that though the winter is somewhat longer, the air is clear, dry, and bracing. The snow usually comes on at the beginning of December, and disappears about the middle of April, remaining on the ground three or four weeks longer than in the western part of the province. The snow-fall is looked for with great anxiety, especially in the thinly-settled districts, as it furnishes a natural railroad for transport and traffic, which, in a new country, where roads are necessarily few and imperfect, is of great importance. As the country becomes cleared and inhabited, the snowfall gradually diminishes, thus appearing to obey the laws of civilization, subserving to the wants of the settler in the early days of his necessities, and urging him to other resources as his age advances and his powers increase.

After giving some general statistics of productions, population, &c., the Professor proceeds:

“ If we take the present productive returns of the cultivated lands as a basis for our calculation, it would be seen that the already occupied land in the colony would support a population of about 10,000,000 inhabitants, and if the present progressive rate of increase is sustained, a writer in “*Hunt’s Merchant’s Magazine*” tells us, that at the close of the present century we may expect to see Canada occupied by a population something like 20,000,000 in number. Whatever her numbers may be, it is quite certain that for years to come the great strength of the country will lie in the productions of her soil. With these she will pay for our manufactures; her surplus will supply our wants, and our surplus will administer to her necessities and comforts, and thus the scales of commercial benefit be kept pretty evenly balanced.”

SOCIAL CONDITION, &c.

It is quite clear, I think, that there is ample space in Canada for a largely increased population, and it is equally clear, if we may judge from the past, that every increase is followed by a generally increased prosperity. To induce this by means of immigration, the government have lately offered free grants of land along three great arterial lines of road, which have been recently opened up and laid out for settlement. (These you will see marked on the map lying between the Ottawa and Lake Huron.) The grants are not to exceed 100 acres to each, and are offered on the following terms:—[The terms of settlement having been pretty generally published, we need not here repeat them.]

These lands are generally of very excellent quality, and well-adapted, in respect to soil and climate, to all the purposes of husbandry.

Australia excepted, no country can furnish such singular instances of the rise in the value of surveyed lands as the last five years have witnessed in Canada. The development of the railway system throughout the Province has been the principal agency by which this has been effected. When we recollect that 1852 saw Canada without a single railway, and that 1857 saw her with 1,500 miles completed, and 500 miles more in process of construction, the rise in the value of land is readily understood. The lines of railway must be looked upon as a series of accessible markets for the country they serve. The natural consequence is, that every product of the farm has acquired a certain money value, although before this new access to market it may have been absolutely valueless. The immense remuneration thus obtained for the same outlay of labour has greatly enhanced the value of capital. Land in old settlements, remote from lake ports, has doubled itself in value in five years; while wild lands in new settlements, near to which a railway passes, have trebled their value within a shorter period. These all-powerful means of communication have opened up the country, made available a vast amount of inert wealth, stimulated industry, and effected a complete revolution in farming economy within a range of twenty miles on either side of the course they take.

In all countries similar results have followed the introduction of railways, but in Canada, where lakes having formed the chief means of intercommunication, which were closed to all traffic during the winter months, the results are naturally more felt and more strongly marked. If we turn to the map we see the numerous lines already intersecting the centres of industry and population, while the Great Western Railway, running from Niagara to Detroit River—some 230 miles—and the Grand Trunk line stretching from Lake Huron in the west, down to Trois Pistoles on the east, connect all these lines with each other, and also with the seaports both of St. Lawrence and the open Atlantic. This gigantic undertaking, rivalling in its magnificence the great river system of North America, already has 849 miles in traffic operation. Its length, when complete, will be 1,112, and it will stand first among the railways of the world, not only on account of its exceeding length, but more especially for that triumph of engineering skill, which will carry the line of rails across the broad and rapid St. Lawrence, by a tubular bridge, of stupendous proportions, and nearly two miles in length. This (which is to be called the Victoria Bridge) will be complete and open for traffic in 1860; fourteen piers out of the twenty-four are finished, and it is expected that eight or nine of the tubes will be in their places by the end of the current year. The expenditure, so far, has amounted to £712,192, out of £1,250,000, the contract price.

Whatever may be the results of these railways as mere objects of investment, whether at first they are remunerative or not, this much is beyond question, that the extent and nature of the benefits they confer on the districts which they serve cannot be too highly estimated. The Railway policy of Canada has been successful, from its boldness and completeness—it has had all the advantages of home experience and home capital; home interests are largely mixed up with its success—and one of the best ways to ensure that, is to make known, far and wide, the advantages it offers to those who are about to seek a new home in the fertile lands of the Western world. I regret that my time will not allow me to give you any details of the admirable arrangements by which the traveller or the emigrant is conveyed for *one payment* from the principal ports of this country, or, indeed, of Europe, to the confines of Canada, and farther still, the extreme boundaries of the United States—Kansas, Nebraska, or Texas; neither can I do more than give a very slight sketch of the great water highway, along which a vessel, sailing from Lake Michigan, finds its way to the broad Atlantic, and, in due time, hands over to the merchant at Liverpool the goods that were shipped at Milwaukee or Chicago. The natural difficulties of the great water roads of the country have submitted to the skill of man, and the canals, both proper and subsidiary, justly rank among the most successful evidences of Canadian enterprise.

The greatly increasing land traffic developed by the railways is urging forward a demand for increased facilities by water, to supplement either their area of service or their carrying powers. Already we find (by last half-yearly Report of the Grand Trunk Railway) a line of screw steamers of large tonnage preparing to run from the Michigan ports to Collingwood—the Northern Railway terminus, on Lake Huron—while at South Quebec, the principal terminus of the Grand Trunk Railway, a very important undertaking, of considerable magnitude, is already in active progress, under the title of the “St. Lawrence Dock and Wharfage Company,” which will go far towards making Quebec the Liverpool of the North American continent. To this point of the river the

largest sea-going vessels can come, and now find a safe and commodious harbour, with every arrangement for their traffic purposes; and from this point a daily service of screw steamers of lighter draught will start, and deliver or collect cargoes for them from the river, or lake ports of the interior, while another line will keep Quebec in direct communication with the Lower Provinces on the Gulf. This, too, from the great facilities offered, will probably be the station of departure and arrival of the trans-Atlantic steamers, of which three distinct lines already connect the two countries together. These steamers are thronged even now with American travellers,* and when the communication with the Western States is fully opened up, we may easily imagine what the effect will be.

Mr. Wilson alludes briefly to the cities of Canada, and particularly Ottawa, the new capital, and proceeds:—

Between the shores of the Ottawa and Lake Huron lies a territory rich to profusion in mineral wealth, and vast forests which will afford for many years to come the source of profitable employment to the hardy labourer. As fast as the axe of the woodman levels the forest, the plough of the agricultural emigrant will turn up the soil, and rich harvests will be won for the supply of the extensive markets of the old and new worlds. But beyond this tract of timber and mineral lands, through which must shortly flow the waters of the Huron to mingle with those of the Ottawa, lie other lands yet unexplored, and unsubdued to the wants of civilization.

Across the inland sea of the Huron there are the Red River settlements, the very garden of the Hudson's Bay territory, over which monopoly and exclusion have so long thrown a veil of mystery,—but, from which, despite all restriction, there reach us rumours of rich and fertile lands, of abundant harvests, and of exhaustless wealth in the waters, the forests, and the mines. Still westward lies a vast tract of territory, the solitudes of which have been rarely disturbed, save by the trapper or the Indian hunters in pursuit of the wild animals for their furs. Century after century has passed over the regions watered by the noble Saskatchewan; the natural produce of the soil has decayed upon it year after year—the leaves of the dark forests have fallen in hundreds of succeeding autumns, and have enriched the plains to an extent with which even the most highly cultivated lands of old countries can bear no comparison. Nature has given not only a fruitful soil but a genial climate to these regions, and magnificent crops of golden grain of all kinds must reward the exertions of those pioneers of civilization, who, at no very distant day will awaken the slumbering echoes of this hitherto sealed land.

That this description is not overdrawn, Mr. Hind's recent Report† to the Government bears testimony. He tells us that the area of cultivable land of the first quality in the valley of the Red River, and its affluent, the Assiniboine, within British territory exceeds 1,200,000 acres, and that the land adapted for grazing in the same valley exceeds 3,000,000 acres; that all crops cultivated in Canada succeed well, and often show a yield far in advance of Canadian returns; and that the climate, which is a few degrees more extreme than at Toronto, is well adapted for all the operations of husbandry. Sir W. Logan, too, tells us of the favourable geological features of the Ottawa and Lake Huron district, while in the reports of his able assistant, Mr. Murray, we find tracts of hard wood lands, sure indications of agricultural fertility, being met with throughout the entire country.

It is in this region that the government allot the free grants of lands, which certainly offer great natural advantages to the hardy settler.

The report of another of Sir W. Logan's staff, Mr. Richardson has called public attention to Anticosti, an island in the Gulf at the mouth of the St. Lawrence river. This large island, 135 miles long by 35 to 40 miles in its widest parts, and containing about 1,500,000 acres, is up to the present time totally unoccupied,—its only inhabitants, few in number, being engaged in attending the lighthouses and in hunting pursuits. This state of things will not long remain, as, thanks to the Geological Survey, we now know that the surface of the island is admirably suited to agricultural purposes. “The

* Quebec to Liverpool.....	2,500 miles.
Portland to Liverpool.....	2,750 “
Boston to Liverpool.....	2,790 “
New York to Liverpool.....	2,980 “

† Report of the Canadian Red River Exploring Expedition, dated Feb. 22, 1858.

easily disintegrating character of the rocks forming the subsoil can scarcely fail to have permitted a great admixture of their ruins with whatever drift may have been brought to constitute a soil, and it is reasonable to suppose that the mineral character of these argillaceous limestones must have given to those *debris* a fertile character. It is precisely on such rocks, in such a position, and with such an attitude, that the best soils of the west peninsular of Western Canada, as well as those of the Genesee country, in the State of New York, are placed. I have seen nothing in the actual soil," says Mr. Richardson, "to induce me to suppose that, in so far as soil is concerned, Anticosti will be anything inferior to those regions, and considerations of climate only can induce the opinion that it would be in any way inferior to them in agricultural capabilities. The three months that I was on the island were altogether too short a time to enable me to form any opinion upon the climate of Anticosti. But taking into view the known fact that large bodies of water are more equable in their temperature than large surfaces of land, I should be inclined to suppose that Anticosti would not be so cold in winter, nor hot in summer, as districts that are more inland and more south, and that it would not compare unfavourably with any district between it and Quebec. While the autumn frosts would take effect later at Anticosti, the spring would probably be a little earlier at Quebec. But such is the condition of the island at present, that not a yard of soil has been turned up by a permanent settler, and it is the case that about a million of acres of good land, at the very entrance from the ocean to the province, are left to lie waste, while great expenses are incurred to carry settlers to the most distant parts of the west."

Another important settling country of great prospects, lying between Quebec and the Gulf, has been discovered by Sir W. Logan, the details of which will be given in his next report to the Provincial Government. In a recent letter he says:—"Last summer one of my exploring parties visited the valley of Lake St. John, on the Saguenay. After passing the gneiss rocks, which give such grandeur to the scenery of the Lower Saguenay, and such a forbidding agricultural aspect to the land for a breadth of 50 miles, this party were very much surprised to find themselves in a valley, which, though 2 deg. north of Quebec, has a climate mild enough to ripen Indian corn and grow excellent wheat, and, in fact, to produce all that is produced between Montreal and Kingston. They went forward into this valley to the westward for 75 miles; it had then a breadth of 50 miles, and the boundaries of it on each side appeared to run on far enough to give 30 miles more in length, so that we may say 5,000 square miles of a good settling country were visible. The soil was generally argillaceous, and the entire valley appeared to be underlaid by lime-feldspar. Settlement is gradually extending into it, and the inhabitants are very prosperous."

Let me now briefly recapitulate the amount of accommodation which Canada offers to new settlers, and you will have a good idea of the enormous resources of the country. Her present population is about 2,500,000, while her lands already occupied are equal to the support of a population of 10 millions. Then we have Anticosti, with its million of fertile acres; the St. John's Lake Valley, where upwards of 3,000,000 acres have already been made known; and, lastly, the important districts lying between the Ottawa and Lake Huron, where government allotments are now being made. Beyond these, the vast territories of the N. W. stretch out their arms wide enough to receive the surplus population of the old world for well-nigh all time to come.

The paper concludes by noticing the efforts made by the Minister of Agriculture in Canada to attract a valuable class of immigrants to the Province, and pointing out summarily the inducements to such an immigration.

DISCUSSION.

The CHAIRMAN asked Professor Wilson whether he could give them any information about a celebrated fish of Lake Superior, "the siskawit," alluded to by Mr. Simmonds, in a paper in the third volume of the Society's *Journal*, page 40. He would read the following passage referring to it:—

"The siskawit, a fish of Lake Superior, is reported to be the fattest fish that swims either in fresh or salt water. The fishermen say that one of these fish, when hung by the tail in the hot sun of a summer's day will melt and entirely disappear except the bones. In packing about fifty barrels last season at Isle Royale, one of the fishermen made two and a half barrels of oil from the heads and leaf fat alone, without the least

injury to the marketableness of the fish. Besides this leaf fat the fat or oil is disseminated in a layer of fat and a layer of lean throughout the fish. They are too fat to be eaten fresh, and are put up for market like the Lake white fish and Mackinac trout—celebrated American delicacies.”

Mr. P. L. SIMMONDS said, that the extract just read formed part of a paper “On some Undeveloped and Unappreciated Articles of Raw Produce from different parts of the World,” which he had read before the members at the close of 1854, and for which the Society had done him the honour to award him their silver medal. It was part of a passage in which he was directing public attention to the neglected river and lake fisheries of North America, and it was known as a peculiarity of the fish of the American inland seas that they were very fat.

Before Professor Wilson replied to the Chairman's question, he (Mr. Simmonds) craved permission to make a few remarks on the very excellent paper which had just been read—a paper which, from its valuable statistics and succinct details, was calculated to do much good, not only for the promotion of colonial interests, but also in diffusing sound and authentic information at home. Unfortunately, a great deal of ignorance still prevailed among many classes in the United Kingdom respecting this, our nearest and most important emigration field. Relatively with our other possessions, Canada was making gigantic strides in progress and prosperity. He saw present his friend Sir Cusack Roney, who, from his official position and practical experience, would no doubt be able to afford much valuable recent information connected with emigration and railroad operations. And as respected railways, Professor Wilson had rather understated the number of miles open, there being now 1,653 miles in working operation. It was satisfactory to mark the present condition of Canada and its improving prospects, which were mainly owing to its extensive land and water communications, which had been so fully described. But there were other causes at work. The Americans and the British settlers were now amicably trading together on mutually advantageous terms under the Reciprocity Treaty. There were now no boundary quarrels, no fishery disputes, no hostile frontier warfare, but a beneficial through traffic was carried on up the St. Lawrence and the lakes to Chicago, and the Western States, and through Portland over the Grand Trunk Line to Canada. But Canada should be viewed not only in its isolated character, but in the relation it was likely to bear, and the influence it would exert in a Federative Union of the British North American Colonies, which would sooner or later take place, even as the union of the Australian Colonies was now being discussed by the several local legislatures. Canada, as had been well remarked, had wisely directed her chief attention to the development of her agricultural resources. These were not only the mainstay, but the sure earnest of success for a young colony. Minerals she had in abundance, the gold of the Chaudiere, the crystalline iron on the islands in Lake Nipissing, the marbles of the Belleville district, the beautiful lithographic stone extending over a tract of seventy miles, from Marmora to Lake Simcoe, the phosphate of lime in the Ottawa valley and elsewhere, and the prolific copper mines on the Canadian shores of Lake Superior, where one mass of virgin copper, weighing 160,000 lbs., had been discovered. But the period has not yet arrived for the due development of these. Labour, capital, and manufacturing works on a large scale were yet deficient. Unlike Australia, where agriculture had given place too much to mining, which partook of a speculative and gambling character, Canada had wisely looked to the products of the farm and the forest, and these furnished the staples of her prosperity. Last year we had imported 115,000 quarters of wheat from British North America. The latest returns of exports given by Professor Wilson (those for 1856,) showed that the total value, adding the exports to the inland ports, amounted to about £8,000,000, averaging nearly £4 per head of the population. And the value of the imports, which, for 1856, was given at £11,000,000, was last year still larger. Much of this was, however, taken out by emigrants. Neither could the materials for constructive works, imported from England, be fairly apportioned to the population. Emigration, which had been rather slack for the two previous years, owing to the demands for enlistment during the war, was last year more active, about 21,000 souls having proceeded to the North American colonies, being an increase of between 4,000 and 5,000 over the preceding years. Most of these, as the Chairman was aware, proceeded to Canada, and although some few passed on to the States, yet the largest portion settled in the colony, and there was even an immigration from the States and Lower Provinces. What Canada was at present they had heard in the paper just read, but what she was likely to be in a few years it

was difficult to tell. Looking at the extraordinary advances that had been made since 1851, in another five or six years, with improved Atlantic and internal communication—with the probable link of the submarine telegraph across the ocean—and with free grants of land, and the extended territory opened up in the Red River district, and the Ottawa valley, and the Saguenay, we should, probably, find another million added to the population. According to the report of the Commission on Crown Lands, for 1856, the total number of acres of surveyed land unsold remaining in Canada, was 6,732,220, and of unsurveyed, 168,845,455, which, added to private lands undisposed of, make a total in that part of Canada drained by the St. Lawrence and its tributaries, conjectured at 212,019,200 acres. Of this quantity, there were, in Western Canada, 830,398 surveyed, and 57,770,416 unsurveyed, and in Eastern Canada, 4,797,550 surveyed, and 112,075,039 unsurveyed. The direct trade with Canada had a large effect on shipping interests. Professor Wilson had alluded to the shipbuilding of Quebec, but there was a large amount of tonnage locally owned and employed in the Province. In 1856, 2,972 ships, registering 230,000 tons, and 1,143 steamers, registering 119,500 tons, passed up the St. Lawrence Canals. There were in the Canadian Lakes about 230 vessels, averaging 176 tons, exclusive of small craft, and these ships were valued at half a million sterling. The timber trade with Quebec, as was well known, employed a large amount of tonnage, about 140 vessels, but the general entries of shipping from the British American Colonies last year, amounted to 2,452 ships, aggregating 1,141,476 tons. Of these, the largest number came from the St. Lawrence. When we perceived what strides the various towns and districts of Canada had made, that its colonial revenues were healthy, and its public works on a gigantic scale as compared with other British possessions—when we saw that the import trade of Montreal had doubled itself in the last ten years, and that the provincial authorities were using their utmost exertions to advance the interests of the colony at home and abroad, there could be little doubt that, all things considered, it offered a desirable home for thousands of the handy and industrious population of the United Kingdom, especially the agriculturists and artizans.

Sir CUSACK RONEY said he, in common with all present, had listened with great interest and pleasure to the paper that had been read, which contained a mass of information of the most valuable and truthful character, brought down to the latest period. With regard to the fisheries alluded to, he would state that, in the upper lakes, namely, Lakes Superior, Michigan, Huron, and Erie, very extensive fisheries were carried on. In 1856, there were from 80,000 to 100,000 barrels of fish caught, principally by Americans, and not by Canadians, which fish was salted and cured in the district, and formed a very considerable item of trade there. A very large quantity of the fish of the upper lakes was also used in a fresh state, and Detroit especially, one of the largest towns on the lakes, situated at the foot of the Lake St. Clair, consumed large quantities of it. The fisheries of the lower St. Lawrence, too, thanks to an Act passed in 1856, by the Canadian Legislature, would receive an amount of protection which they had not hitherto had. There had been for many years a vast destruction of the young fish, and great carelessness with regard to them; but now that the Act was passed for the proper protection of the fisheries, there would be an abundant supply of salmon, and by the employment of steam tugs on the St. Lawrence the fish was brought up to Quebec, and from thence it was conveyed by railway to Boston and New York, and other large cities of the United States on the eastern seaboard. The fish fetched very high prices. The Canadian Government, he was happy to say, had of late paid a good deal of attention to the fisheries of the Gulf of St. Lawrence, and had established a system of lighthouses along the coast, and also fishing stations; and he hoped that in the course of a year or two that trade would be largely developed. Professor Wilson had stated that the imports into Canada in 1856 amounted to £10,000,000, whilst the exports in the same year were only of the value of about £8,000,000. Perhaps that might appear a circumstance rather unfavourable to Canada, but the fact was, that the imports of late had been very great in consequence of the construction of railways and other public works going on there. The iron, the locomotives, and almost every description of railway plant, had been imported, and as nearly nine-tenths of the revenues of the Canadian Government consisted of customs duties, those articles, like most others, had had to pay a heavy duty. The consumption of imported articles by the actual consuming population of Canada was below £10,000,000 in the year; but, nevertheless, it was very large, amounting to £3 to £4 per head per annum, showing that almost every person in the colony was in a position to use in abundance those articles which contributed to the revenue of the country. The exports to the United States had increased in a very large

measure, in his opinion very much owing to the Reciprocity Treaty, which was brought about by Lord Elgin in 1854. The development of trade between Canada and the United States had been very great in consequence, but he was sorry to add that the United States Government had recently imposed restrictions upon that trade which were likely to have an injurious effect upon Canada; but the mail which arrived the day previous brought the intelligence that Lord Napier, our ambassador at Washington, had been engaged in conferences on this subject with the American Government, which led to the hope that the restrictions to which he had alluded would either be removed or very considerably modified. In the comparison made by Professor Wilson between the State of Ohio and Canada there was one feature of very considerable importance, as showing the progress which Canada was making in a department of agriculture equally important to that for which the colony had hitherto been chiefly celebrated—viz., its production of wheat. He alluded to the quantity of cattle stock which they were acquiring. Ohio and Canada were in that respect about equal at the present time. In 1856, the number amounted to 900,000 head of cows and of cattle in each. In Ohio a great deal of attention was paid to the improvement of the breeds, and they had imported from this country some of our most valuable stock. It was, therefore, not to be imagined that henceforth Canada would enjoy celebrity as a wheat growing country only. They were paying great attention to other descriptions of agricultural production; and thanks to the influence of agricultural societies, which extended all over the province, and to which the government contributed liberally in the shape of prizes, they were beginning to recognise the value of the rotation of crops and those other improvements which were so important in a country like Canada. The subject of emigration had been alluded to in the paper, and, as that was a matter in which he had had some experience, he would take that opportunity to express a hope that persons unsuited for emigration to any new country would avoid going to Canada. Persons who were seeking employment as accountants, bookkeepers, clerks, and shopmen, in fact, all descriptions of persons accustomed to in-door occupations, were extremely undesirable emigrants, because they could not get employment except at a very unremunerative scale of payment. They could not compete with the native article in the new country. The younger members of families already resident there were taken into those employments, and they could afford to accept a lower rate of remuneration than those who had to support themselves entirely by their own industry. Emigrants from England seeking such employment generally failed to attain their end, and these were the people who sent home accounts discouraging emigration. Such persons had far better stay at home. Canada at present was no place for them; but to those accustomed to out-door occupations, such as farmers with small capital, labourers, and persons accustomed to use their hands and legs, to them profitable employment would be found in Canada at a rate of remuneration that was unknown in this country for that description of labour, and they might all hope to be successful if their conduct was good, and provided they were temperate. If a man were intemperate nothing could save him, for it seemed that intemperance—bad as it was everywhere—was even more destructive to human life in America than it was in this country. With regard to the great public works already executed and still progressing in Canada, he might be allowed to allude to that mighty structure, the Victoria Bridge. It would be the largest engineering work in the world. There were 24 spans with tubular girders, of the character shown in the drawings exhibited on each side of the room. These, with the exception of the centre one, were 240 feet wide. The centre span, which was intended to serve the purposes of navigation, was 330 feet wide, and there would be 60 feet between the water and the under surface of the tube. The piers were bevelled off for the purpose of allowing the ice to pass away at its breaking up in the spring, which in that country was a formidable occurrence indeed. Within the last four or five weeks, the ice was piled up to a height nearly equal to that of the under surface of the tubular girders, but notwithstanding its unusual accumulation this season, every pier stood as solid as the rock on which it was founded. This was important to notice, inasmuch as some of the fine masonry with which the quays along the river at Montreal were built was greatly damaged and torn up by the violence of the ice. He might mention a circumstance of some importance which had occurred that day, although he could not state it as a certain fact. It had been proposed that the *Leviathan* should run for a period of years in connection with the Grand Trunk Railway of Canada, and this would be the means of carrying out emigrants to that colony and the Western States of America with an amount of comfort and attention to the wants of those persons, such as had never been experienced up to the pre-

sent time. He believed the whole combination would be one that would be eminently successful. It was a curious coincidence that exactly 10,000 tons of iron were used in the construction of the *Leviathan*, and the same amount of iron would be required for the tubes of the Victoria Bridge. Allusion had been made to the progress of the electric telegraph system in Canada. He only wished that the progress made there would react a little in this country. In Canada a message of ten words, exclusive of the addresses of the sender and receiver, could be sent between Quebec and Montreal, a distance of 180 miles, for 6d., and a halfpenny for every additional word; whilst for the shortest message to Liverpool—200 miles—the charge was 4s. From Quebec to Hamilton, between 400 and 500 miles, the charge for ten words was only 1s. 6d.

Mr. G. F. WILSON, F.R.S., would say one word with reference to the latter portion of the paper, and the commentary of Sir Cusack Roney upon it. He (Mr. Wil-son), in common with most other employers of labour, was often consulted by men who had saved a little money in this country, and who wished to benefit themselves and their families by emigration, but who did not see their way to do so. They were dissatisfied with their prospects at home, and they came to him for advice as to where they ought to go to. Up to the present time he had said that he believed Canada to be the right place. But this paper, he thought, gave the whole of the information that was required, and when it was remembered that it would be laid within a few days upon the tables of upwards of three hundred Mechanics' Institutions, and would be read by thousands of working men throughout the country, it was impossible to exaggerate its importance.

The CHAIRMAN said, considering that Canada was one of the finest dependencies of the crown, he thought they could not but feel indebted to Professor Wilson for placing before the public an account of the resources of that country. He was, therefore, sure that they would heartily unite with him in according their thanks to Professor Wilson for his very admirable paper.

The vote of thanks having been passed,

Professor WILSON begged to express his acknowledgments for the honour they had done him. With respect to the fisheries, those he had alluded to were not at the upper part of the St. Lawrence so much as at the lower part, and on the Gulf. He was sure that any one who was fond of salmon-fishing, and who had read the accounts which he had seen in reference to it, would not think of going to Norway, but would start at once for the St. Lawrence. In the Saguenay and the lower St. Lawrence, he believed the salmon fishing was of the very finest description. A paper on this subject had been written by his friend Dr. Adamson, of Quebec, which afforded valuable information to those who went out upon such an expedition; and there was also a communication by Mr. Nettle, confirming all that Dr. Adamson and others had written. But there were other fisheries of greater importance than the salmon. In the St. Lawrence—in the lower part of the river—the porpoise fishery was carried on, for the purpose of furnishing oil for the lighthouses, but he believed the extent to which it had been carried on was barely sufficient for the supply required by the contract, which had been entered into. In the Exhibition of 1851, a novel feature in the Canadian products was a species of leather prepared from the skin of the porpoise, for which the exhibitor, as an encouragement to pursue the matter, was rewarded with a medal, but he believed very little had been done with reference to it since.

Mr. SIMMONDS stated that it was to some extent an article of commerce in this country, and was used for shoe leather and for other purposes.

Professor WILSON added that he thought it was an article well worth attention. With regard to the salmon fisheries in that district, he was sure they would be carried out to a very large extent. He had tasted salmon in Scotland that had been sent from Vancouver's Island, and it was as fine flavoured as any he had ever eaten. With regard to the exports and imports of Canada, although the imports appeared to exceed the exports by about £2,000,000, yet this must not be considered an unfavorable symptom. He found, comparing the exports of 1856 with those of 1851, there was an increase of 150 per cent., whereas the imports had increased only 100 per cent., and at that rate the exports would soon equal the imports in amount.

EXTRAORDINARY GOLD NUGGET.—The largest and purest gold nugget yet discovered will be exhibited to public view at the Crystal Palace on the 1st of May. It weighs 1,743 oz. & dwts., and is of the computed value of £7,500; £10,000 was offered for it at Melbourne. It was found at a depth of 18 feet from the surface, in the Bendigo district, about 120 miles from Melbourne.—*English Paper.*