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THE
CANADIAN AGRICULTURIST

AND

Transactions

OF THE

BOARD OF AGRICULTURE OF UPPER CANADA.

VOL. V.

TORONTO, FEBRUARY, 1853.

NO. 2.

AGRICULTURAL ADDRESS.

The annual meeting of the Township of PORTLAND AGRICULTURAL SOCIETY was held at Spike's Corners January 19 1853, when the following address was delivered by ANGUS CAMERON, Esq., of Kingston, the President of the County Society. The practice of delivering prepared addresses at meetings of this kind, is, we are glad to observe, on the increase, as it tends to give a character and usefulness to the proceedings, which they could not otherwise possess. There are many points in Mr. Cameron's very useful and practical lecture that have a general interest and application:—

GENTLEMEN,—The indisposition which has hitherto prevailed amongst practical farmers generally, in this section of the country, to become members of Agricultural Societies, is matter of regret to the few of them who entertain high opinions of the advantages which such societies are capable of affording. This indisposition is but too plainly verified by the facts, that while some of the Townships maintain no society of this description, the annual exhibitions of those which do, are supported and attended but by a small proportion of the farming community. The County Show, held in the month of October last, although a great improvement on past meetings of the kind, as far as regarded horned cattle, sheep and swine, was quite a falling off in many respects, and especially as regards the number of agriculturists in attendance, and in the quantity of grain, dairy produce, and home wollen manufactures, although the amount distributed in premiums exceeded the average of former occasions of the kind. The office Bearers of the County Society, for the past year, earnestly desirous of a change for the better in this respect, are now making every exertion in their power to awaken a more lively and extended interest in the great work of agricultural improvement in the several townships throughout the County. It has frequently been urged as a plea for not having joined such societies in times past, that the provisions of the Agricultural Society Act were not known generally in the county, and especially that section which limited the period for subscribing as members, of township and county

societies, to the last days of January and February. To remedy this in future, the act has been put into possession of the several township authorities, and there is yet good time for the people in each locality to avail themselves of its advantages for the current year. It has also sometimes been assigned as a reason for refusing to become members, that although the intention of the law was worthy of approbation, the management of the society was bad. In reply to this it may be stated that it is very difficult, if not impossible, to please all parties in a matter of this kind. Improvement in this respect may perhaps be required as much as in our farm practice, but certainly it is not the way to improve in management of any society to give it up altogether. The people have the management in their own hands, as once a year they select their office-bearers; the rules and regulations are subject to such alterations and amendments as the members may think proper, so that past errors may be avoided, and progressive improvement from new sources of information, and from practical experience, may be the result.—Those who the most clearly perceive the errors in the past management, should be concurring a benefit on the country by being present at all the deliberations and meetings, with a view to secure all desirable amendment. On the same principle on which agricultural societies have been pronounced by competent authority, to be advantageous to the farming interest in the three separate portions of our mother country, we may safely admit they could be rendered so in Canada. There the practical tenant farmer, under heavy rent, the man of science, and the wealthy landlord, contribute to their support. Professor Johnston, in his "Notes on North America," says of that continent that "as to the condition of agriculture as an art of life, it cannot be denied that in this region, as a whole, it is in a very primitive condition." He also says that "little knowledge of improved agriculture has hitherto been diffused in Upper Canada. In revenge, the farming class are not, as a body, regarded with much estimation by the other classes of society. They do not assume their proper position among a community where, if they only knew how to use it, all political power is in reality in their hands."

It would serve no good purpose, on behalf of the farmers of Canada, to deny this charge on paper; it is to be hoped, however, that ere many years revolve a different account of our condition will be legibly written, more generally than at present, on the face of our farms with the plough corroborated by the presence of comfortable and convenient housing for man and beast—improved breeds of live stock, in good keeping—a more general use of labor-saving implements—more attention to a better system of operations, and the rotation of crops—draining and manuring of the soil—all of which, agricultural societies, wherever maintained, have been instrumental in producing.

In the following quotation from the same author, it will be observed that he anticipates at an early day a better state of things in Upper Canada than he witnessed on his visit here in 1849:

“The superior class of settlers, of whom so many are scattered over Upper Canada, will greatly facilitate the adoption of such means of improvement as are usually employed by Agricultural Societies.”

This anticipation of improvement, by means of Agricultural Societies, is worthy of our attention, and is a strong recommendation to every farmer, especially, if not to every resident of the Province, to countenance by his presence, and to aid by his subscription the formation and proceedings of such societies. To this learned and respected author we are more indebted for having thus pointed out to us our wants, and hopefully directing us towards the means of supply, than if by a more flattering account he had induced us to abate our exertions.

The truth of the Professor's remarks is verified in the following extract from “Scobie's Almanac” for 1853, showing the average produce per acre in Upper and Lower Canada, omitting the fractions:—

	U. C. Bushels.	L. C. Bushels.
Wheat, - - -	14	7
Barley - - -	20	15
Rye, - - -	12	7
Pease, - - -	14	7
Oats, - - -	25	15
Buck Wheat, - -	14	10
Indian Corn, - -	24	17
Potatoes, - - -	64	60
Turnips, - - -	212	95

It is difficult to account for the smallness of this average yield per acre in any other way than by admitting that the average of our farming practice is bad; or by libelling our climate or soil, if not both, and asserting that in one or both lies the deficiency—and this allegation is annually refuted in the abundant crops raised by the skilful portion of our farmers throughout the Province. The traveller very often sees, in the most fertile and best cultivated parts, striking illustrations of the difference between the good farming and the bad on adjoining lots of nearly equal virgin quality; the one farmer rendered prosperous and affluent by the luxuriance of his crops, while his neighbor, in poverty, blames the climate and soil.

The proceedings of Agricultural Societies, their exhibitions and competitions, and the public decisions of their judges, have a tendency to improve the judgment of all attentive observers on such occasions; and to farmers who are dealers in live stock and farm produce, this alone is of importance, as enabling them the better to know the good and bad points of their own properties, as well as those of others. This improvement of the judgment in discerning the better from the worse, leads to an appreciation of excellence, and that appreciation by farmers encourages societies, as well as enterprising individuals, to bring superior animals, seed and implements within their reach. One farmer alone, however, desirous of improving his live stock, can seldom afford, in the present state of our progress, to purchase and keep up a first-rate male animal - but in a locality where excellence is duly appreciated, the demand from his neighbors might render him good returns for money thus invested; and at the year's end it is an important addition to the value of farm stock that superior males had been supplied to all the female breeding animals; indeed, few of the farmer's outlays yield so profitable a return. To cause extensive and minute inspections and comparisons of whole farms, and of the various methods in practice upon them, and to sum up the several results, duly reporting thereon for the public information, as practised by many societies, cannot fail to excite emulation, not only on the part of those immediately concerned—the examiners and those examined—the society to which they belong, but also throughout, the whole neighborhood; and in no branch of their varied duties have Societies done more good in the mother country than in the degree of perfection to which they have been mainly instrumental in bringing the construction of the plough and thus improving its operations.

The ploughs generally in use in this vicinity at present may have been fit instruments when there were no fields clear of stumps and other obstructions, and even yet may be indispensable for some portions of many farms; but they are unfit to cut and properly turn over the furrow slice as required on clear sod land of an even surface; as proof of this, witness our County Ploughing Match, in October last. The ploughing to which was awarded the first premium, was even in the estimation of the ploughman, very bad; the fault evidently was not his, but that of the implement; each furrow slice standing nearly upright, with an open space between them; while all admitted the workman understood his business well. One good result is hoped from that day's ploughing, as the farmers there generally agreed that we have not the right sort of ploughs for good work in clear fields and doubtless many will turn their attention to quarters in which they may be found.

The absence of a good plough factory, within a convenient distance, has greatly retarded our progress hereabout in ploughing; if we had some of the ploughs made by the Messrs. MacSherry, near Queenston, or by the Messrs. McTavish, of Bowmanville, the workmanship at our ploughing matches would soon show a dif-

ferent finish. That these remarks on the plough makes and ploughs supplying this section of the country for some time back, may not appear unfounded, it may as well be stated that many farmers have, during the last season, made great exertion to find in Kingston or the surrounding townships, a plough capable of cutting a rectangular furrow slice, nearly 6x9 or 7x10 inches, and turning the same properly over close against the preceding one at the desired angle of 45 degrees, leaving each exposed face to measure nearly the same, say six or seven inches. Something near this is insisted on at ploughing matches, and should any vender of ploughs consider himself wronged by these remarks, or deem them untrue, he will be entitled to reasonable satisfaction, as well as an increased demand for his ploughs, or his giving proof that they are fit to do the work as required. The decision of judges in awarding premiums for the best ploughs at societies' exhibitions, without any trial of the work they are capable of performing, may sometimes happen to be right, and may also often happen to be wrong; the surest test of their goodness is a trial in the ground by a competent ploughman, and a steady team; and so often as mistakes of this kind are made, injustice is done to the more deserving mechanic, the sale of the inferior article is promoted, and that of the superior is discontinued. And this injustice is not only the bad consequence of these erroneous decisions on ploughs—they also mislead farmers to purchase the worse instead of the better implement; and have a tendency to lessen the confidence of both mechanics and farmers in the proceedings of such societies. The ordering of ploughs from a great distance, although perhaps a better alternative than to continue the use of a bad one, is by no means so safe for the farmer as a home supply, if equally good, because where the mechanical skill is wanting to make a good plough, it may also be wanting to keep in order, should it happen to meet with an accident; from this want of mechanical skill, so much felt in this neighborhood, the utility of a society may be understood, as its exertions would be more efficacious to supply the want, than would individual efforts. It may be remarked by some that as our societies have been for many years in operation, they should before now have supplied this want; but again, how can practical farmers expect to find their wants thus supplied unless they take some pains and contribute the needful means to keep such societies in successful operation; which as is stated in the out set, they are very apathetic in doing. Let this now be remedied as soon as we can, by each farmer contributing his dollar towards the society of the township to which he belongs, and another towards the County Society. Let all attend their meetings, elect officers and directors in whom they have confidence, and under the new act of Parliament, adopt such rules and regulations as to the majority may seem best suited to promote the great object, not only of agriculture but of general improvement; not narrowly looking for an immediate cash return in premium, but liberally contributing their mite to the support of an

association, which is designed to be instrumental in disseminating a spirit of improvement.

The meeting was very attentive during the delivery of the address, and the proceedings highly satisfactory to all present. Thanks were then voted unanimously to Mr. Cameron for the pains taken by him in visiting the meeting, and for the practical character of the lecture which he had delivered, and the meeting adjourned.

J. SPIKE, President.

A. SPIKE, Secretary.

CULTIVATION OF THE GRAPE.

In the last number of the *Plough*, an interesting description is given of Dr. Underhill's vineyard, the largest in the State of New York, near Sing Sing, on the Hudson. It consists of about 30 acres; three-fourths are planted with the *Isabella*, the remainder with *Catawba*, *Alexandria*, *Norton's Seedlings* or *Lady Grape*, *Early Black* or *York Madeira*, *Croton Cluster*, &c. The Doctor, after careful and numerous experiments, has arrived at the conclusion that the *Isabella* is the only kind admitting of safe and profitable cultivation in open vineyards in the northern States. The *Catawba* is an excellent variety, but it will not properly ripen in more than one year out of three. It is stated that the Doctor's vineyard, which is favorably situated as regards the New York market, is far more profitable than if planted with the best sorts of apples and other fruit; and the cultivation, manuring, gathering and marketing of the produce are conducted on strictly systematic principles. We have seen the *Isabella* grape flourish well in open ground, in several places of Upper Canada, and recommend it to the attention of such as feel interested in possessing a good garden.

The grape naturally covets a dry, warm soil, if a loose limestone all the better;—indeed lime in some form seems essential to the grape. It is a capital practice in planting to dig deep trenches, and fill in with fresh soil, all sorts of vegetable rubbish, mixed with stones, uncrushed bones, &c. The trellis system is the neatest and best, admitting of easy culture either by the plough or hoe, and exposing the leaves and fruit to the full action of sun, light, and air—points of indispensable importance. In both spring and summer pruning, "Spare the knife and spoil the grapes," is known by all practical cultivators to be a sound aphorism. The cutting away of leaves, however, for the purpose of admitting light and heat to the fruit, should be very cautiously performed; but in order to secure bunches of large size and of the finest flavor, it is of importance to keep down the number, by the early removal of such as are too thick and inferior. Large berries can be obtained by carefully removing by the fingers, early in the season, all the smaller ones found on the same bunch.

CAVAN AGRICULTURAL SOCIETY.

We have been requested by the Directors of this Society to publish the Address delivered by the President at its late annual Exhibition. The day was wet and unfavorable, yet the number present was very considerable, and the display of horses really good. The show of sheep was fair, and quite an extensive assortment of *domestic woollens* was exhibited, much superior to anything seen before. There are many points of the address that will interest our readers generally.

ADDRESS

OF JOHN KNOWLSON, ESQUIRE,

PRESIDENT OF THE CAVAN AGRICULTURAL SOCIETY.

C. FLEMEN, — (For I believe there are no Ladies present, having been prevented from attending, no doubt, from the unfavorable state of the weather, which is much to be regretted.) In conformity with a recently adopted By-law of your Society, the duty of delivering a written address on subjects connected with the science of Agriculture, devolves upon me as your President; but I am sorry to say that I come before you very badly prepared for such an important task. I might begin and tell you that I have been pressed for time, and make other what may appear to me very valid excuses, yet I confess that although I should be telling you the truth, and nothing but the truth, these would not justify me in your eyes for having neglected a duty which you had a right to expect me to perform; therefore, I consider it more creditable to plead guilty at once of a dereliction of duty, rather than attempt an excuse, and so throw myself on your mercy, ready to submit to whatever penalty the Directors of your Society may think proper to inflict. These ill-digested and hurried remarks I only commenced to put together last evening, and concluded this morning on the Show ground; therefore what I have to say is quite an abridgment and curtailment of what I had previously intended, so that I fear it will hardly merit the appellation of an "Agricultural Address." My will to serve you on this occasion, I assure you was good, but as I have before hinted, I have no reason to expect you to accept the will for the deed, although I dare say you will agree with me that "wills" are sometimes looked upon as favorably as "deeds"; for instance if any of you were to inherit a nice hundred acre, cleared farm, with substantial and comfortable buildings, and other appurtenances, I feel satisfied you would think as highly of the testator's will as you would of a free deed given by a friend; of a hundred acres covered with hemlock or tamarac swamp; so you see that wills are really not always to be despised. However, do not let me lead you to suppose that when I said my will to serve you was a good will, that it ever entered into my head to "will" any of you a farm; no, no such thing I assure you, but my intention was in all sincerity to impart the best information in my power, in order to instruct and enable you to improve the farms you already possess; and if I shall be able to say anything at all that

may give me the least claim to your pardon for not doing better, for not taking more time and care, as I ought to have done, in preparing this address, I shall feel myself your very grateful servant. Although, gentlemen, I am far from being a practical farmer, yet I assure you it is always a source of pleasure to me to study the science of agriculture. I have been in the habit like many of you, of reading newspapers and various periodical publications on different subjects, and I declare to you in all sincerity, that I find more real satisfaction, read with far more zest, such papers as treat upon agricultural pursuits than in reading the matter contained in any mere political paper; for instance such papers as the *Canadian Agriculturist*, the *Genessee Farmer*, and the like, any of which may be had at the cost of about half a dollar a year, and I believe it would be to the advantage of every farmer to introduce an agricultural paper into his family; in these you read of the best system of husbandry, of the best breeds of different kinds of stock, of the most approved implements, and labour-saving machines for cultivating the soil, and reaping the crops and preparing them for market; in these you also find many valuable recipes, besides numerous useful and valuable hints well calculated to promote economy, content, and wealth, amongst those engaged in rural avocations; therefore I would strongly recommend every farmer to subscribe for and read attentively, an agricultural paper; and this need not prevent you from taking a well conducted newspaper for general information besides. Before proceeding further, I would beg to be understood that what I have now to say in my imperfect and hastily got up address, is not intended by me, merely for a moment's amusement, or for no other purpose than merely filling up a portion of the time of this our exhibition day. No, gentlemen, my desire, and my intention is that the few hints I have to offer, should prove useful to you, and have the effect of producing practical results, viz. of promoting your welfare and prosperity. As I said before I am not a practical agriculturist, and therefore my remarks may be considered as worthy of but little regard. I can only say that I am presumptuous enough to persuade myself that although not a practical farmer, yet that my own pursuits do not preclude me from either making useful observations or noting down useful facts connected with farming operations when such present themselves conspicuously before me; and as I have frequent opportunities of becoming acquainted with the state of the markets for farm produce, &c., I am in some degree competent, I conceive, to impart at least a sprinkling of useful information; besides I think I am justified in believing that you yield some share of your deference to my judgment on these subjects, or I should not so long have been honored with your confidence by placing me at the head of your Society, therefore what more I intend to say is meant for your advantage, and offered freely and candidly. First, I would embrace this opportunity of congratulating you upon the beautiful and favourable harvest with which you have been blessed; one of the finest perhaps we have any of us ever witnessed; and such a temporal blessing coming from the hands of the Giver of every good gift, demands from us all a

pure "thank-offering" to Him who bestows upon us all we possess in this world. Let us never fail to be grateful for such favours, always remembering that He who gives them, can also either withhold them, take them away, or turn them into a curse instead of a blessing, should we fail either to appreciate or make a legitimate use of them. Which of us can properly call anything we possess our own. What individual, or what number of individuals collectively, with all their skill, all their genius, all their mere human power, can in truth say that such and such a barn full or granary full of grain, or such a stock of fine cattle, are *their own*; that they are able of themselves, to protect them from destruction for a single moment against the power of Him who in His bountiful goodness permits them to enjoy them. The crop of wheat which you have just harvested with less hurry and fatigue, and with fewer hands than usual, is both abundant in quantity, and excellent in quality, and all that is required to crown your wishes in regard to this portion of your productions, is *good prices*; but I fear it is somewhat doubtful whether your wishes in this respect are destined to be realized. You may, I assure you, fully make up your minds that the days of protection in the British market for what has been hitherto our staple agricultural production; viz., *wheat*, have passed away, in all probability, never to return; consequently we cannot reasonably look for *much* higher prices for this article than we obtain at present, except from causes which would be by no means desirable, viz., either from *war*, or a *failure of crop*, in other parts of the globe, or some cause which would entail suffering or want upon a portion of our fellow creatures, *somewhere* and therefore always to be deplored and never to be desired. Such a state of things would be similar to one of us attempting to sit down to enjoy a sumptuous or dainty repast, while we knew that our next door neighbour was perishing of starvation; therefore when we learn as seems now to be generally understood, that the inhabitants of Europe and other parts of the world have been blessed as well as ourselves with a fair yield of breadstuffs, we ought to feel thankful on their account, as well as on our own. While on the subject of the *wheat* crop, our hitherto staple farm production in Canada, I feel it my duty to give you a word of advice, for it is now becoming a question among political economists whether we should much longer look upon wheat as our staple commodity for export. I firmly believe, gentlemen, that it is high time for every farmer to turn his attention more to other products than that of wheat; indeed I might enumerate a great number of farm productions, any of which would not only pay you better than wheat, but would be quite certain to remunerate you well for the labour required to produce them. I will first mention the article of *butter* which not only at present commands a high price, but is likely to do so for some time to come; therefore let me advise you to pay more attention to the *dairy*, both for *butter and cheese*, both of which are likely to command highly remunerating prices; and above all in this department let me entreat you not only to *endeavour*, for that word hardly conveys a strong enough

meaning for some of you, (not so strong as some butter I've tasted in my lifetime) but be *determined* to make a good and superior article, in order that the character of Canadian butter and cheese may be raised and established in foreign markets. Butter at present is selling readily at 8s. per pound, and I know many farmers who have for years past realized handsome sums from the sale of this article, even when it was but 6d. per pound; they considered then that it paid them as well or better than wheat, and why it was that more attention was not paid to its production by a great many other farmers, with equal facilities, seems somewhat strange. I would next mention the article of *pork*; this is likely to pay well for some time to come, decidedly better than wheat in my opinion, and I consider it a matter for regret, and one I think of great oversight on the part of many of our farmers, that they should have allowed, during the past summer the number of their hogs to be greatly reduced by selling them to American jobbers. Every intelligent farmer, by reading an agricultural journal, and looking into the state of their markets, &c., might have easily foreseen, from the brisk demand for pork since last winter, and the prospect of an increased demand for it for lumbering operations, that the article would continue to rule high for some time, and to command good remunerating prices. But what is the fact which we have reason to deplore? Why, that many, very many, more hogs than ought to have been spared, have been sold in their lean state, taken away from the Province while many of our own farmers have not so much as one to fatten! To be plain and candid I call this *bad management*, or rather *no management* at all. But my observations in reference to keeping or being without certain animals, lead me to make even a more severe remark than this; for I am convinced that the most casual observer cannot fail to be struck with the gross mismanagement on the part of some who call themselves *farmers*. You may possibly some of you take offence at my undertaking to administer such a rebuke on your proceedings; be this as it may, what I state, I do so under an honest conviction, and with the intention of doing you good, and promoting your temporal welfare; therefore take it as you will. For instance, how many occupants of farms have I seen within the last few years who would in one season have an overstock of horned cattle, and at a time, too, when such were of but trifling value, while the surface of pasturage, and quantity of winter fodder was altogether inadequate for their support; the consequence was, that a great many of them died from starvation, and for want of proper care and attention, so that from such losses, such *thinning* of the number, and the *thinness* of the carcasses of the few that survived, the conclusions that were generally come to by their owners, (although very erroneous conclusions) were, *that it was a bad business to aim at raising Stock*, and so the following season generally found our perplexed and discomfited neighbours with scarcely a hoof at all. And then the same with regard to *hogs*; one year one of these men's farms,—mind you I do not say a *farmer's* farm,—would be literally overrun with the great number he would keep of

these animals, and when the season for slaughtering arrived in the fall, the prices, as might have easily been foreseen, proved by no means remunerating; he found that although they had devoured the best share of his potatoes, all his peas, and some other coarse grains, besides occasionally finding out some cracked or broken rails in his fences which easily yielded to a little pressure by these gentlemen from without and by which they found ready access to his fields of grain, often committing very serious depredations, that after all they were by no means so fat as was required for market, and when brought there only realized some 7s. 6d. to 11s. 3d. a cwt.; consequently he was a great loser, and all owing to having *too great* a number in proportion to his feed, and at a time when prices were extremely low. Here again he was led to jump at conclusions in the same way as he had done in reference to his horned cattle. He looked upon this tribe, in the first place, (and certainly with some show of reason,) to be at best but a "*swinish multitude*," and the result proved that he must have concluded that the sooner such a race of animals became extinct the better for himself, and most likely for every body else, for the following year would be sure to find him in the opposite extreme, viz., without one single *grunt* to grace his farm-yard or premises! Now this sort of mismanagement was nothing short of sheer folly, to say the least of it. Had he, as would have been more rational, kept each year a *moderate* number, and bestowed proper care upon them, how very different would have been the result.

What shall I say of such farm-holders as those who have told me within the last few days that they have not so much as a single pig to put up to fatten this fall for their own use, although I know that they possess all the facilities requisite for keeping a *moderate* number. I really believe that no epithet would be too severe for them; still, as I feel reluctant in calling them by hard names, I will content myself by giving them this simple piece of advice, viz., that if it should ever by any chance, happen to come into their heads to consider or decide as to what class of the human family they properly belong, or in what profession they are practising, by no means to *imagine*, much less *conclude*, that they belong to the *farming* class, for surely to the honorable title of *farmer* they have no pretensions whatever.

Why is it, I would ask, that one farmer succeeds so much better than another in his farming operations, where both commence with equal pecuniary means, and under other similar circumstances, such as similarity of soils on their farms, distance from market, physical help, &c. ? What, but because the one has had more *practical experience*, proceeds more *systematically*, exercises more *forethought*, is more *industrious*, always taking care to attend to each portion of his labour in its *proper season*, and the like, and performing such labour in a *proper manner*, while the other lacks these qualifications, and in too many instances neglects opportunities for acquiring agricultural skill and knowledge, when he might easily inform himself. Every farmer should endeavour to acquire useful knowledge, for knowledge is *power*, and therefore it is well worth every man's while to search particularly

for such knowledge as bears upon his own profession. Now there is nothing more necessary on a farm than that each particular kind of work should be performed in its proper season: such, for instance, as attending to the destruction of noxious weeds and wild grasses in the summer fallow during the *dry season*, securing the *hay* before the *grain* harvest commences, cutting the *grain* as *soon*, or even *before* it is quite ripe, getting it into the barn or well built stacks in its clear bright state as soon as dry, and if possible, not to allow it to remain in the field until it is either *weather beaten* or begins to *shell out* and waste; then when all the grain is so secured, and himself at liberty to cart out his manure, and sow his fall wheat, and after that have proper shelter prepared for all his stock, to protect them from the inclemency of the weather, seeing now that a *rail fever* is no longer considered a sufficient protection against the severe blasts of a low Canadian winter. The turnips, carrots, and mangewartzels must also be seen to in time, and secured from the frost either in pits or cellars: then again when the good sleighing has fairly set in, a portion of the winter will be occupied in taking produce to market, providing such quantity of firewood that a portion will remain over in a dry state until the beginning at least of the following winter, with a day now and then of relaxation from toil, spent in visiting relatives, friends and neighbours, and thus the routine of all the farming operations go regularly on, the experienced operator taking care to the best of his power that the season for one kind of work shall never encroach upon another, and besides always having an eye to his carriages and farm implements, to see that they are not left exposed to all sorts of weather, but kept in a proper state of preservation, under cover, ready for use whenever wanted. After having hinted to you the favourable prospects that now present themselves to my mind for an increased demand for *butter and pork*, I must also include other productions to which you should turn your attention; for instance *horses*. Good horses are in demand in many parts of the Province, and their breeding should be properly attended to by all means; and our township has gained some celebrity already for the production of these valuable animals. *Sheep*, both for the carcass and fleece, will no doubt yield a profitable return; and I may mention also amongst your grains, that of *oats*, and my ideas of the course now to be pursued as likely to be most conducive to the farmer's interests, is to portion out the farm into *grazing*, *grain*, and *root* departments in a more equitable proportion than has hitherto been the case in this township, appropriating *much less* to *wheat* than heretofore; what land you do allot to wheat, till it in the best manner, and fail not to procure the best varieties of seed, thoroughly cleaned and prepared before sowing; that is, such a variety as has been proved by experience best adapted to the soil on which you intend to sow it, for some kinds are suited to high lands, and other kinds to low lands; some to light soils, and others to heavy. And again, with regard to the animals you keep; let the number be *moderate*, not too many nor too few, but let them be good of their kind, and see that they are properly taken care of; and by following a system somewhat approaching to what I have

briefly endeavoured to point out, I feel satisfied that you will become gainers very soon to a considerable extent; for one thing, your land would not be exhausted as it now is, by constantly growing wheat; and by this course, and following a system of rotation of crops you would always have that portion of the farm which would be set apart for wheat, in good heart and condition for such a crop. If I have been somewhat severe upon some of our careless indifferent farmers, I assure you I meant nothing personal, and I wish to be understood that, I by no means consider it a crime for a man to set out as an indifferent farmer who has not been brought up a practical agriculturist, or who has not had an opportunity of acquiring that skill and knowledge, so requisite for carrying on successful farming operations; but I do contend that when such a one undertakes the cultivation of the soil, he is justly chargeable with culpable negligence, or criminal indifference to his material interests, and that of the community at large, if he does not endeavour to *learn from and imitate* those around him who are looked upon as practical and experienced farmers, and who would willingly and readily impart their knowledge to their less informed neighbours; and the farmer is widely different in this respect from men in most other professions, for while he imparts his skill and knowledge to his brother farmer, in order to improve his condition, and make him wiser and wealthier, he does not in any way abridge his own means, or injure his own interests. As I have observed; *systematic plans* are really requisite to success. Men who have not enterprize to *plan*, will have still less if possible to *execute*. Few men do more than they *intend* to do, and there ought to be few who have not ambition enough to rouse their energies to accomplish what they have once deliberately *planned* to do. That man who is the mere child of circumstances, acting only as he is acted upon by his necessities, may enjoy a kind of *Indian tranquility*; with such men only, the march of improvement must stop in its course, and society fall back into a species of barbarism. That man who aims at nothing will certainly accomplish nothing. He that is content with a *shanty* will not likely ever possess a neat, substantial, or comfortable *house*. The man who is content with a shabby, dilapidated house, roofless barn, broken down fences and ten bushels of wheat, and five hundred of hay to the acre, will seldom find himself in a better condition; while he who plans to possess good buildings, permanent fences, and to see his lands ornamented with fruit trees, and covered with forty bushels of wheat, and two or three tons of hay to the acre, with life and a common blessing, will certainly accomplish his plans. Another requisite for the improvement of our advantages, is *Industry*. It is often literally true, that "the hand of the diligent maketh rich," and it always in Canada enables the diligent to possess constantly and plentifully the necessaries and comforts of life. To no class of men does the necessity of industry apply more than the farmer. He turns his own wheel of fortune more emphatically than almost any other class; those great and sudden turns of fortune which sometimes raise or depress others, lay

quite out of his track. With firm foothold he climbs the *ascent* to competency; or with loosened energies he slides down the gradual *descent* to poverty. The *eyes* of the master or owner should pervade the whole establishment; his *mind* and his *hands* must be equally ready to do their appropriate work; his example should be such that no idler can feel easy on his premises; nothing more absolutely necessary than that the farmer's *mind* should be in his business. That man who is *above* his business is in danger of soon finding that he has got *below* it. The farmer who devotes his mind and his energies to his farm until it is so far improved, that it elevates him above the necessity of constant labour, is the most independent and enviable character in our country; free from the responsibility of office and the toils and cares of a profession, he eats the fruits he has reared with more zest than can be realized by any other class. A good farm covered with flocks and herds and fruits is a truly enviable possession, and like Robinson Crusoe, the farmer is often "Monarch of all he surveys." I have deemed it proper to mention on this occasion that it is my desire and intention to retire from the Presidency of your Society, so that you will soon be prepared and able to select from your officers, one better qualified to fill the post than myself. It has, I assure you, always been my desire to promote the interests of your society, but my occupation is such that I am frequently prevented from duly attending to the business and duties required of the President, and from performing it in an efficient manner; therefore I consider it an act of injustice towards you to remain in such a position longer; and it would be a further act of injustice, as well as ingratitude on my part, were I to omit on this occasion testily to the forbearance and indulgence which you have always shewn to my many defects; and it is a sincere pleasure to me to say, that ever since you first called me to preside over the society, and to fill the responsible and honorable office of President of an Agricultural Association, I have always met with the greatest kindness from all the officers of the society, and for my own shortcomings I trust they will pardon me. It is certainly a fact worthy of notice, that the greatest harmony and good feeling have always prevailed at our meetings, and I assure you it will always be gratifying to my feelings to learn that the same degree of harmony and friendly feelings continue to characterize all the future proceedings of your society, and although I shall not be President, I intend to give it my support as a *member*.

Before concluding, I would beg to remark, that I do really believe the prospects for the farmers of Canada are now more cheering than at any previous period. There can be but one opinion that this our adopted country is fast improving in all the elements of comfort and wealth; our *exports* are increasing rapidly, and although our *imports* are greater than is to be desired, it is to be hoped that the day is not far distant when the amount of the latter will not approximate so near to that of the former as at present, but be much lessened. Our great aim should be to raise up manufactories in the Province for nume-

ons articles, which we are at present under the necessity of importing, often at great cost. By adopting such a course, by raising up Towns and Villages where various descriptions of artisans would congregate for the purpose of manufacturing those articles, we shall at the same time be creating a home consumption for a large portion of the surplus productions of our fertile soil. With railroads, macadamized and gravel roads, and other important projected improvements in prospect, I am convinced that Canada is destined at no very remote period, to become a great and wealthy country; and if every farmer pursues a proper and judicious course, husbanding all his resources, suffering neither *fodder, manure, fuel,* nor any other adjunct to his farming operations to go to waste, he will materially contribute towards bringing about such a result, for let some of them think as little of their profession as they may, farmers are the *bone and sinew* of the country. It is to be regretted that this day for our Autumn Show has turned out so wet and unfavorable, so much so, that great numbers, I am sure, have been prevented from attending, and from which cause the enjoyment we looked for has been considerably marred. However, we ought never to repine at any act of Providence, which rules all things and orders all things for the best, and to which it behoves us to bow submissively. This Show, I fear, will not compare favorably in some departments with your previous ones, owing to the unfavorable state of the weather through the greater part of the day. However, let not this discourage us; let us hope for a better day next time, and let us by no means neglect to support as we should these Agricultural Societies, which have been the means of doing so much good, and which are so well calculated, if properly conducted, and equally protected by the Government, to do still more good every succeeding year. The Legislature is now about to make some amendments in the law relating to these societies, and it becomes our duty to second those praiseworthy intentions on the part of our Legislators, and to show by our exertions that we duly appreciate the valuable support given to these societies by the Government. If you conceive, gentlemen, as no doubt you will, that my seeds of information have been badly cleaned, too hastily prepared, as well as carelessly sown, I trust they will not fall upon barren ground; for, believing, as I do sincerely, that for the kind of soil on which I had to sow them, they were the best which I could in my haste cull from my own store, together with a few borrowed grains which I have thrown in here and there; and although sown broadcast by an unpractised hand, I think you will admit that they are not deficient in *measure*, so that allowing the light grains to perish, I trust that those which survive will take deep root, *stool* and spread, and in good time produce a profitable return, or at least prove germs that may produce a better sample of seed; and should any such results follow, I shall feel amply paid for my time spent in sowing them. The show of young horses, mares and foals to-day is certainly creditable to the exhibitors and to the township at large; the few sheep exhibited were by no means inferior, and it appears that

some of them were readily bought up at good prices; the quantity of wheat on the ground is very fair as to *quality*, both fall and spring varieties. I do think that some of the samples could not easily be beat in the Province; and for the domestic woollens, both as to *quantity* and *quality*, they have exceeded anything of the kind ever before brought under our notice on a similar occasion within the township, doing very great credit both to the producers of the wool, the carders, spinners, weavers, and cloth-dresser or finisher. There are one or two remarks which I forgot to make. The first has reference to the proportion of the government grant allowed to the township societies, which I think is by no means equitable, being too small; so much so, that these local societies are enabled to offer but a small amount of premiums on occasions like the present; too trifling, generally, to induce sufficient competition. Could these township societies be placed in a position to enable them to offer larger and a greater number of premiums, they would effect much more good than can be expected with their present limited means. I am willing to admit that much may be advanced in favor of giving to the County Societies a large share of influence, with a view to bring the very best and choicest productions of the whole County, periodically, into one focus, and for mustering as large a number as possible of the most influential and best informed farmers; but so far as my observations have led me, I am quite of opinion that in the present state of society, particularly in the rear townships, these county meetings do not attract to any extent that *class* which most need a spirit of emulation infused amongst them, but are confined in a great measure to the leading farmers, and men of other professions, including a portion of the poorer farmers that reside within a very moderate distance of the place of rendezvous. Now I am led to the conviction that the township societies, if placed upon a proper footing, are decidedly better calculated to supply this desideratum, viz., of *bringing those together who most require instruction, encouragement, and a spurring on*. I am sorry to have to inform you, that in consequence of our funds for the year being nearly exhausted, the Directors have with much regret been obliged to abandon the contemplated *Ploughing Match*. I would advise the Directors to instruct the Secretary to correspond with some of the neighboring township societies, on the subject of those resolutions which you adopted at your last annual meeting, in order to obtain an expression of opinion thereon. Before parting from you, I must be allowed to say, that it is my firm conviction that the members of our society do not take as much interest in the County exhibitions as they ought. I feel satisfied that a better attendance of our members at these shows would be attended with beneficial results.

The object sought to be obtained by the passing of one of these resolutions has been provided for by the new Agricultural Act, viz., that of appropriating *three-fifths* of the government grant for the use of *Township Societies*.—Ed.

ARTIFICIAL STONE.—Owen Williams, of England, has just taken out a patent for the manufacture of artificial stone. The following ingredients are used in preparing it; 180 lbs. pitch, $4\frac{1}{2}$ gals. dead oil or creosote, 18 lbs. resin, 15 lbs. sulphur, 44 lbs. finely powdered lime, 180 lbs. gypsum, 25 cubic feet of sand, breeze, scoria, bricks, stone, or hard materials, broken to pieces, and passed through a half-inch sieve. The sulphur is first melted with about thirty pounds of pitch, after which the resin is added, then the remainder of the pitch with the lime and gypsum, which are introduced by degrees and well stirred, and the mixture brought to boil. The sand, or broken earthy or stony material is then added, and the whole mass well stirred, and the dead oil is in a fit state to be moulded into blocks. In order to consolidate the blocks, pressure is applied to them in the moulds. The patentee gives also the proportions of the above materials to be used as a composition for laying pavements, as a cement for uniting to each other blocks of the first-named composition, when used for building purposes, and as a coating for bridges, the roofs of buildings, &c. The artificial stone hardens in about a week, when it becomes as stubborn as granite. The composition is not only a very durable, but a cheap one, it costing less to erect buildings out of this material than from the commonest kind of brick. A roadway, plastered with this material, becomes a smooth, solid, flooring of rock in about ten days.

The Agriculturist.

TORONTO, FEBRUARY, 1853.

FLAX CULTURE.

We have received of late, several enquiries relative to the means which are being taken to extend the cultivation and preparation of hemp and flax in Canada. Those who feel interested in the subject, which is one of daily increasing importance, may rest assured that the matter will not be allowed to go to sleep, although since the Provincial Exhibition but little has appeared in the public prints about it. We have reason to believe that the question is occupying the earnest attention of the Ministers of Agriculture, and that that functionary either himself, or in connection with the Board of Agriculture, will shortly adopt some practical means of facilitating this object.

The fact is that changes or improvements, as they are called, are being so rapidly made in the United Kingdom, in the method of preparing and manufacturing Flaxen fibre, that a considerable practical difficulty exists in determining without further experience, which is in reality, taking

all things into consideration, *the* best and most economical process. Donlan's machine, which was sent by the CANADA COMPANY to our last Exhibition, is among the most recent improvements, and a mechanic of this city is constructing a new machine after that model. Donlan's machine will be thoroughly tested here during the present year, and from the deep interest which Mr. WIDDER feels in the subject, an interest which we believe is equally shared by the Directors of the Company in London, who will not fail to inform their principal commissioner here of whatever changes or improvements may take place at home, we have therefore good reasons for expecting, that before the expiration of many months, a clear and satisfactory way will be opened to us, in this country for preparing flax and hemp, in the best and most economical manner. In the mean time we will not fail to apprise our readers of whatever comes to our knowledge that is possessed of any practical importance.

We will conclude our remarks for the present, with some statements on the cultivation of Flax, condensed from an interesting paper read by Dr. Anderson, Chemist to the Highland Agricultural Society, entitled 'Summary of Discussions at the Monthly Meetings in 1851-2,' which appears in a recent number of the Society's Transactions.

Flax was formerly cultivated to some extent in Scotland, but of late years it has been almost abandoned, owing, however, to the low price of grain, induced by the late fiscal changes, the culture of flax has been revived, and attempts are being made to bring it within a defined course of rotation. The recent new process of preparing it for market without the old tedious, and sometimes unsatisfactory methods of steeping it in water, have mainly contributed to the production of this result. "It may be safely laid down as a rule, that in a country where labor is dear and rents considerable, the old process can scarcely be made to pay, except under the most favorable circumstances." Under the old system of retting, variations in temperature and the character of water and inattention to various little precautions, which are sometimes most difficult strictly to observe, would so deteriorate the fibre as to render it comparatively worthless: and if flax is to be made to pay at all it must be with the assistance of the new processes, which have been found upon trial more or less satisfactory. It has been proved that by adopting these modern improvements, the cultivation of flax has in most instances turned out more profitable than other crops.

It has been usually considered that flax is a great exhauster of the soil, by extracting a greater amount of inorganic matter than most other crops. Recent practice, we believe, as well

as scientific researches, have gone to disprove this popular belief. Dr. Anderson observes:

"The chemical investigation of the plant shows that there has been much misapprehension on this point, and that under proper management it does not exceed, if indeed it does not considerably fall short of, other crops in this respect. It has been thoroughly established that, with flax as with other crops, the principal part of the valuable constituents are accumulated in the seed, and comparatively little in the straw. Now, it has been found by experience, that the finest quality and most valuable fibre is obtained when the flax is cultivated under such circumstances, that its production of seed is as small as possible. This is effected practically by sowing close, and by avoiding too large a supply of manure, which has the effect of producing a coarse and inferior fibre. If this system is pursued—and it is manifestly that which for all reasons must be most profitable—flax cannot be considered more exhausting than a white (grain) crop. I am assuming, of course, that, as used formerly to be the case, both straw and seed are removed from the land; but if, as will probably be henceforth practised, the seed be employed for feeding on the farm, I apprehend it will turn out to remove less valuable matters than a crop of Oats, of which the seed is removed, and the straw returned to the land. Such, at least, is the inference to which Science would lead us, but it would be most desirable to have it confirmed by actual experiment."

Soils of a *medium* quality, such as are neither too wet nor too rich, produce the best kinds of flax for the better descriptions of manufactures. A very rich soil produces a too luxuriant growth, and consequently a coarse fibre.

Schenck's patented system of steeping has already given a powerful impulse to the cultivation of flax, both in Great Britain and Ireland, and its principle is very simple. It consists in placing the flax straw in small vats, in which it is covered with water kept at a uniform temperature of 90 degrees, by a steam-pipe passing through it. The flax is exposed to this treatment for a period of from 60 to 70 hours, and at the end of that time, the process of fermentation is complete, and the fibre can be separated from the husk and other parts.

With respect to Schenck's system, Dr. Anderson remarks:—

"There is no question that this process is a great improvement, but I have no doubt that it is yet in its infancy, and that it is still far from perfect. I happen to know that a patent for steeping flax upon another plan is also about to be taken out, the preliminary experiments on which have, I am given to understand, been most successful. Other processes have also been proposed; and one—that of the Chevalier Claussen—has been introduced to the public with great flourish, and great results are expected from it, but which, I must confess, I do not think will be realized. That patent is for a method of converting flax into a substance like cotton, which is done by a somewhat complicated process. Now, if the patent had been for converting the cotton into flax, I should have understood it, for that would have been converting a cheap material into a dear one; but I cannot see how any thing is to be made by converting a dear substance into a cheap one. If it is meant that inferior qualities of flax are to be converted into fine cotton, we can

just conceive the possibility of its paying; but if that is all that is to be done, it can be of no benefit to the farmer, because he may depend upon this, that if he is to make the cultivation of flax pay, he must aim at producing only the superior qualities."

PROGRESS OF CANADA.

The present condition and future prospects of this portion of British America cannot be otherwise regarded than as highly satisfactory and encouraging. On all sides we see daily increase of progress. Villages are rapidly springing up in all directions; the older of them fast growing into towns of no mean size, and transacting an ever increasing business, while several of the latter will soon gain the rank of corporate cities. As the railroad system becomes developed in Canada, so will its business increase. Already, in several localities, the expenditure of a few years persevering industry has literally made the desert to blossom as the rose. The following letter, which we copy from the *Brampton Mercury*, written by John Lynch, Esq., an old and respectable settler, well known to many of our readers, is only a single specimen of many of a similar character, which might be culled from the press of different localities. Canadians have now the satisfaction of knowing that their own country is making a similar progress in all the appliances of modern civilisation to their enterprising neighbours of the United States. The difference in favor of the latter that formerly obtained, has often been much over-coloured and exaggerated, by tourists and others; while at present Canada is rapidly assuming a position which must preclude the possibility of an unfavorable comparison:—

"In the beginning of the year 1820, the tract of land on which the village of Brampton now stands, and for many miles around, was an unbroken wilderness, unmarked by anything to denote the proximity of the white man, but the slight traces which the surveyors had left in their survey of the previous summer. In the course of 1820, the Township of Chinguacousy was partially settled, and its population, with that of the neighbouring townships, has continued steadily to increase, until now the spot which thirty two years ago formed part of the immense hunting ground of the Indian, where the wolf and bear roamed at pleasure, has become one of the finest Townships in Western Canada. Upon the Hurontario street, in the above-named township, stands the Village of Brampton, now the residence of over 1,000 human beings, covered (the ground I mean, not the human beings) with numerous merchant shops, manufactories, dwellings, &c., alive with the hum of business, and

giving to even a casual observer, convincing proof of solid prosperity.

"It may not be amiss to mention as a curious incident, that in the summer of 1820, a colony of Beavers, frightened by the earlier settlement of Toronto Township, e-stablished themselves on the banks of the Etobicoke Creek, on the spot where Brampton now stands; but the sound of the axe of the sturdy Pioneer soon disturbed them, and they took their departure to parts unknown.

"The first appearance of anything like a Village was in the year 1834, when Mr. John Elliott sold a few lots off his farm for Merchants' and Mechanics' shops, and called the place "Brampton," after a place in England, near which he formerly resided. One of the lots was purchased by Mr. Abijah Lewis, now of Cooksville, who built a store upon it, which was for many years the only one in the neighborhood. The store and lot were subsequently purchased by Peleg Howland, Esq., our present gentlemanly Postmaster, and is now the site of the Post-office and Mr. Howland's store. About the same time several industrious mechanics e-stablished their trades in Brampton, and soon obtained a good and constantly increasing business.

"In 1840, George Wright, Esq., M.P.P., established the second store in Brampton, and it is but justice to Mr. Wright to say that he has done more by his enterprise to encourage the prosperity of the Village, than any other one individual. By his enterprise in building and other improvements he gave employment to a great number of men, and thus attracted an in-lustrious population to the place. One of the fruits of his enterprise is the splendid Steam Flouring Mill, which turns out over one hundred barrels of flour every day, and is a great advantage to the Village and the surrounding country.

"There are at present in Brampton, one Steam Flouring Mill, one Foundry, and a second in course of erection, one Threshing Machine shop, the Messrs. Hargetts', at which the machine that took the second prize at the last Provincial Exhibition was made, one large Tannery, the proprietor of which being about to retire from business, now offers it for sale or to rent, two Clock and Watch-makers' shops, several Waggon and Carriage makers, Saddle and Harness makers, Cabinet makers, Chair makers, Blacksmiths, and Tradesmen of almost every description; but no loafers. There are six good Inns and a Temperance House, a Livery Stable, Boot and shoe makers, and other places of business too numerous to mention, but for which I refer your readers to your advertising columns. There are three Churches, five Clergymen, four Medical men, two Drug stores, a Book store, a Land Agency, an Attorney's office, and last, though not least, the BRAMPTON MERCURY, just spreading his wings to carry to the inhabitants of the civilized world, and some parts of the United States—as your elder brother of Streetsville would say—the sayings and doings of the Bramptonians.

"There are places, no doubt, which have advanced more rapidly than Brampton—though but few such places could be pointed out—but I know of no place which has increased in the

same ratio with such a substantial and healthy growth as Brampton. There has been no magic in its progress, no building of castles in a night by rubbing an old lamp, which might disappear the next night by a little adverse rubbing; but the prosperity of Brampton—whatever it may be—is owing to the industry and perseverance of its inhabitants, combined with the advantage of its locality, being in the centre of a splendid agricultural country, settled by an industrious and wealthy population, and being also the principal market for the produce of a large extent of back country.

"There is nothing very attractive in the first appearance of Brampton, but there are some very good brick buildings, and numerous buildings are in course of erection. There is not, at the present time, one house to let. The Village is distant about thirteen miles from Port Credit, and twenty-six from the City of Toronto, and by the line of railway about to be commenced this will be reduced to twenty miles.

"In accordance with a proclamation of the Governor in Council, Brampton is now an Incorporated Village, the election of its first Council to take place on the first of January, 1853."

SMITHFIELD FAT CATTLE SHOW.

This Exhibition was held in the usual place in London, the beginning of December, and from all the accounts which have reached us, it seems to have been eminently successful. The new regulation of allowing the different breeds of animals to compete only in their respective classes, came for the first time into operation and appears to have given general satisfaction. So diverse in point of size, habits, adaptation to different pastures, climates, &c., are most of the distinct breeds that it has been found in practice exceedingly unsatisfactory, if not utterly useless for practical and economical purposes to class them together. A *Hereford cow*, belonging to Mr. J. Dunne Cooke, was the winner of the gold medal, as the best heifer or cow of *any breed*; and Mr. Stratton's 4 years and ten months old *short horn ox*, gained the gold medal, as the best steer or ox of *any breed*. A general examination of the animals exhibited (says the *Agricultural Gazette*) results in one unquestionable conclusion, viz.: *the value of symmetry alike in oxen sheep and swine*. The *London Times* has the following remarks:

"There are not more than a half-a-dozen beasts shown of a decidedly second rate character; and the two worst of these are foreigners. It is to be hoped that the introduction of continental stock at these annual exhibitions may not be discouraged by the overwhelming character of the competition to which they are unavoidably exposed. They have established a place for themselves in the markets, and our agriculturists can take no harm, and may derive some useful hints from seeing the best Dutch cattle once

a year placed in juxtaposition with their own. Among other features of the present display may be noticed the skill with which our breeders, in each class, are rearing their animals so as to approach certain standards of shape. Their unemitting exertion have enabled them to get rid of old defects, which were at one time regarded with favour, and so to manage that their stock shall carry the greatest amount of fine meat in the best places. The North Devons have always had, and still retain, the advantage in this respect; but it is wonderful what improvements towards the same end have been made in other breeds and especially the Herefords and Short-horns. If any one wants an illustration of this, let him compare with any of the prize cattle, an old-fashioned Short-horned cow exhibited by the Marquis of Exeter—not a bad specimen of her kind, but still illustrating by contrast, the increased symmetry of younger animals. The most remarkable beast in the yard is certainly Mr. Richard Stratton's ox; its shapeliness and enormous size unite in giving it an advantage to which, were either of these qualities considered separately it would, perhaps, not be so clearly entitled. Among the cattle we notice one rather singular fact, that while there is a fair show of West Highlanders, Angus, and polled Galloways, there is not a single entry of Welsh or Irish. How comes it that our Northern agriculturists, even from as far as Shetland, are thus represented, while from the rich pastures of the Emerald Isle and from the hills of the principality nothing is sent? The classes devoted to cross-breeds contain some excellent specimens, and as these, after all, show the staple which supplies our market with beef, they will be examined with proportionate interest. Among them will be found one remarkably fine steer, exhibited by Mr. Joseph Philips of Ardington, Berk., and an equally handsome heifer, shown by Mr. Robert Beman, of More-on-in-the-Marsh, Gloucestershire. If in their awards for cattle the judges have made any mistake, we should be disposed to say that it was in giving a prize to Prince Albert's Hereford steer, which seemed to us not comparable to that of Mr. W. Heath, of Ludlamball, Norwich, standing next to it. Early maturity, economy in feeding, and a carcass affording the largest quantity of meat distributed in the best joints, ought to be the tests of a good show of fat cattle. The judges point out the finest beasts, but without, we feel, the essential reference to those other considerations upon which the practical value of the exhibition depends.

In the display of sheep, the present show comes out very strongly, and here again, in all the classes, great excellence is attained. The Marquis of Exeter carries off the gold medal for the best pen of one year old Leicesters, and Mr. Sainsbury, of West Lavington, shows the best one year old South Downs. There is also considerable display of cross breeds of extraordinary merit, and to which some of our most eminent agriculturists have contributed. We would draw particular attention to the pens exhibited by Mr. G. R. Overman, of Burnham Sutton, Norfolk, and Mr. W. S. Stevens, of Galthampton, Oxfordshire.—One point which occurs for censure to the visitor of these annual shows, is the preference which the Smithfield Club appears to give to pure over cross-breed stock, notwithstanding that first crosses are of all the most profitable to send to market, that Smithfield is necessarily supplied with a small proportion of pure bred sheep, and that an exhibition like that in Baker-street, is one where strict attention to purity of blood is not requisite, and can be dispensed with. The tendency of such predilections is to shut out practical men from the competition, and leave it in the hands of breeders and amateur agriculturists. The club, it will be perceived on reference to the prize

list, gives no gold medal except in the pure breed classes, and their money premiums for those classes are on a larger scale also. There is an obvious risk in making such distinctions with their new classification, for they will thus be insensibly drawn on until all difference between their exhibition and that of the Royal Agricultural Society disappears.

The present show of pigs is quite equal to that of former years; and the pen to which the gold medal has been awarded will for the next few days occupy no small space in the attention of the visitors.—Those who cannot work their way through the crowd to see them will do well to examine the porkers sent to Baker-street by that enterprising and spirited agriculturist, Sir John Comrov. They are excellent of their kind, and have won him no less than three prizes.

To the existing attractions of their show we understand that the club contemplate adding next year a display of poultry, which cannot fail to be popular. One of the smaller evils of Protection was that it brought into unmerited contempt an interesting and profitable branch of rural industry, which being neglected, our poultry became so dear and bad, that we had, and still have, to draw our principal supplies of them from France and Belgium.

As an offshoot of the exhibition of stock, the bazaar contains also a great collection of agricultural implements supplied by the best makers, and two collections of farm produce, which are of a remarkable excellence and deserve the careful inspection of every visitor. The first of these is by Gibbs & Co., of Half-moon Street, Seedsmen to the Royal Agricultural Society. It is beautifully arranged and shows great care in the selection of the specimens. The second is a contribution from that valuable institution the Royal Dublin Society, and illustrates the capabilities of the Irish soil and climate for the growth of green and root crops in a manner truly wonderful. Mr. Corrigan, the society's curator, has brought over this highly creditable display of farm produce, which we understand is the residue of the society's last autumnal show, and is composed of contributions from the best agriculturists in Ireland.

DISPLAY OF IRISH FARM PRODUCE AT THE LATE SMITHFIELD CATTLE SHOW.

The department of Seeds and Roots of English growth was very extensive and of a high character. A novelty in connection therewith is worthy of special notice, viz., a splendid display of *Irish productions*, forwarded by the Royal Agricultural Society. The *Morning Herald* and other papers speak in the highest terms of the farm productions of the Emerald Isle, where improved tillage and farm management are happily progressing in an accelerating ratio. That most useful and talented journal, the *Irish Farmer's Gazette*, remarks in reference to this matter: "Our English friends have had now, for the second time, ocular proof of the excellence of our soil in such productions; they have also proof that we are not the indolent, ignorant people, some take a delight in representing us to be; for they must not suppose that the production of those fine root crops are only to be attributed to the great natural

fertility of our soil, fertile as it is, without a corresponding exertion in systematic and first-rate tillage, and the application of suitable manures. Improved drill husbandry is no new thing in Ireland."

The specimens of Swedish turnips and mangel-wurzel exhibited are described as of enormous growth; some of the returns showing an average weight of 50 and 60 tons per statute acre! Most of these splendid crops were produced on land which was pronounced a few years since as exhausted and worn-out, and recently purchased in the Encumbered Estates Court; thus affording an indisputable proof of what the naturally rich soil of Ireland can do under proper management.

In connection with this truly pleasing and hopeful state of things, several instances of farm management are related which clearly show that in several districts of Ireland both tillage and draining are rapidly improving. We regret that our space will not admit of details, which could not fail of being interesting, and in some degree useful, to many of our readers. Surely old Ireland, "good time" may now be safely said to have commenced. Success to her exertions.

IMPLEMENTS AND MACHINES AT THE SMITHFIELD CATTLE SHOW.

The *Mark Lane Express*, one of the ablest and best conducted Agricultural papers in Great Britain, observes that the number as well as usefulness of the variety of engines, machines, and agricultural implements generally, exceeded all previous occasions. The number of *Reaping Machines* gave an air of novelty to an English Show. Our contemporary remarks:—

"Perhaps, however, the most striking advance upon former shows was in the reaping machines. There was a great variety of modes of cutting, each claiming merit, and no doubt possessing great advantages for certain purposes; but which of them is the best for cutting the grain crops of England time has yet to prove. First Bell's, on the perfect scissor or clipping principle; Crowley's & McCormick's, the drawcut with a sickle edge; Dray and Co.'s, the Husseyan or chopping plan; Garrett's, a combination of the clipping and chopping principles; Croskill's, a combination of the drawcut and clipping principles, with a fine serrated edge. All these plans have been more or less used, and found to answer in different degrees. The clipping has had the longest practice, and has retained the highest merit wherever it has come in competition with the others, as the farmers require a reaping machine—and no machine can be fully entitled to the name, except it cuts and lays down the crop in a continuous swath, or in parcels large enough for sheaves. Thus the success of such an implement will not be dependent upon the activity and muscular strength of labourers, who are a class

of men that do not like to be put much out of their old pace of moving; this, coupled with the past wet harvest and heavy crops, proved almost fatal to the American reapers; while Bell's, under the same disadvantageous circumstances, was applauded wherever it went. We are convinced that its great success lay much in its cutting, gathering, and laying down the cut crop in a beautifully arranged swath without the aid of man, except as far as driving the horses is concerned; and here the driver using a pair of reins, and steering or guiding it like a plough, soon feels himself at home, because the mode of action is thoroughly understood by him. We are convinced that if the harvest had been as dry as usual, the American machines would have gained a fair share of confidence among the farmers, and with some improvements, we are of opinion they will become a popular and useful branch of machinery.

Mr. James exhibited a variety of weighing machines for weighing all sorts of live farming stock and other produce of the soil. We are strongly of opinion that the time is not far distant when farmers will use the test of weighing the food for their stock, and the stock occasionally while growing or fattening; thus the farmer will be able to detect the errors he committed in selecting or breeding his stock, and the feeding value of each description of farm produce. In fact, we were the more impressed with this idea as we mused over the immense size and weight of the fruit, roots and plants, we saw on the stands of the eminent seedsmen; and especially on the produce of the Emerald Isle sent over from the Dublin Show, which spoke louder than words that both the soil and climate of Ireland are all that can be desired.

With reference to the Steam Engines for Agricultural purposes, the *Morning Chronicle* has the following remarks:—

The yard adjoining the premises was visited in the course of the day by numerous scientific and practical agriculturalists, the source of attraction being a number of portable steam engines at work, by the most eminent makers, including Messrs. Garrett & Son, Messrs. Tuxford & Sons, Mr. Hornsby, and Mr. Burrell. The engine of Messrs. Garrett & Son was shown in connection with their very complete threshing machine, to which we yesterday alluded. The engine of Mr. Burrell was also shown driving a threshing machine. The engine, however, of Messrs. Tuxford & Sons excited the greatest amount of attention and interest. The advantages of the portable housed engine of this firm are self-evident, and the number of them which has been made by the firm proves that they are duly appreciated. At the late Great Exhibition this engine was selected by the engineers of the French and Prussian Governments as the best shown, and two of them were purchased for deposit—one in the Conservatoire des Arts et Metiers, and the other in the Museum of the Royal Society at Magdeburg. The working parts of the engine are effectually protected when at work from the destructive grit and dust especially given out in most agricultural operations. They are secured from the weather at all times; and from any interference with their working parts by being under lock and key. They may be managed by any ordinary farm labourer, with a few days' instruction. They have upright cylinders, this, it is contended, being the best position to ensure the cylinders not wearing oval, as is the case with the horizontal cylinder. The "governors" of the engine act in a very simple and effective manner direct upon the throttle valve, and from this arrangement cannot well be put out of order. The boiler is made of Low-moor iron, and has water-pace flues leading from

the fire-box and returning through lap-welded iron tubes, thus avoiding immediate contact of the tubes with the fire. The total weight of a six horse engine, mounted on four wheels, is but 54 cwt.; the consumption of coal does not exceed the extraordinary low amount of 5 cwt. per day of ten hours. Every precaution is adopted, by means of "spark traps," to avoid accidents from flying sparks. Few questions are of greater interest to the agriculturist than the application, in as simple and economical a manner as possible, of steam power to the varied operations of the farm; and it is pleasing to find the energies of the most eminent agricultural machinists devoted so strenuously to the subject.

THE BIRMINGHAM CATTLE AND POULTRY SHOW.

The fourth annual exhibition took place in Birmingham, the week after the Smithfield Exhibition, and was, as might be expected, more successful than any of its predecessors. In order that our readers may be put in possession of what is doing in this important department of husbandry, in the old country, we subjoin, without entailment, an ably, and we doubt not, impartially written article from the *Mark Lane Express* of December 20th:—

With an extraordinary want of discretion in the management, the Birmingham Cattle Show has hitherto been made to clash with that of the Smithfield Club. The natural consequence of this arrangement was to give something of a local and confined character to the exhibition; never, in fact, until this season was the meeting here allowed anything like full justice being done to its merits and capabilities. There are few towns, be it remembered, with better recommendations for a display of the kind than Birmingham. Famously situated, almost in the heart of many of those counties renowned for their several breeds of cattle and sheep, as well as fed by rail from nearly every quarter more distant, the success of such a show could scarcely be questioned. Further than this, the hall devoted to the exhibition is now, perhaps, the best in England; it is certainly the best we ever visited. Spacious, lofty, and admirably arranged, with the most perfect ventilation and general completeness of detail, it becomes a pleasure indeed, rather than the hard labour of too many of these gatherings, to inspect the different varieties of flesh and fowl brought together in competition. The enthusiast will get a fair turn at every number in the catalogue without that sense of fatigue and oppressive heat which so often has damped his ardour and left his duties unfinished. The mere loungeer, on the other hand, has equal reason for a visit; should he tire on that minute examination of stall after stall, he will find at one end of the hall a most convenient resting-place, opening and fashioned like a stand on a race-course, and affording a capital view of the whole yard. If he require yet more substantial refreshment, he can here command it; lunch of every kind is now provided, although the caterer is of too genteel a turn to deal in beer—rather a strange prohibition, considering time and place, and, as we take it, altogether a mistake.

The town of Birmingham, then, has in itself, to begin with, almost every essential for a show of the kind just there. Nothing more was wanting than judicious management to direct and carry out the

business of the meeting. We are happy to add, that, generally speaking, his has been quite worthy of the occasion. Indeed, in one or two points, the Committee have taken a line of their own, that the experience of season after season gives yet more to their credit. The classification of the several breeds of animals, for instance, just adopted by the Smithfield Club; and, above all, the introduction of prizes for poultry; a step worthy of all commendation, and well welcomed again by both the Smithfield Club and the Royal Agricultural Society of England.

The grand mistake, we repeat, and it might have been a fatal one, was putting the attractions of Birmingham in direct rivalry with those of Smithfield. This should never have been, and, as we trust, will never occur again. The result of the last week, must satisfy everybody as to the error of such a course. The Birmingham Management saw many a new and good name in their catalogue, and many a fresh face in their Hall, which they never would have seen under former circumstances. Moreover, for the quality of the Exhibition, as well as for the general success of the meeting, that now over, we are assured, far exceeds any of its predecessors. The old supporters of the Society, however, have little to complain of from this introduction of new blood; they have fairly held their own, and in some instances, as fairly beaten opponents that came against them in all the flush of recent triumph.

This is the case with the short horns, as a class decidedly superior to any in the yard. Mr. Stratton's beast, which last week took the gold medal at Smithfield, and was pronounced there a very perfect animal, succumbs here to one of Mr. Drakeford's of Coleshill. They are both very fine specimens of the breed, and many a good judge has been puzzled to decide between them. At first one might be inclined to favour Mr. Stratton's, and to question whether Smithfield has in reality been beaten. His is the larger as well as the older beast, and it is difficult indeed to find fault with him. The other, if not quite so showy, will well bear the test of close examination. The more you look at him, the more you like him; wonderfully level and even as he is from end to end, it shall not be for us to dispute the correctness of the award.

In the short horn cows Mr. Towneley takes the first prize and gold medal of the show. This gentleman has now become famous for his cows, as witness his success at Lewes this year. The one he now exhibits will only add to his repute as a judge; she was deservedly the picked animal of the whole yard. Some further entries from Mr. Stratton, Mr. Wiley, Benam, and other noted short horn breeders, contribute to make up a display of short horn cattle that has seldom been surpassed.

It is not our purpose, nor would time admit of our going through the whole of the classes. We may note, however, that the Herefords, if not perhaps in any way disputing the place with the short horns, were generally good; but they are not so much at home here and so, not quite so generally appreciated. Of the Devons there was not a strong entry, it may be from the same cause; still, in what were shown there were some very neat specimens of the pure breed; Lord Leicester, who took the first and second prizes in oxen, winning the former with one of Mr. George Turner's own sort. The general character of the show, nevertheless, does not so much depend on the actual purity of the stock as a distinct breed, as it does on their utility and fitness for those districts from which the classes are chiefly filled. This is especially remarkable in the sheep, of which the South-downs have very decidedly the call; but even these

have rarely the thorough-bred look we are accustomed to in Baker Street, and at the exhibitions of the Royal Agricultural Society. The crosses from them "the Shropshire" and others—may rather be taken as the great feature in the sheep; the Leicesters, with one or two exceptions, making but a poor stand. We certainly expected to have seen a better show of them.

Of pigs, fat and breeding, the entries were numerous, and almost all excellent. In both these divisions Sir John Conroy exhorted to great advantage, with his Aborigin improved pig. The best test for the fat pigs was the eagerness with which they were bought up, at wonderful advance on the price of last year. In fact the sales generally were good; and when we left there was little prime stock in want of buyers. In the small pigs for breeding we especially commend two lots, sent by Mr. Leigh Clare, of Bristol, one of which obtained the first prize and medal. They were a very fine sample of the improved Essex. Though here again, in the pigs of Birmingham, purity is not generally bowed down to—at least as the standard of profitable excellence. But, after all the great strength of the Birmingham show is centred in the poultry. For one man in a railway carriage or a coffee-room that introduced himself with an observation touching the points of a short-horn, or the flavour of a south-down, twenty were learned in Cochins. Country clergymen, *ruse in urbe* citizens, elderly gentlemen going on their own account, and scrippings armed with unlimited orders, were all intent on Cochins. It was not the cattle show—the grand attraction was the "Cochin Show." With the Birmingham Society rests the credit of having first called attention to a branch of breeding so long and so strangely neglected. By its influence the different varieties of domestic birds have been rapidly improved: and, appropriately enough at this last exhibition there was such a display of poultry as never before was gathered together. Dorking, Game, Malay, Hamburg, pigeons, turkeys, geese and ducks of almost every known kind, were there, to be rewarded according to their several merits. And extraordinary merit there was, too, in every class; but still it was of but secondary consideration. The mania—and it is now nothing short of a mania—turns on the Cochins. We hear commonly enough of fifty or sixty guineas being asked and given for a lot of four birds; and we inquire in some ignorance may be, can this be warranted? What superiority has the Cochin over the Dorking or Game fowl? His appearance, for one point, is decidedly against him; no one we should fancy would ever attempt to rate the Cochin as a handsome bird. The two breeds we have just named as well as many others, are in this respect infinitely before him. Is it in flavour? Here, again, we question very much whether he can compare with the Dorking or Game; in fact, the result of our own experience—limited, we admit—is that for the table he is better crossed than when served up in all his native purity of size. Is it this size, after all, that is his chief recommendation? We must not. If with it can be coupled early maturity, and the hen birds be depended on as good layers, the policy of encouraging the breed may be admitted. These very points, however, must of themselves tend rapidly to diminish the extravagant "fancy" prices now given: and the sooner the better. We may then begin to consider them as the common farm-yard fowl; ascertain how economically they may be reared, and how, in reality, they are appreciated. At present the breeding of the Cochins is not, as we would see it, the business of the farmer's wife and daughters, but rather the hazardous speculation of the dealer, or the costly luxury of the amateur. We write—as we hope we need

scarcely say—in the best spirit and with the best intention. If we have not done full justice to this highly prized fowl we shall be only glad to be better informed. Many, as well as ourselves may not be above the advice. As it is, we give the greatest credit to Birmingham for having first introduced such a feature into agricultural exhibitions. It must—it has—not only wonderfully improved and circulated our best breeds, but it has given the ladies a direct interest in these shows they never had before. It is on these two points we join issue—Is the Cochins-China fowl such an improvement on other sorts as to rank him, perhaps for a very long day, far beyond "the pocket-money" of our wives and daughters?

OXFORD COUNTY—ITS RAPID PROGRESS.

In our last number we noticed the publication of the "*Oxford Gazetteer*," a highly creditable work, showing in the most indisputable manner, by statistical returns, the rapid and healthy progress which is making in that productive section of Western Canada. We are tempted to make room for the following article in a recent number of the *British American*, published at Woodstock, that our readers—*particularly those in the Old Country*—may see that this Province holds out strong inducements to all classes of industrious and respectable settlers, where they may achieve an honorable independence and avoid those numerous drawbacks, which are more or less necessarily incidental to all strictly new settlements. In this age, and in a young, rising country, the results which under a former state of things in the old states of Europe, would have required centuries to develop, are successfully worked out in a single generation.

The rapid growth of many of the western towns of the neighboring Union, has called forth expressions of wonder from the tourist, and the columns of many an English publication have blazed forth the almost magic creation of what are now densely populated cities and mercantile marts.

The growth of American towns is probably beyond precedent in the annals of civilization and population; but when we take all things into consideration, the nature of the people, their speculative propensities and love of change, acting on the raw material of a new country, we can reasonably account for this wondrous result of human energy. Nor is the United States the only place where the same spirit is manifest. Canada, though denied many facilities which our neighbors possess, has not been behind in improvement—even in localities where essential advantages and the ordinary streams of business and travel seem to be wanting. In 1827 London was a wilderness, now it is a splendid town—a nucleus to the industry of a rich, flourishing country. Guelph in 1826 was carved out of a dense forest, now it is a town of no mean character. Hamilton in 1830 was in population what Woodstock now is, while in the number of good stores and private buildings of the better class it was far behind our present condition. Nor is it merely in the settlement of our country, and the erection of towns and cities, that we approach our American neighbors; our Educational Institutions are creditable rivals to their more time-honored Col-

leges; while the pure word of Gospel peace is preached in strains as eloquent in the back woods of Canada, and in edifices as elegant in construction and as chaste in style as can be found in any part of the Continent of America. The Arts and Sciences prosper as education extends; and those comforts and luxuries, which the self-exiled immigrant left behind on his native shore, have been brought to the door of all, and that too, at rates so low, that regret for *Home* and its enjoyments is in a great measure forgotten. Free from the evils which over population engenders—and all those burdens which our fatherland labors under, we, through the blessing of Providence and the free Institutions we possess under the benign rule of our gracious Sovereign, enjoy a share of health and comfort which is often sought for in vain in the more genial climate of Britain, or the sunny plains of the south. Yes, in Canada, the husbandman toils not in vain—the artisan plies not his arduous task without a bright future to cheer him. All, all, have hope before them, and with that hope and a few years of well directed exertion, comes ample independence. This is truly a pleasing prospect, and one we need not fear to see cast in the shade by the giant advances of our American neighbors. Looking over the records of our Canadian cities and towns, we find few apparently in a more prosperous condition than the Town of Woodstock; without that wealth in its neighbouring forests which has given existence to many a town; with little to aid the energy of its inhabitants, Woodstock now, in the commencement of 1853, presents no insignificant appearance to the traveller. The forest is fast yielding before the woodman's axe, and good roads are now being extended in almost every direction. Our stores are stocked with the products of Leeds, Manchester and Paisley. Steam has enabled our mechanics to compete with other manufacturers, and few indeed of the articles which necessity or convenience demands, but are made amongst us. Messrs. Bain and Hay, during the past year, have adapted steam power to their works as Cabinet Makers, and exhibit in their ware rooms many beautiful specimens of the art—Messrs. Brown & Co.'s Foundry, consumed by fire and rebuilt within the past year, is an extensive and handsome brick structure, where is now cast about 15 tons of iron at a time—a pretty good index of the popularity and capabilities of that establishment. The new Woodstock Hotel is another building that has sprung into existence on the site of the former one, which was also destroyed by fire early in 1852. Under Mr. Matson's charge, as its accommodating and attentive host—with its spacious rooms and splendid furniture—its comfortable construction, and above all, its reputation in the culinary department, it now forms one of the best if not the very best house in the western country. To look back for ten or fifteen years,—who then could fancy that such a building would now exist, or if built, could find support. Great credit is due to Mr. Matson for the arrangement, and to the builders for the execution of the work, and also to many public spirited individuals who so handsomely contributed to its erection.

Our Mechanics' Institute is another feature well worthy of notice. Through the generosity of our Legislature, and the spirit of our people, this body possesses an excellent selection of most useful books, many of which have been recently added, and with a small expenditure of money in re-binding a few old volumes, and putting into book shape several Magazines, Reviews, &c., the Library of the Woodstock Institute will be, in the quality of its reading material, and the external appearance of its books, second to none west of Toronto. This reminds us of another most useful establishment, which has been

considerably increased during the last year, and reflects great credit on its spirited proprietor. We mean W. Warwick's book store and binding establishment. A well selected stock of Books, with a good supply of school books and stationery, was a want long felt in this place; that want is now in a great measure supplied, and Mr. Warwick is well entitled to the patronage of the people of Woodstock for his industry and enterprise. His supply embraces most that necessity and fancy requires, while he prudently excludes from his shelves, all works of a doubtful character. To his book store, has been recently attached, a book binding apparatus, where is carried on all the various branches of the business; gilding and fancy work is also admirably executed. The ruling machine, which has just been added, is in itself a curiosity well worthy an inspection. It is tasteful in its construction, exceedingly accurate and yet without surprisingly simple. We had the pleasure of witnessing it a few days ago, while an exceedingly nice job was being executed. It was some Royal paper with upwards one hundred faint lines across the page which were recrossed with red lines or columns.—Music paper is also ruled by this machine, and every other variety of blank-book work. In the hands of the binder was a Register for the Woodstock Hotel, the headings of which were printed at this office, and the book bound in the best of English calf, with Russia boards and vellum slips. It was altogether, in our opinion, one of the best samples of book manufacture we have inspected in Canada. Many other marks of rapid improvement in the town and neighborhood of Woodstock can be recorded to which we hope to find time to revert in some future number.

TESTIMONIAL TO DR. McCAL.

Although the chronicling of musical proceedings does not come within the province of the *Agriculturist*, we are tempted to transfer to our pages, from a city cotemporary, the following notice of the Toronto Choral Society, inasmuch as it refers to a gentleman who has zealously laboured in promoting the cultivation of Literature and the Fine Arts in this young country. It may not be known to many of our readers that our Provincial Agricultural Association is indebted to Dr. McCaul for the chaste and beautiful Diploma which the Society has awarded at its Annual Exhibitions since its commencement: the learned Doctor not only furnished the design, but generously, and we may add patriotically, defrayed the expense of the lithography.

TORONTO VOCAL MUSIC SOCIETY.

The Annual Concert of the Toronto Vocal Music Society, came off on Monday evening in the St. Lawrence Hall, before a large and highly respectable, and greatly delighted audience. At the conclusion of the first part a pleasing incident occurred. Mr. G. B. Wyllie, King Street, as Secretary and Treasurer of the Society, presented the Rev. Dr. McCaul with a silver salver with a richly chased silver tea service, consisting of coffee and tea pot, sugar basin and cream jug. Each of the pieces was adorned with appropriate designs of Chinese musical instruments, in bold

relief. On the jug, basin and tea pot, Dr. McCaul's crest was engraved, while the coffee pot bore the inscription—

PRESENTED TO THE
REV. JOHN M'CAUL, L. L. D.,
BY THE MEMBERS OF THE
TORONTO VOCAL MUSIC SOCIETY,
AS A TOKEN OF THEIR APPRECIATION OF HIS
UNWEARIED EXERTIONS
TO PROMOTE THE BEST INTERESTS
OF THEIR ASSOCIATION.

The Dr. ascended the platform amidst great applause, and delivered one of those brilliant impromptus for which he is famed, and concluded with these words: "Gentlemen, I feel that I have far transcended the limits which the occasion would prescribe, and which I had proposed to myself when I commenced speaking. Permit me then, in conclusion, again to express to you my grateful acknowledgments for the uniform kindness which you have evinced towards me, and to assure you, that intrinsically valuable as is the elegant and highly finished service which you have presented, in my estimation it has an untold value—ininitely beyond what costly material or exquisite workmanship can give—as the token of your esteem—the testimony of your regard.

'Oh! the value of that which is given unsought
Is not in the ore or the art,
For it tells of kind feelings that gold never bought,
And breathes the pure warmth of the heart.
And in memory's sad musings 'twill call up sweet
dreams
Of those that are absent or dead,
And brighten life's darkness with sunshine-like gleams
Of joy that was once but has fled.'"

PRIZE MEDAL.

Although late, we think it right to record the interesting fact of a Gold Medal being presented a few months since to *Wm. Hutton, Esq.*, late of Belleville, by the Johnstown Agricultural Society. The medal is thus described by the *Picton Sun* :—

"We were shown a few days ago the gold medal presented by the Johnstown District Agricultural Society for the best essay on "Agriculture as a Pursuit" to *Wm. Hutton, Esq.*, late of the County of Hastings. It is made of very fine gold, weighing one oz. and seven dwts. and is about 2½ inches in diameter. On one side there is engraved "Provincial Exhibition of Upper Canada held at Brockville in September, 1851, running around the border. In the centre, "Presented to *Wm. Hutton*, of Belleville, C. W., for the best essay on Agriculture as a Pursuit, by the Johnstown District Agricultural Society. On the reverse a sheaf of wheat, "Canada" with a group of cattle, pigs, sheep, &c., a man ploughing, a farm-house and barn in the distance, and a clump of maple

and cedar trees on each side, with the rose, thistle, and shamrock, formed into a wreath on the outer edge. This beautiful medal was designed by *Dr. Reynolds* of Brockville, and the workmanship is by *Mr. Townsend* of Montreal. It is one of the most beautiful specimens of workmanship we have ever seen, and reflects the highest credit on the artist, while the design is the happiest thing of the kind that could be conceived.

Every farmer should be proud to know that the importance of his calling is looked upon in such a light as the presentation of a medal like that we have noticed above indicates. With a spirit of emulation among neighbouring societies to excel, and a tangible wish to disseminate information, such as the presentation of this medal gives, and a special department of the government for furthering the interests of agriculturists, they as a class ought to rejoice to know that they are beginning to occupy their true position in the country.

WEIGHT OF A DURHAM STEER.

WOODHILL, Waterdown, Jan. 8, 1853.

DEAR SIR,—As the Journal of late has contained some discussion upon the relative value of Short Horns, Herefords, and Devons, I beg to transmit a short statement of a thorough-bred Durham Steer, bred and lately slaughtered here.

My own firm, deliberate opinion, gives a decided preference to thorough-bred improved Durhams, of the right stamp, and this for all purposes; but I should indeed be greatly ashamed, were I to make any depreciating remarks upon other breeds, which may justly find favor with other breeders.

I have no doubt that in the long run, the best paying breed will ultimately prevail; and we have only to bear in remembrance that one breed may thrive and pay well, where another would prove far less successful.

The Steer in question was a white bull calf, dropped in April, 1849, and not entirely pleasing me in his points, I had him altered. This Steer never tasted turnips or grain, nor was he ever pampered in any way. In fact he got bare justice, even in his ordinary grazing. He was slaughtered about the middle of December last, taken direct from a December pasture. His net weight was as under :—

Four Quarters,	- - -	900 lbs.
Tallow,	- - -	80 "
Hide,	- - -	100 "

1080

I am aware that this has no pretensions to being called anything remarkable, but taking into account his age, *three*, rising *four*, and the

total absence of extra feed, or indeed of any feed, beyond ordinary farm pasture, I consider it to be a very fair farmer's return. The quality of the beef was *first rate*, tender, juicy, and finely marbled.

Yours truly,
ADAM FERGUSON.

CORRECTION.—MR. VAIL'S SALE.

In the list of Mr. Vail's sale of his herd of Short-horns, copied from an American contemporary, into our December number, an error occurs of sufficient importance to require correction. The heifer "*Wil-dam 6th*," No. 23 in the list, is reported as being purchased by a Mr. Perkins, while the real purchaser was, we are truly glad to learn, our respected and enterprising countryman, *Hon. Adam Fergusson, of Woodhill, Canada West*. It is a fortunate circumstance that so fine and promising an animal has been purchased for this country, and we look forward with confidence to the time when Mr. Fergusson will be able to send us accounts, similar to that contained in the preceding article, of well-fattened Stock fed only on the *ordinary pastures* of his farm. We are also glad to observe that several of Mr. Vail's herd were purchased by *Mr. Parsons, of Guelph*; so that we have a good chance of being pretty well supplied with some of the *best short horn blood ever imported from England*.

The following explanatory note, which we received from Mr. Fergusson, should have appeared in our last number, but was inadvertently mislaid.

Editor of the Agriculturist :

WOODHILL, December 16, 1852.

DEAR SIR,—I have just received the December No. of the *Agriculturist*, which is really a most creditable and respectable publication, in its renewed garb, and I trust will be well supported.

I am *very sorry* that you should have inserted a *spurious* statement of Mr. Vail's sale. He writes me that the *only two* papers which are *warranted* correct, are those of Mr. Tucker, Albany, and Mr. Allen, New York. His fine Heifer, which I purchased there (No. 23), is given to a Mr. Perkins, of whom I know nothing. It is a great injury to me, as I may be justly, or at least feasably, charged with duplicity, in asserting that I had made such a purchase. Mr. Vail is taking steps to have it explained, as it really is of considerable importance it should be put right. *Wil-dam* is a symmetrical Heifer, and I hope is in calf to young *Kirk-leavington*, which should produce something extra. The Bull *Victor*, which I bought in summer, is improving in size and beauty. He

is recorded in the *English Herd Book* (No. 12,268), and I believe is the *first* and only animal so recorded *in his own individuality*, certainly in *Canada*, and I believe I may say in the United States.

I write in haste.

Yours truly,
ADAM FERGUSON.

PRINCIPLES OF BREEDING.

To the Editor of the Agriculturist.

SIR,—This communication is intended to counteract erroneous ideas which very generally prevail with respect to the improvement and crossing of our domestic animals.

As I cannot express myself better than Professor Low has done in "*Elements of Practical Agriculture*," I will quote that work with a few additional remarks.

"When a cross is made, it should be with a male of a superior breed; and in this case, the first cross will be almost always a good animal, but in breeding from the progeny of this cross, expectation will often be disappointed. Not only do the good qualities of the first cross not always remain in the progeny, but often there are found in it defects which cannot be traced to the parents. To secure the benefits of the cross, we should not again resort to the males of the inferior stock, because it might be found that while we had injured the original breed, we had not substituted a better in its stead. The rule therefore should be, to cover the first cross with a superior male of the same breed, and so on, until the good characters of that breed became permanent in the progeny. This is said to be breeding up to the superior stock."

It is too often the custom to keep a male of the first cross for breeding purposes, and as his produce is quite inferior, this tends to create a prejudice against improving and improved breeds. It is the blood that makes the improvement—and a very middling looking animal, well bred, will get better stock than a much larger and finer looking one but one quarter or one half bred.

"In crossing, the essential characters of form are imprinted on the offspring by the male; and it is surprising in how great a degree this imprinting of better characters takes place when a male of superior breeding is employed. A first cross between a short horned bull for example, fully bred, and a very ordinary cow, produces, not often, but generally, a fine animal, with an extraordinary aptitude to fatten. But the benefit may end with the progeny, if we do not again cover with a male of superior breed, and so on until the good characters become permanent."

Though the female should not be neglected, it is the male that makes the greatest improvement, and a good male, with a poor female, will make better stock than a good female with a poor male.

There is also, among many, a prejudice against crossing the Leicester and South Down sheep, because say they, they so soon become worthless—and the Report of the County of Wellington published in the *Agriculturist* of June tends to increase this.

Now this cross is known to make a most valuable sheep for general purposes, but if not attended to, they will undoubtedly run out sooner than either of the original breeds kept pure—and this is the case with all crosses.

The proper method when a farmer wishes to keep this kind of sheep is to breed alternately from rams of the original breeds.

I remain, Sir,
Yours, &c.,
C.

January, 1853.

BONE MANURE.

(Read before a recent meeting of the Frontenac Agricultural Society, at Kingston.)

GENTLEMEN,—

I am sorry to say that although I have used my best endeavor to collect information on the subject of Bone dust, I have not been so successful as I could have wished, owing in the first place to its being as yet little used by the agriculturists in this country with whom I have corresponded on the subject; and, secondly, to the fact of its being applied so extensively in England to the culture of turnips, that I could find little mention of it in "Steven's Book of the Farm," except in connection with turnip husbandry. I shall, therefore, only quote such paragraphs from him as relate to the preparing of bone-dust for manure, it being my opinion, though I speak it with diffidence, that this country generally, and our portion of it particularly, is not suited to the cultivation of turnips on a large scale. On this point I may be mistaken, and it would be a matter of great gratification to me, should what I have now said induce some of our farmers who have tried that kind of culture, and have found the crop a profitable one for any consecutive number of years, sufficient to prove it was so from the effect of proper cultivation, and not of mere local advantages, or the result of a chance favorable season, to come forward and give such practical information through our agricultural papers, as may lead to the general culture of that very useful root.

I shall now proceed to consider how bone-dust can be used beneficially to the soil, and profit-

ably to the farmer in this country, otherwise than in the culture of turnips; and for this purpose I shall quote a passage from an excellent article in the *Canadian Agriculturist*, the whole of which, being written by Professors Croft and Buckland, I need hardly add, merits your most attentive perusal.

"Bone manure is peculiarly adapted to exhausted arable land, and upon poor unproductive pastures, its application has been attended with the most striking results. The soil in such cases having been exhausted of its phosphates by repeated cropping, or as in the case of pasture land by the gradual deprivation of these materials by the milk, cheese, and bones of animals, that have been sold off through a long series of years without any adequate return in the form of manure; a liberal dressing of bone dust speedily restores the equilibrium, by returning to the weakened soil, the very ingredients of which it had been deprived."

You will here observe that particular mention is made of bone-dust as a manure for exhausted pasture, and as such I think it can be more profitably used by us than plaster, in support of which I find mention made of it in a little book called "Walks and talks of an American Farmer in England," written by F. A. Olmstead, who seems well acquainted with practical agriculture, he there says that it is extensively used in Cheshire on pasture land, and that the effect of it is so lasting as to be very perceptible eight and nine years after it has been applied. Stevens also says that when used in large quantities, its effects may be seen twenty years after, its superiority to plaster which requires sowing every year, is therefore self-evident.

I shall conclude by reading the passages from Stevens before referred to, calling your particular attention to paragraph 3,236, where a method of preparing the bones without grinding is mentioned which can easily be carried into effect by any farmer.

"Bone dust has now established itself as a valuable manure, and with the exception of farm yard dung, there is no substance upon which more implicit reliance may be placed as a fertilizer of the soil, not even excepting guano.

"One of its most valuable qualities is its durability, and in this respect it is superior to farm dung and guano; even in its reduced state when applied in large quantities, as 1½ tons to the acre, as used by the Cheshire farmers, its effects are visible 20 years after; this results from the slow decomposition of its inorganic matter in the soil.

"It has been ascertained by analysis that 1 ton of bone-dust equals 30 tons of dung; but as only 16 bushels of bone-dust are applied to the acre, which, at 47 lbs. per bushel, weigh 7 cwt., this quantity is equal to 10½ tons of dung.

"Mix vitriol with twice its bulk of water, put into a large tub double the weight of bone-dust, and pour the mixture of vitriol gradually over it, and in time the bone-dust will be entirely dissolved. The mass may be dried with ashes,

saw dust, or vegetable mould. Uncrushed bones will answer as well, but take longer preparing.

"Or, (and t is the paragraph to which I particularly directed your notice) mix four cart loads of bones with as many of sand, and place in a flat topped heap, then thoroughly drench with water. At the end of a fortnight turn over the heap and water afresh; in a month few of the bones will remain whole. In this way large bones may be reduced, but broken bones will of course reduce more quickly."

LONGUEUIL.

DEVON CATTLE.

Editor of the Agriculturist:

DEAR SIR.—As so much is being said in the *Agriculturist*, by the admirers of Short Horn and Hereford cattle, in favor of their favorite breed; perhaps you will allow me to put in a word in favor of the Devons.

When I was living in the South West of England we usually milked about twenty cows, and at one time a large proportion of them were Short Horns,—they all lived alike—Short Horns and Devons side by side; the land was of excellent quality; the climate as is well known, mild, and humid; and grass almost always plentiful. We finally discarded the Short Horns for the following reasons:—

1st. Because we could keep three Devons on the same quantity of food, which two Short Horns required.

2nd. Because we found the milk from three Devon cows worth more, especially for butter making, than the milk from two Short Horns.

3rd. Because we found the Devons much less subject to barrenness.

4th. Because among a hundred Devon calves you would hardly find one inferior, all would be uniform and exquisitely symmetrical; but we could not get a dozen Short Horn calves without some coarse and inferior ones among them.

5th. Because when fat the Devons brought about 6d per stone of 3 lbs more than any other cattle, excepting Scots.

Nevertheless I believe the very best tribes of Short Horns are the most beautiful cattle in existence, it would, I think, look like prejudice to deny it; but do they suit the Canadian farmers? Except a farmer can afford to purchase a bull every two years and pay two or three hundred dollars for him, for he must be thorough-bred (or full-blooded as the Canadians term it) his herd will soon deteriorate; and badly bred, long, gaunt Short Horns, are the worst things ever a farmer had on his place. Crosses after the first never answer; no breed that I know anything of require so much care and judgment.

But crosses from the Devon bull and the native cattle answer better in my opinion, though inferior to pure Devons, they are seldom coarse,

never long legged, and are generally good handlers.

The Devons are equally as hardy in my opinion as the natives. Your respectable correspondent Mr. R. F. Cook, seems to class them with those breeds that require nursing, and high priced food in winter; but I must beg leave to differ from him. As to Herefords I have had no experience among them, what I have seen at Agricultural Shows in England were very fine nimals. My only additional observation is, that I do not at present own any Devon cattle; and therefore am not pleading to fill my own pockets.

I am, dear Sir,

Yours, most respectfully,
W. H.

LETTER FROM MR. SOTHAM.

To the Editor of the Canadian Agriculturist.

DEAR SIR,—I have no desire to dispute your valuable correspondent Mr. Cameron, as I think he must be mistaken in the place of Showing. I never heard of a bull or breeding cow taking prizes at Smithfield. If so, I shall be very much obliged to Mr. C. to refer me to it. "Bamboo" may have won many premiums, but did he ever show against a Hereford or Devon, if not, there can be no comparison. These two breeds have never come in competition with each other, except at Smithfield, but what the Herefords have *invariably proved triumphant.*

My bull Tromp, now owned by Hon. Allen Ayrault and one of the "Parsons Rhinoceros tribe," took first prize as a calf, as a yearling, as a two year old, and as an aged bull, but did not compete with Short Horns. I should like to see him shown against "Bamboo," both in the same condition, *high, low, or moderate.* I should have much pleasure in seeing either of my cows Silla, Rose, Pretty Maid, Sally, Jenny Lind, Bombazine, or Cynthia, shown against Butter Cup, and let merit prove which was champion. Mr. Parsons may again say the "distance" is too far between them, but if Short Horn men feel inclined they can meet. I hope Mr. Cameron will advance some way of bringing them into fair competition, he has only to suggest, and I think he will be met. As Mr. C. has commenced on the merits of this breed I hope he will continue it. I will not accuse him of "untruth," if he is sometimes "mistaken." He may not be in this instance and I may be proved "in ignorance."

I am dear Sir,

Yours Sincerely,
WM. HV. SOTHAM.

Piffardinia, N. Y. Dec. 1852.

CANE AND GRAPE SUGAR.

Editor Canadian Agriculturist :

DEAR SIR,—I notice in your January number a short paper descriptive of a process for preparing sugar from Indian Corn and Oil of Vitriol. The process is by no means new, having been invented by Kirchoff at the end of last century; but from the description above referred to, most persons unacquainted with the subject would be led to believe that the sugar produced is identical with that of the cane, the beet, the maple, and the corn stalk. Such is not the case, it is grape sugar which is formed;—that peculiar modification which exists in the grape, raisins, figs, honey, and in almost all fruits, and which does not possess more than a small fraction of the sweetness of ordinary cane sugar. It cannot therefore be applied to all the same purposes as this latter kind, although in some few instances it might perhaps be usefully employed. If a person desirous of having his cup of tea rather sweet, were to employ the starch sugar, he would have to fill his cup with it first, and then add the tea.

I may also take this opportunity of pointing out a rather serious error into which your correspondent, Mr. Moyle, has fallen. He seems to have no very distinct ideas respecting the difference between phosphorus and phosphoric acid; in the lime stone alluded to, the phosphoric acid is combined with lime, and is not in the slightest degree altered by any heat to which it may be subjected. The experiment with decaying phosphorescent wood has no bearing on the question whatever.

I remain,
Yours, very truly,
HENRY CROFT.

UNIVERSITY,
Toronto, Jan. 16. 1853.

HORTICULTURE.

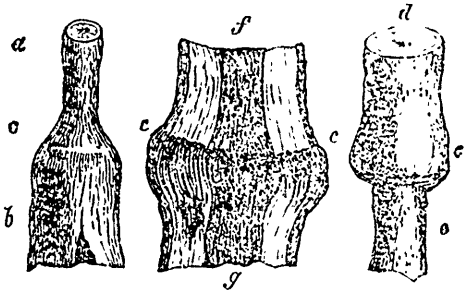
PROPAGATING BY GRAFTING.

When particular sorts of shrubs and trees cannot be procured from seed, or when the seedlings would be a number of years in blowing or fruiting, slips of these sorts, or even buds, are cut off, and instead of planting them in the ground, they are fitted to a cut made in another suitable tree or shrub, called the *stock*, by an operation variously performed, termed *grafting*, which can only be properly taught by a master and not by a book.

The principal upon which the union takes place is, that the pulp from the cutting descends to its junction with the stock, where, being excluded from the air and light by a ball of prepared clay, it forms woody fibres instead of roots as it might have done in the ground; while at the same time, the sap from the stock rises into the cutting, whose leaves convert it into pulp.

When the texture of the wood is softer in the cutting than in the stock, the latter interrupts the descent of the pulp, and forms a bulging scar; when the cutting has a harder texture than the stock, the contrary takes place.

In the practice of grafting, only the sorts of the same or similar species succeed. A pear cutting for instance, may be grafted on a quince or apple stock; but not a plum on a cherry stock. The apple, however, succeeds when grafted on the hawthorn or the mountain ash, though much better when grafted on a crab stock.



a, the *Pavia lutea*, a shrub, which never attains the size of a tree, cleft-grafted on the horse-hesnut, *b*, a tree of great size. It is remarkable that the *Pavia* is much enlarged near the junction *c*, like a tree near the ground, a circumstance which would not have occurred but for the graft. The bark of each remains distinct. *d*, the white-lime tree grafted on the European lime tree, *e*; each growing in diameter according to its particular nature, without any intermixture at the line of graft, *c*; a vertical section, *f*, *g*, of an almond tree, *f* cleft-grafted on a prunus, *g*, showing that not one of the characteristics of the two individuals ever pass the line of junction, *e*, *e*, any more than the spin grafted on the comb of the cock ever changes its hard horny nature for the soft fleshy nature of the comb.

When one branch of a growing tree or shrub is grafted to the branch of another growing plant near it, the process is termed *inarching*, but this system is seldom practised, except with rare and choice plants. When a bud from one tree is inserted into the bark of another tree, it is termed *budding*, and this is exceedingly advantageous to rose trees, for a fine standard rose may thus be obtained by simply inserting buds of good sorts on a stock of the wild rose and the sweetbrier. It is also very useful in filling up the breaches in peach trees trained to the wall, which are sometimes occasioned by the decaying of a large branch.

PLANTING.

It has been previously suggested that this operation should be performed in cloudy or showery weather. It must never be forgotten, in planting, that a plant is a *living* thing. For this reason it should not be kept out of the ground, or its roots allowed to dry, or these last be much crippled. The new earth should also be placed about the roots with great care and gentleness, and not pressed upon them too violently. October and November are the best months for planting trees and shrubs, because they are then comparatively at rest, and the weather is usually dull and quiet. Where little check is required to be given, balls of earth to the roots must be obtained, if possible, and these

not crushed or pressed against too rudely in planting.

Some recommend the process of puddling, which consists in mixing up soil and water into a kind of thin paste, and dipping the roots of the plants in this; or, in the cases of larger things, planting them wholly in a hole thus prepared. As ordinarily pursued, however, the plants might as well be placed in mortar and cement; for, as soon as the mud dries, it becomes a hard cake, which neither water nor air can thoroughly penetrate, and which will partly or altogether prevent the roots from extending. If adopted at all, it should only be in some modified manner for such thing as cabbages and broccoli.

PRUNING.

Pruning is for the purpose of preventing extra luxuriance, of throwing plants into a flowering or fruit-bearing state, or of preserving some kinds from degeneracy. Very strong and very weakly shoots alike require most pruning; for the one class will be too vigorous, and the other too feeble, to be productive. But the sickly shoots of plants should be pruned back much closer than the luxuriant ones; for the object is to produce entirely new ones in the former case, while only shorter branches are desired in the latter, and pruning would merely tend to develop such as were similarly strong.

It is lateral branches and spurs that mostly bear flowers and fruit in some plants, and pruning is intended to multiply these. Hybrid plants and those of which the sorts have been greatly improved by culture, are such as chiefly require pruning. Stopping the *young*, tender shoots of many kinds may sometimes be preferable, as it hinders the plants from wasting their strength unduly. Even removing the buds that are not required to develop just after they have burst, may often be advantageously practised. Indeed, summer pruning is of more consequence than is generally believed for plants that will not bleed much, especially if they have to be trained, or if any particular kind of new growth is wanted. Late in the autumn, and early in the winter or spring, are, however, the principal times for pruning. It may be extended to the roots in certain cases, where extreme woodiness is wanted to be restrained.

FLOWERING AND FRUITING.

Both of these states are generally to be brought about where they do not naturally occur with sufficient readiness or force, by a series of checks. Whatever promotes strong or rank growth is decidedly against them. The perfect ripening of the wood, and in fact, the complete maturity of all the parts, such as a sunny summer and an exposed situation will produce, are necessary to the full development of these tendencies. Transplanting, withholding manure or water, judicious pruning, exposure to the sun and air, keeping the roots near the surface of the ground, slightly raising the plant above the general level, shallow soil, and thorough draining, are the best things to produce fertility, when it does not show

itself at the usual period; and, with the exception of stinting the supply of manure and water, they will be beneficial at all times. Deep planting or imperfect drainage, are exceedingly bad; and manure will ordinarily be adverse to flowers. For plants in pots that are prone to become too vigorous, cramping the roots, diminishing the supplies of water, and putting them a good deal in the open sunshine, will do much towards restoring them to the desired condition.

SHELTERING AND PROTECTING.

Shelter from winds should be given by loose and meshy, not solid materials. Trees and shrubs are better for the purpose than walls, as they stop the force of the currents, while walls only divert it and increase its power. Hurdles filled in loosely with reeds or rough laths, or branches of pine or surze, are also preferable, in form of shelter, to closely boarded ones, for the same reason.

Shade from the sun's rays should, in like manner, be thin and partial only. A few fir branches stuck around the plants to be shaded, or some very thin canvas or gauze stretched over it, will generally suffice; the object being merely to break the extreme power of the sun's rays, and not to shut them out entirely. Anything dense or opaque is therefore objectionable. Mulching applied over the roots, to keep the soil very moist, will be a good substitute for a shade in some cases. Plants rarely want shading, unless when they have been newly removed or are in bloom.

Protection from frost may be secured by simply intercepting the radiating process. Whatever keeps plants moderately dry at the roots will greatly help to protect them; for frosts act far less upon them at that time than when they are in a wet state. A temporary pent-house or a small tent-like canopy, open at the sides, will occasionally be sufficient both to keep plants dry and prevent radiation. But in very severe weather they may be covered up more closely, bearing in mind that the point always to attain is to stop radiation rather than to communicate additional heat.

When plants, by a sudden occurrence of frost or any other accident, become slightly frozen, and their tissue is not actually destroyed, they may be saved by watering them with cold water just before sun-rise in the morning, and covering them over with a mat or other object which will keep them in the dark until they have gradually thawed. The design is to prevent the sun from shining upon them until they are quite restored.

ROTATION OF CROPS.

Such an arrangement as the change of crops becomes necessary because different plants exhaust the soil of particular elements, and are more or less gross and extravagant in their habits; so that where they have grown one year they will have so much withdrawn the kind of food they require as to be incapable of attaining any perfection on the same plot in the following season. Other kinds, however, coming after them, may not need anything like so much

of the same element, or may not even want it at all. The practice likewise causes a saving of manure, for when the food a crop requires has not been abstracted from the soil by a previous crop, manure will sometimes be superfluous.—Potatoes, scarlet-runners, broccoli, and the cabbage tribe, particularly demand a fresh soil yearly. Pansies, hyacinths, and other bulbs and florists' flowers that are of hybrid origin, are equally fastidious, if they are to be grown to great perfection.

By ridging up the ground in winter for vegetable crops, and thus admitting new gases from the air, and salts from snow or rain, the rotation plan of cropping becomes less necessary, though it may never be entirely dispensed with. Perhaps when the precise food which every individual crop requires, and the manures fully capable of supplying such are more thoroughly known and experimentally tested, the necessity for changing yearly the vegetable tenants of any particular piece of land that best suits a certain tribe, may be almost if not altogether annihilated."

IMPROVEMENT IN BRICK MAKING.—An invention has, it is stated, just been patented in England, for the adaptation of a preparation of coke and other substances, by which bricks, paving slabs, door and stair steps, tiles, pipes, blocks, railway sleepers and other articles of general use by builders, &c., can be produced with a perfection and at a cost which it is expected by the inventor will effect a complete revolution in the building trade. The price at which it is proposed to offer the coke brick to the public is scarcely one-third of the cost of the clay brick, while in point of durability it is superior to the best article supplied from the kilns.

FLAT ROOFS.—All the new houses which have been built in New York recently, have what are termed flat roofs. The roof is nearly level, and old humped roofs are fast disappearing, we wonder how they ever came into use. The inventor of them must have been a man of comical ideas. The flat roofs are covered with tin and well painted. If a fire takes place in a building it is easy to walk and work on the flat roof so as to command the fire if it be in the adjacent building; this cannot be done on peaked roofs. Flat roofs are cheaper and more convenient in every respect. We advise all those who intend to build new houses to have flat roofs upon them. It is far better to have a flush story at the top of the building than a peaked cramped up garret which is only comfortable for travelling on the hands and knees.—*Scientific American.*

TAKE CARE OF YOUR FEET.—Of all parts of the body, says Dr. Robertson, there is not one which ought to be so carefully attended to as the feet. Every person knows from experience that colds, and many other diseases which proceed from the same, are attributed to cold feet. The feet are at such a distance from the "wheel at the cistern" of the system, that the circulation of the blood

may be very easily checked. Yet for all this, and although every person of common sense should be aware of the truth of what we have stated, there is no part of the human body so much trifled with as the feet. The young, and would-be-gentle-footed, cram their feet into thin-soled pinching boots and shoes, in order to display neat feet, in the fashionable sense of the term. There is one great evil, against which every person should be on their guard, and it is one which is not often guarded against—we mean the change of warm for cold shoes or boots. A change is often made from thick to thin soled shoes, without reflecting on the consequences that might ensue. In cold weather, boots and shoes made of good thick leather, both in soles and uppers, should be worn by all. Water-tights are not good if they are tights also; india-rubber over-shoes should never be worn except in wet splashy weather, and then not very long at once. It is hurtful to the feet to wear any covering that is air-tight over them, and for this reason india-rubber should be worn as seldom as possible. No part of the body should be allowed to have a covering that entirely obstructed the passage of the carbonic gas from the pores of the skin outwards, and the moderate passage of air inwards to the skin. Life can be destroyed in a very short time, by entirely closing up the pores of the skin. Good warm stockings and thick-soled boots and shoes are conservatories of health, and consequently of human happiness.—*Scientific American.*

LIFE PRESERVERS.—One of the most useful and important inventions of the present day is the Life-Preserving Seats of Mr. George P. Tewksbury. We know of nothing since the invention of the Davy Lamp by Sir Humphrey Davy that can be at all compared with the present invention, in so far as relates to the preservation of human life. These seats are in the form of stools and settees, and are so constructed that whilst they answer the purpose of ordinary stools and settees, take no more room, and are just as portable, they possess such buoyancy that one stool will easily support one person on the surface of the water, and a settee that will seat three persons will support the same number. No steamboat, ship or pleasure boat should be without an adequate supply. The government, we understand, are about adopting them in the ships of war and other government vessels, and the time must soon come when they will be in universal demand, and their inventor looked upon as one of the greatest benefactors of our race. We are much mistaken if the Royal Humane Society of England does not show its appreciation of Mr. Tewksbury's invention by some substantial token of acknowledgment. We trust, moreover, that our citizens will not be slow in manifesting their gratitude for the invaluable boon thus conferred, and not leave it for posterity to do, as has been the case with other benefactors. Another invention by the same gentleman, partaking of the same character, is a life-boat constructed on new principles, and far surpassing any other now in use. Indeed, so admirably is it calculated for its important office, that under no circumstances can it founder, sink, or be inverted, unless it be completely broken.—*International.*

The *Scientific American* thinks cast iron pavements for road ways will supersede the McAdams, Russ and all stone pavements now in use.

CENSUS RETURNS.

We publish below an abstract of the population of the Townships of Upper Canada, as exhibited by the last census.

POPULATION OF UPPER CANADA.

Townships.	Population	Townships.	Population
Amherst Island	1287	Aldborough	1226
Camden	6975	Bayham	5092
Earne-town	5111	Dunwich	1948
Sheffield	1792	Dorchester	1477
Bath, abou. 620		Malahide	4050
		Southwold	5063
Total Addington	15165	Yarmouth	5288
		St Thomas Village	1274
Oranford	6410		
Oranford, Town	3877	Total Elgin	25418
Burford	4433		
Dumfries, South	4297	Anderdon	1199
Oakland	810	Colchester	1870
Onondaga	1858	Gosfield	1808
Paris, Village	1890	Maidstone	1167
Tuscarora	1821	Malden	1315
		Mersea	1193
Total of Brant	25426	Rochester	788
		Sandwich	4928
Arran	119	Amherstburg, Town	1889
Brant	621	Tilbury, West	675
Bruce	100		
Carrick	} not settled.	Total Essex	16817
Calross			
Elderslie	14	Clarendon	} not settled
Greenock	244	Barrie	
Huron	236	Kennebec	
Kincardine	1419	Palmerston	
Kinloss	17	Olden	
Saugeen	277	Oso	
		Howe Island	
Total of Bruce	2837	Kingston	5235
		Loughborough	2003
Fitzroy	2807	Pittsburg	3258
Gloucester	3095	Bedford	1118
Goulbourne	2525	Po. land	2388
Gower, North	1777	Hinchinbrooke	361
Huntley	2519	Stirlington	2130
March	1025	Wolfe's Island	2654
Marlborough	2053		
Nepean	3800	Total Frontenac	19150
Osgoode	3050		
Richmond	434	Lancaster	4023
Tarbolton	542	Charlottenburg	5557
		Lochiel	4174
Total Carleton	22637	Kenyon	3842
Matilda	4198	Total Glengary	17596
Mountain	2764		
Williamsburg	4284	Artemesia	733
Winchester	2565	Bentnick	1272
		Collingwood	545
Total Dundas	13811	Derby	471
		Egremont	665
Cartwright	1750	Euphrasia	60
Cavan	4138	Glencol	1250
Clarke	6190	Holland	954
Darlington	8095	Melancthon	450
Hope	5299	Normanby	539
Manvers	2568	Osprey	486
Port Hope, Town	2476	Proton	589
		St. Vincent	1601
Total Durham	30732	Sullivan	518
		Sydenham	2432

*Indian Territory	678	Orford	1566
		Raleigh	2460
Total Grey	13217	Romney	} 1023
		Tilbury East	
Augusta	5154	Zone with Camden	
Edwardsburgh	4779	Chatnam Town	2070
Gower, South	863		
Oxford	4496	Total of Kent	17469
Wolfed	3259		
Piescott, Town	2156	Bosanquet	1093
		Brooke	511
Total Grenville	20707	Dawn	556
		Emiskillen	238
Canborough	1151	Euphemia	1457
Cayuga North	2013	Moore	1258
Cayuga, South	824	Plympton	1151
Dunn	820	Sarnia	1384
Moulton	1984	Sombra	738
Oneida	2817	Warwick	2669
Rainham	1618	Islands	
Seneca	3636		
Sherbrooke	331	Total Lambton	10815
Walpole	3583		
		Bathurst	2868
Total Haldimand	18788	Sherbrooke South	487
		Beckwith	2540
Esquesing	5225	Burress North	1110
Trafalgar	6782	Dundas	1421
Nassageweya	2237	Sherbrooke North	399
Nelson	4078	Leamington	98
		Dunsmuir	2648
Total Halton	18322	Elmsley North	2051
		Lanark	2649
Belleville	4569	Darling	670
Hungerford	3124	Montague	3356
Huntingdon	2548	Packenham	1868
Madoc	} 2761	Ramsay	3256
Elzvir			Peterborough
Tudor			
Marmora	635	Total of Lanark	27317
Rawdon	3097		
Sidney	4574	Bastard	3448
Thurlow	4160	Burgess South	276
Tyendenaga	6200	Crosby, North	1785
Grimssthorpe		Crosby, South	1578
Lake		Elizabethtown	7087
		Emsley	5208
Total Hastings	31977	Escott	1399
		Kitley	3525
Hay	985	Leeds	2283
Steehen	742	Lindsay	2439
McGillivray	1708	Yonge	3661
Biddulph	2081	Brockville, Town	3246
Uborne	1481		
Grey	848	Total of Leeds	30280
Morris			
Turubury		Adelphinstown	718
Ashfield	907	Fredericksburgh	3166
Wawanosh	722	Richmond	4071
Colborne	924		
		Total of Lennox	7955
Hullet	955		
Tuckersmith	1727	Cainston	1398
Stanley	2064	Clinton	2462
Goderich	2715	Gainsborough	2538
Goderich, Town	1329	Grantam	3215
		Grimmsby	2448
		Louth	1848
Total of Huron	19198	Niagara	2250
		Niagara, Town	3340
Camden	1434	St. Catharines	4368
Chatham	1768		
Dover E. and W.	1723	Total of Lincoln	23868
Harwick	2627		
Howard	2798	Mosa	2075

CENSUS RETURNS.—Continued.

Ekfrid	1792	Toronto Gore	1820
Carradoc	3118		
Metcalfe	1696	Total of Peel	24816
Adelaide	1079		
Williams	2292	Blanchard	2780
Lobo	2445	Hibbert	1191
Nissouri	1832	Fullarton	1750
Dorchester	2570	Downie	} 2727
Delaware	1861	Downie, Gore	
Westminster	5069	Logan	698
London	6736	Ellice	1328
		Easthope, North	2341
Total of Middlesex	32864	Easthope, South	1797
		Elma	
Brighton	3725	Wallace	
Cramahe	2993	Mornington	933
Haldimand	4634	Total of Perth	15545
Alnwick	836		
Seymour	2781	Belmont	248
Percy	2605	Burleigh with	
Hamilton	5008	Dummer.	
Monaghan, South	1051	Douro	1676
Murray	3725	Dummer	1600
Cobourg, Town	3871	Harvey with Smith	
		Methven with Belmont	
Total of Northumberland	31229	Smith	2392
		Monaghan	905
Houghton	1509	Asphodel	1678
Middleton	1720	Ennismore	675
Charlotteville	2780	Otonabee	3872
Windham	2900	Peterboro' Town	2191
Townsend	4935		
Woodhouse	2894	Total Peterboro'	15237
Walsingham	3090		
Long Point		Caledonia	958
Ryerson's Island		Llawkesbury West	2665
Simcoe, Town	1452	Hawkesbury East	3029
		Longneuil	1406
Total of Norfolk	21281	Alfred	584
		Plantagenet North	1202
Whitby	7896	Plantagenet South	643
Pickering	6737		
Uxbridge	2289	Total Prescott	10487
Reach	3897		
Brook	3518	Ameliasburg	3286
Thorah	1146	Athol	1621
Rama and Mara	1402	Hallowell	3203
Scugog	415	Hillier	2962
Scott	1028	Maysburg	3543
Georgina	1005	St. Philipsburg	2834
Oshawa	1142	Picton Town	1569
Total of Ontario	3 576	Total of Prince Edward	18867
Zorra, East	3200	Admaston	685
Zorra, West	3302	Ragot	734
Oxford, North	1378	Blythesfield	200
Oxford, East	2210	Bromley	687
Oxford, West	1894	Horton	1142
Dereham	3614	Ross	708
Norwich	5239	McNab	1513
Blenheim	4995	Westmeath	1152
Blandford	1356	Pembroke	633
Nissouri, East	2118	Stafford	281
Woodstock, Town	2112	Brougham	438
Ingersoll, Town	1190	Gratton	554
		Wilberforce	688
Total of Oxford	32638		
		Total of Renfrew	9415
Albion	4281		
Caledon	3707	Cumberland	1659
Chinguncousy	7469	Clarence	508
Toronto	7539		

CENSUS RETURNS.—Continued.

Cambridge	200	Guelph	2879
Russell	503	Guelph, Town	1860
		Nichol	2450
Total of Russell	2870	Garrarauxa	2083
Adjala	1990	Eramosa	2350
Essa	1507	Peel	2435
Flos	545	Maryborough	994
Gwillimbury	3894	Minto	} 1803
Innisfil	2341	Arthur	
Mono	1116	Luther	
Mc-donte	2689	Anacanth	500
Mulmur	766	Pinkington	1990
Nottawasaga	1887		
Orillia	} 725	Total, Wellington	29796
Matchedash			
Oro	2027	Pelham	2400
Sunnidale	205	Thorold	2735
Tay	600	Stamford	3311
Tecumseth	3998	Crowland	1478
Tosoronto	492	Willoughby	1352
Tiny	648	Wainfleet	1841
Vespra	626	Humberston	2201
Barrie, Town	1097	Bertie	2737
		Chippewa	1193
Total of Simcoe	27765	Thorold, Village	1091
Cornwall	4707	Total of Welland	20141
Osnabruk	4699		
Finch	1450	Beverly	5620
Roxburgh	2151	Flamboro, East	2953
Cornwall, Town	1646	Flamboro, West	3333
		Aucater	4853
Total of Stormont	14643	Glandford	2908
		Birbrook	1737
Mariposa	3598	Saiflect	2801
Ops	2512	Barton	1735
Emily	2763	Dundas, Town	3517
Eldon	1320		
Fenelon	599	Total, Wentworth	23507
Bexley	6		
Verulam	571	Etohopeke	3483
Sommerville		Vaughan	7723
		Ma-knan	7752
Total of Victoria	11657	Sea-borough	4244
		York	10035
Waterloo	7698	King	6565
Wilnot	5297	Gwillimbury, N.	1176
Woolwich	3092	Gwillimbury, E.	3268
Wellesley	345	Whitechurch	4758
Dunfries, North	3476		
Galt	2248	Total of York	48944
Preston, Village	1180		
		City of Toronto	30775
Total of Waterloo	26537	City of Kingston	11585
		City of Hamilton	14112
Erin	3590	Town of Btown	7760
Puslinch	3862	Town of London	7035

RECAPITULATION.

Addington	15165	Huron	19198
Biant	25426	Kent	17469
Bruce	2837	Lambton	10815
Carleton	23637	Lanark	27317
Dundas	13811	Leeds	30280
Durham	30732	Lennox	7955
Elgin	25418	Lincoln	23868
Essex	16817	Middlesex	32964
Frontenac	19150	Northumberland	31229
Glengarry	17506	Norfolk	21281
Grey	13217	Onario	30576
Greenville	20707	Oxford	32638
Haldimand	18788	Peel	24816
Halton	18322	Perth	15545
Hastings	31977	Peterboro	15237

CENSUS RETURNS.—Continued.

Pre-scott	18487	Wentworth	28507
Prince Edward	18887	York	48914
Renfrew	9415	City of Toronto	30775
Russell	2870	City of Kingston	11585
Simcoe	27165	City of Hamilton	14112
Storont	14643	Town of Bytown	7760
Victoria	11657	Town of London	7035
Waterloo	26037		
Wellington	26796	Total	952004
Welland	2014		

MISCELLANY.

THE PHILOSOPHY OF COOKERY.

From Mrs. Hale's *New Cook Book*.

MISS SEDGWICK has asserted, in some of her useful books, "the more intelligent a woman becomes, other things being equal, the more judiciously she will manage her domestic concerns." And we add, that the more knowledge a woman possesses of the great principles of morals, philosophy, and human happiness, the more importance she will attach to her station, and the name of "a good housekeeper." * It is only the frivolous, and those who have been superficially educated, or only instructed in showy accomplishments, who despise and neglect the ordinary duties of life as beneath their notice. Such persons have not sufficient clearness of reason to see that "Domestic Economy" includes everything which is calculated to make people love home and feel happy there.

One of the first duties of woman in domestic life is to understand the quality of provisions and the preparation of wholesome food.

The powers of the mind, as well as those of the body, are greatly dependent on what we eat and drink. The stomach must be in health, or the brain cannot act with its utmost vigour and clearness, nor can there be strength of muscle to perform the purposes of the will.

But further, woman, to be qualified for the duty which Nature has assigned her, that of promoting the health, happiness, and improvement of her species, must understand the natural laws of the human constitution, and the causes which often render the efforts she makes to please the appetite of those she loves, the greatest injury which could be inflicted upon them. Often has the affectionate wife caused her husband a sleepless night and severe distress, which, had an enemy inflicted, she would scarcely have forgiven—because she has prepared for him food which did not agree with his constitution or habits.

And many a tender mother has, by pampering and inciting the passions of her young sons, laid the foundation of their future course of selfishness and profligacy.

If the true principles of preparing food were understood, these errors would not be committed, for the housekeeper would then feel sure that the best food was that which best nourished and kept the whole system in healthy action; and that

such food would be best relished, because, whenever the health is injured, the appetite is impaired or vitiated. She would no longer allow those kinds of food which reason and experience show are bad for the constitution, to appear at her table.

We have, therefore, sought to embody, from reliable sources,* the philosophy of Cookery, and here give to those who consult our "New Book" such prominent facts as will help them in their researches after the true way of living well and being well while they live.

Modern discovery has proved that the stomach can create nothing; that it can no more furnish us with flesh out of food, in which, when swallowed, the elements of flesh are wanting, than the cook can send us up roast beef without the beef to roast. There was no doubt as to the cook and the beef, but the puzzle about the stomach came of our not knowing what matters various sorts of food really did contain; from our not observing the effects of particular kinds of food when eaten without anything else for some time, and from our not knowing the entire uses of food. But within the last few years measures and scales have told us these things with just the same certainty as they set out the suet and raisins, currants, flour, spices, and sugar of a plum-pudding, and in a quite popular explanation it may be said that we need food that as we breathe it may warm us, and to renew our bodies as they are wasted by labour. Each purpose needs a different kind of food. Our frames are wasted by labour and exercise; at every move some portion of our bodies is dissipated in the form either of gas or water; at every breath a portion of our blood is swallowed, it may be said, by one of the elements of the air, oxygen; and of strength giving food alone it is scarce possible to eat enough to feed at once the waste of our bodies and this hungry oxygen. With this oxygen our life is in some sort a continual battle; we must either supply it with especial food, or it will prey upon ourselves—a body wasted by starvation is simply eaten up by oxygen. It likes fat best, so the fat goes first; then the lean, then the brain; and if from so much waste, death did not result, the sinews and very bones would be lost in oxygen.

The more oxygen we breathe the more need we have to eat. Every one knows that cold air gives a keen appetite. Those who in town must tickle their palates with spices and pickles to get up some faint liking for a meal, by the sea, or on a hill-side, are hungry every hour in the day, and the languid appetite of summer, and crowded rooms, spring into vigour with the piercing cold and open air of winter. The reason of this hungriiness of frosty air is simply that our lungs hold more of it than they do of hot air, and so we get more oxygen, a fact that any one can prove, by holding a little balloon half filled with air near the fire, it will soon swell up, showing that hot air needs more room than cold.

* The term *housekeeper*, in this book, is used in its American significance, the same as "Mistress of the family," or "Lady of the house."

† I have followed chiefly the system of Dr. Andrew Combe on "Diet and Health," corroborated by the authority of Baron Liebig in his "Familiar Letters" and "Animal Chemistry."

But the oxygen does not use up our food and frames without doing us good service; as it devours it warms us. The fire in the grate is oxygen devouring carbon, whether in the shape of coals in a stove or fat in our bodies, the result of the struggle (if we may be allowed the phrase) is heat.

In all parts of the world, at the Equator and the Poles, amid eternal ice and under a perpendicular sun, in the parched desert and on the fresh moist fields of temperate zones, the human blood is, at the same heat; it neither boils nor freezes, and yet the body in cold air parts with its heat, and just as we can keep an earthenware bottle filled with boiling water hot, by wrapping it in a flannel, can we keep our bodies warm by covering them closely up in clothes. Furs, shawls, and horse cloths have no warmth in themselves, they but keep in the natural warmth of the body. Every traveller knows that starving without breakfast, or neglecting to dine on the road, he feels more than usually chilly; the effect is very much the same as if he sat to his meals on the same cold day in a room without a fire; the internal fuel, the food, which is the oil to feed life's warming lamp, is wanting. On this account, a starving man is far sooner frozen to death than one with food in his wallet. The unfed body rapidly cools down to the temperature of the atmosphere, just as the grate cools when the fire has gone out. Bodily heat is not produced in any one portion of the body, but in every atom of it. In a single minute about 25 pounds of blood are sent flowing through the lungs, there the whole mass meets the air, sucks in its oxygen, and speeding on carries to every portion of the frame the power which may be said to light up every atom of flesh, nerve, and bone, and to keep the flame throughout the body ever burning with the fresh warmth of life.

In accordance with these facts we find men all over the world acting instinctively. In a cold climate, either by necessity or choice, we exert ourselves, quicken the blood's speed, breathe rapidly, take in oxygen largely; in short, tan the flame which quick-retarding hunger makes us feed. Even the least civilized follow correctly the natural law; the fruit so largely eaten by the native inhabitants of the tropics contains in every 100 ounces not more than 12 of direct heat-producing elements, while the blubber and oil of the Esquimaux have in every 100 ounces some 80 ounces of such elements. Nor is it possible without injurious effects to live in opposition to this instinct which science has shown to be in strict accordance with the intention of nature.

So far therefore we have evidence that good may come of method in cookery. * Plum-pud-

ding is no dish for the dog-days, but its suet blunts the keen tooth of winter. Nor is it a mere sentimental sympathy that makes the wish to give the poor a good Christmas dinner. Scant fare makes cold more bitter. Those who, poorly clad, must face the wintry wind unfeeling, shiver doubly in the blast. The internal fire sinks for want of fuel, and the external air drinks up the little warmth the slow consuming system gives.

Milk, when a little rennet is poured into it, becomes curd and whey. The curd, chemists call animal casein.

When the water in which the meal of peas, beans, or lentiles has been steeped for some time, is warmed, and a little acid is poured into it, it always gives a curd called vegetable casein, which is precisely the same as the curd of milk, and contains like it, all the ingredients of the blood.

There is, then, no difficulty in understanding how one may live on peas, beans, &c., just as on milk or meat.

When the white of egg is poured into boiling water, it becomes firm; the substance so formed is called animal albumen, and is identical with the albumen of the blood.

When vegetables are pounded in mortar, the fresh juice expressed, lets fall a sediment which grass gives out largely, and which is also to be had from all kinds of grain. This deposit is the same as the fibrin or lean of flesh. When the remaining clear piece is boiled, a thick jelly-like substance is formed. Cauliflower, broccoli, cabbage, and asparagus are especially rich in this coagulating substance, which is the same thing as white of egg—animal albumen. It is called, therefore, vegetable albumen, and is, in common with the white of egg, identical with the albumen of blood, which with the fibrin, whether animal or vegetable, is the source of every portion of the human body.

We see, therefore, that the cattle have in peas and beans as casein, in corn and grass as fibrin, in sundry vegetables as albumen, the very materials of their flesh; and that, whether we live upon grain or pulse, beef or mutton, milk or eggs, we are in fact eating flesh; in meat, diet ready-made; in the case of the others, diet containing the fit ingredients of preparation. Nor are we left in the least shadow of doubt that albumen, of whatever kind, is sufficient to produce flesh, for not only do we find every ingredient of flesh contained in it, but we can turn the flesh back to albumen.†

But besides the flesh-making ingredients, viz: the albumen and fibrin, we have shown that it is

gives, in its farinaceous food, infusion of malt and uses milk and sugar, the respiratory matter prepared by nature herself for the respiratory process, in preference to cane sugar; and she allows him the unlimited use of salt."

† "Among all the arts known to man," says Liebig, "there is none which enjoys a juster appreciation, and the products of which are more universally admired, than that which is concerned in the preparation of our food."

* "The intelligent and experienced mother or nurse chooses for the child," says Liebig, "with attention to the laws of nature; she gives him chiefly milk and farinaceous food, always adding fruits to the latter; she prefers the flesh of adult animals, which are rich in bone earth, to that of young animals, and always accompanies it with garden vegetables; she gives the child especially bones to gnaw, and excludes from its diet veal, fish, and potatoes; to the excitable child of weak digestive powers, she

needful the blood should have food for oxygen; this also is contained in milk, grain, pulse, vegetables and meat. In the meat as fat, which more or less the juices of the meat and even the lean contain, in the pulse, grain, potatoes, as starch, in the vegetables as sugar of various kinds, and in milk, as sugar of milk.

(To be Continued.)

INTERESTING TO CANADIAN WHEAT-GROWERS.

From the North American.

We observe several signs of an upward tendency in the price of Breadstuffs in England. Perhaps this rise in price may not be felt to any great extent this year, although the "badness of the weather" for some time back is regarded in England as very detrimental to the growing crop. But if, as seems probable, the English farmers will, now that all hope of "Protection" is given up, cease to grow wheat to any great extent, an increase of present prices may be confidently expected in future years. The grain harvest of last year was not an average, and the quality inferior. The *Mark Lane Express* asserts that wheat will be less cultivated than formerly. That journal thinks present prices will be maintained. The correspondent of a Hamilton paper, under date of London, 7th January, says:—

The continuous and heavy drain of gold has induced the Bank of England to raise the rate of discount from 2 per cent., at which it has stood since the 22nd of April, to 2½ per cent. This was resolved upon yesterday, the 6th. One of the principal causes of this raise is the scarcity of breadstuffs at home, and the badness of the weather. The advices from Odessa last week state that 150,000 quarters of wheat had been purchased for the English market, and for this gold has to be provided. Very considerable shipments of specie will have to be made to the continent, and the desertion of seamen from the ships which have arrived in Australia has prevented arrivals of gold from the colony, where immense quantities are lying in store ready for export. Prices of wheat have an upward tendency, and if, as we humbly believe, the English farmers will from year to year diminish its growth, prices will rule higher and higher at future periods.

CHINESE JUNKS.—A Chinese ship or junk, is seldom the property of one individual. Sometimes 40, 50, or even 100 different merchants purchase a vessel and divide her into as many different compartments as there are partners, so that each knows his own particular part in the ship, which he is at liberty to fit up and secure as he pleases. The bulk heads by which these divisions are formed, consist of four stout planks so well caulked as to be completely water-tight. A ship thus formed may strike on a rock, and yet sustain no serious injury; a leak springing in one division of the hold will not be attended with any damage to articles placed in another; and, from her firmness, she is qualified to resist a more than ordinary shock. A considerable loss of stowage is of course sustained, but the Chinese exports generally contain a considerable value in small bulk. It is only the very largest junks that have so many owners—but even in the smallest the number is very considerable.—*McCulloch's Dictionary.*

Poetry.

THE FADED HEATHER.

[It is recorded of the Highland emigrants to Canada that they wept because the heather would not grow in their newly adopted soil.]

There may be some too brave to weep
O'er poverty, or care, or wrong,
Within whose bosom sleep
Emotions, gentle, warm and strong,
Which wait the waking of a tone,
Unmarked, although of by the crowd,
And seemingly to lie alone
A voice both eloquent and loud;
And then the feeling, hid for years,
Burst forth at length in burning tears.

He wept, that hardy mountaineer,
When faded thus his loved heath-flower;
Yet mid the ills of life no tear
Had wet his cheek until that hour.
You might have deemed the mountain
Had sooner shrunk before the blast,
Or that his native rock would be
Rent by the winds which hurried past,
Rather than he a tear should shed
Because a wild-flower drooped its head.

It would not grow—the heath-flower,
Far from its native land exiled
Though breezes from the forest bowler
Greeted the lonely mountain child;
It better loved the wild bleak wind
Which grew upon the Highland hill,
And for the rocky heath it pined.
Though tended both with care and skill;
An exile on a stranger strand,
It languished for its native land.

Oh! if the heather had but grown
And loomed upon a foreign scene,
Its owner had not felt alone,
Though a sad exile he had been;
But when he marked his early death,
He thought that like his mountain flower,
Withered beneath a foreign breath,
He soon might meet his final hour,
And die a stranger and alone,
Unwept, unprized, and unknown.

ARIAL NAVIGATION.—Mr. Rufus Potter announces that he "now believes that his Aeroport may be put in full operation in two or three weeks of mild, calm, pleasant weather." At this season of the year, so long a period of mild, calm and pleasant weather would be as wonderful as Mr. Potter's first voyage. The machine is one hundred feet long, to be propelled by steam engines and capable of carrying six persons, and traveling forty miles an hour.

REPUTATION AFTER DEATH.—It is very singular how the fact of a man's death seems to give people a truer idea of his character, whether for good or evil, than they have ever possessed while he was living and acting among them. Death is so genuine a fact that it excludes falsehoods, or betrays its emptiness: it is a touchstone that proves the gold and dishonors the baser metal. Could the departed whoever he may be, in a week after his decease return, he would almost invariably find himself at a higher or lower point than he had formerly occupied, on the scale of public appreciation.—*Hawthorne.*

ANOTHER VICTIM OF THE RAPPING DELUSION.—Martin Langdon of New York, committed suicide on Friday, while in a state of mental depression, caused by frequent attendance upon the "Spiritual Rapping Circles." The jury which examined the case, recommended that the Grand Jury take measures for the suppression of these circle meetings. Poor Langdon had lost a daughter, and was made to believe that he could become a "medium" and see his lost child. In the effort he lost his reason, and ended his life by cutting his throat.

BEHAVIOUR IN COMPANY.—On the subject of behaviour in company, Leigh Richmond gives the following excellent advice to his daughters:—"Be cheerful, but not gigglers. Be serious but not dull. Be communicative but not forward. Be kind, but not servile. Beware of silly, thoughtless speeches; although you may forget them, others will not. Remember that God's eye is in every place, and His ear in every company. Beware of levity and familiarity with young men; a modest reserve without affectation, is the only safe path. Court and encourage serious conversation with those who are truly serious and conversable; and go not into valuable company without endeavoring to improve by the intercourse permitted you. Nothing is more unbecoming, when one part of a company is engaged in profitable and interesting conversation, than that another party should be trifling, and talking comparative nonsense to each other."

THE FIRST NECESSARY OF LIFE.—Potatoes contain 76 per cent. by weight, and turnips no less than 90 per cent., of water, which explains, by the way, the small inclination of turnip fed cattle and sheep for drink. A beefsteak, strongly pressed between blotting paper, yields nearly four-fifths of its weight of water. Of the human frame, bones included, only about one-fourth is solid matter (chiefly carbon and nitrogen), the rest is water. If a man weighing 10 stone were squeezed flat under a hydraulic press, $7\frac{1}{2}$ stones of water would run out, and only $2\frac{1}{2}$ stones of dry residue would remain. A man is, therefore, chemically speaking, 45 lb. of carbon and nitrogen diffused in $5\frac{1}{2}$ pintals of water. Berzelius, indeed, in recording the fact, justly remarks that "the living organism is to be regarded as a mass diffused in water; and Dalton, by a series of experiments on his own person, found that of the food with which we repair this water built fabric, five-sixths are also water. Thus amply does science confirm the popular saying, that water is the first necessary of life."—*Quarterly Review*.

THE WIFE'S UNIVERSAL RIVAL—It must ever be borne in mind that man's love, even in its happiest exercise, is not the woman's; for while she employs herself through every hour in fondly weaving one beloved image into all her thoughts, he gives to her comparatively few of his, and these perhaps neither the fondest nor the best. It is a wise beginning, then, for every married woman to make up her mind to be forgotten through the greater part of every day; to make up her mind to many rivals too, in her husband's attentions, though not in his love; and among these I would mention one, whose claim it would be folly to dispute, since no remonstrances or representations on her part will ever be able to render less attractive the charms of this competitor. I mean the newspaper, of whose absorbing interest some wives are weak enough to evince a sort of childish jealousy when they ought rather to congratulate themselves that their most formidable rival is one of paper.—*Mrs. Ellis's Wives of England*.

A PICTURE OF THE TRUE GENTLEMAN.—The true gentleman is one that is God's servant, the world's master, and his own man; his virtue is his business, his study his recreation, contentedness his rest, and happiness his reward: God is his father, the Church is his mother, the saints his brethren, all that need him his friends, and heaven his inheritance; religion is his mistress, piety and justice his ladies of honour, devotion is his chaplain, chastity his chamberlain, sobriety his butler, temperance his cook, hospitality his housekeeper, providence his steward, charity his treasure, piety his mistress of the house, and discretion the porter to let in and out as is most fit. Thus

is his whole family made up of virtues, and he the master of his family. He is necessitated to take the world in his way to heaven, but he wals through it as fast as he can, and all his business by the way is to make himself and others happy. Take him in two words, he is a man and a christian.—*Clement Ellis, a divine of the 17th Century*.

NIAGARA FALLS AND LAKE ERIE—Professor Silliman, the eminent geologist, discards the opinion advanced by some, that the gradual wearing away of the rocks of Niagara Falls, may possibly result in draining Lake Erie. In a recent lecture he remarked:—"They will not halt at their present station, but retreat slowly and surely about two miles further, where they will stop again for an unknown period, and probably forever, since at this place the hard limestone will form both base and top of the falls, and thus stop the rapid destruction of the rock. Some have thought that they would finally reach Lake Erie and that then the Lake would be completely drained. Such an event is impossible. At the point already mentioned, the torrent will gradually wear away the surface of limestone, forming a rapid, and henceforth Niagara will be one of the lost wonders of the world."

LIME WATER, FOR HENS—ACCIDENTAL DISCOVERY. During the last season, Mr. Joseph Wilcox, of this town, having occasion to administer limber water to a sick horse, inadvertently left a pail of the preparation in his barn, which remained there for some months, serving as a favourite drink for his hens. He soon found that the laying of his hens was apparently increased to a considerable extent. Being convinced of the importance of the (to him) new discovery, he has during the present season, kept his hens constantly supplied with lime water, placed in troughs within their convenient access, and the result was an increase in eggs of nearly four-fold as compared with previous experience.

He is willing to share the benefits of the experiment with his neighbours if they choose to try it; and hence this publication. The newness of the discovery (though it may not be new to all) is claimed only as applicable to the mode of imparting the lime in this case. Its use in another form for the purpose having been previously understood by many.—*Wayne Sentinel*.

MONSTER FOSSIL REMAINS.—In the river bank, at Zanesville, Ohio, it appears that some gigantic fossil remains have been discovered; which are the third of the same species discovered within three years. The *Courier* says:—"The one found yesterday was in much the best condition, and may when completely exhumed show almost the entire bones and frame of the huge monster, much beyond, perhaps double, the size of the living Asiatic or African elephant. The molar teeth, four in number, all that the species possesses, were found in the jaws sound and unbroken, and two weigh fourteen pounds each. The tusks were not in as good condition, only one being sound enough to bear moving. This one, only 8 feet in length, measures at its base $26\frac{1}{2}$ inches in circumference, and at the point 8 feet distant; where it is broken off $10\frac{1}{2}$ inches in circumference, the whole length of which was probably 12 feet more. We learn that it was intended to postpone the exhumation of the other portion of the remains for a day or two, in anticipation of the arrival of our old townsman, John W. Foster, Esq., U. S. Geologist from Lake Superior."

If a proud man makes me keep my distance, the comfort is, he keeps his at the same time.

Dr. Howe has examined almost the entire number of cases of idiocy known in Massachusetts, and the result is, in all but four instances, that the parents of these idiots were either intemperate, addicted to sensual vices, scrofulous, predisposed to insanity, or had intermarried with blood relations. Here, then, is a warning, that is food for reflection.

Three aged men, natives of Germany, now reside in this city, says the *Detroit Free Press*, in the closest bonds of friendship. So amicable are they in their relations, one never undertakes anything without consulting the others, and they live together as brothers, though no tie of relationship exists between them. While in their native land, and yet youthful, they formed a league of amity which has never been broken.

HORACE GREELEY A FARMER.—About 30 miles from New York city, on the line of the Harlem Railroad, Horace Greeley, of the *Tribune*, has a farm of thirty acres of bog, swamp and mountain rocks, on which his future home is now building. It is near Charque, in Westchester county. Here the city Editor will play the country farmer and having money to spend, will doubtless employ himself in making "the wilderness blossom as the rose," and reap profit in health and happiness, if in no other shape.—*The Plow*.

The Chinese do everything different from other people. We have a "jack" for pulling the boot from the foot; the Flowery Land people, on the contrary, have an instrument for pulling the man from the boot. Having first placed the brogan in the vice, they apply a yoke-shaped lever to your neck, and this is worked by a self-acting wheel that only stops its action when your boot or head comes off. Ingenious, isn't it?

A curious case of somnambulism is recorded in the *Chillicothe Gazette*. A daughter of Mr. Kaine arose from her sleep, and in her night clothes walked four miles up the Sciota river, waded into the stream, and swam across a deep part, and was found by an "early riser" sitting on the bank of the river—asleep! Remarkable enough, as the girl was only thirteen years old, and couldn't swim when awake!

WONDERFUL COAT.—A clever tailor of Highworth has accomplished the feat of making four coats when in reality it is only one. He has manufactured a coat which when first put on is a very good blue; he gives it a turn and a shake, it is transmogrified into the sombre hue of mourning; he inflicts another turn and shake and he appears in the Quaker garb, a real Simon Pure; and by another turn and shake he comes out a native of the "land of cakes," in genuine Scotch plaid. Every change fits equally well without discovering to view the other colors.—*Wills Eng. Stan.*

MORE COTTON FROM INDIA.—Mr. Fleming, Secretary to the Manchester Commercial Association, received advices from the Secretary to the Hon. East India Company, on Saturday, that the Court of Directors had instructed Mr. Wm. Rathbone of Liverpool, to forward to him for sale in Manchester two consignments of cotton; one amounting to 500 bales, per Chancellor, and the other to more than 1000 bales, per Loch Lommond, shipped at Bombay. These are the largest consignments yet made of cotton grown under the experiments making in India to encourage its cultivation there, and they consist chiefly of Dharwar cotton raised from New Orleans seed, the growth of 1850-51. There are, however, amongst this cotton some new bales grown at Schwan and Hyderabad (Scinde), Candeish and Kurrachee.

GOOD NIGHT.

BY SHELLEY.

Good night! ah no! the hour is ill
Which severs those it should unite;
Let us remain together still—
Then it will be good night.

TWILIGHT.

BY WM. SYDNEY THAYER.

As dimmer grows the sinking light of day,
A thousand shapes, by umble fancy brought,
Float from mysterious regions far away
Upon the rising tide of peaceful thought.
All that gives glory to our childish years
All that unto the past the heart can bind,
Youth's fleet winged visions thronging joys and fears,
Guide through the ghostly labyrinths of the mind.
Now Aspiration, near the breaking morn,
Raises triumphant her rejoicing psalm;
And Hope, long sailing o'er seas forlorn,
Is kissed by gales that tell of endless calm.
Now, from the opening skies upon the earth,
Descends the bloom primeval; now appear
The visions that do have immortal birth.
The thoughts that make our human life more dear.

WHITBY AGRICULTURAL SOCIETY.

The annual meeting of the Agricultural Association of this Township was held in the Town Hall, Brooklin, on the 28th inst. The Report of the Secretary, John Ritson, for the past year was read and adopted, which shows a balance in cash on hand to commence the operations of the New Year of.....£25 3 0

The receipts are balance on hand 1st	
January, 1852.....	15 18 0
Cash from Subscription.....	51 10 0
Entry Fees.....	0 10 0
Government Grant.....	30 10 6
	£98 8 5

Disbursements.

Paid Premiums at four Fairs.....	£60 15 0
Do do Ploughin Match.....	4 0 0
Judges' Dinners.....	1 17 6
Incidental expenses.....	5 12 6
Cash on hand.....	29 3 5

£98 8 5

The propriety of organizing a County Society was discussed, and resulted in the following resolutions:
Moved by J. H. Perry, seconded by John Shier, and

Resolved—That this meeting fully approve of the forming of a County Agricultural Society for Ontario.—Carried.

Moved by E. Birrel, seconded by John Clark, and

Resolved—That the President and Directors of each of the Township Agricultural Societies shall form a committee, and take such means as to them may appear the best, to procure members of their respective Township Societies to form a County Society, and to call a general meeting of them and all others likely to join the Society, for the purpose of appointing office bearers for the present year, and that such general meeting shall take place upon the second Wednesday in February, at the Free Church, in Whitby Village, at 12 o'clock, noon.—Carried.

The officers elected for the Whitby Branch for 1853 are: President, John Ritson; Vice-President, John Dow, Secretary, J. H. Perry; Treasurer, John Corbet. Directors:—A. Farewell, James Corbet, John Ratcliffe, John Shier, Joseph Pierson, James Mitchell, Benjamin Rodgers, Thomas Lumsden, and James Pile.

The first meeting of the Directors will be held in Whitby village on Wednesday, the 9th of February, at 9 o'clock, A. M.—*Reporter*.

USEFUL RECEIPTS.

We are indebted to a fair correspondent for the following Receipts, which have been taken from the most trustworthy sources, and some of them verified by the writer's experience. Many of our lady readers could doubtless furnish us with something that would be useful in the family from their daily domestic duties and experience. We respectfully solicit their co-operation in attempting to improve and enlarge this department of our Journal.—ED.

LIQUID GLUE.

Pour naphtha upon shell-lac until of a creamy consistency, and keep in a bottle, never allowing it to remain uncorked for any length of time. This glue will unite iron, wood, glass, &c.

A CHEAP BUT GOOD TOOTH-POWDER.

Cut a slice of bread, as thick as may be, into squares, and burn in the fire until it becomes charred; after which pound in a mortar, and sift through a fine muslin. It is then ready for use.

TO REMOVE INK STAINS FROM WOOD.

As much oxalic acid as will lay on a sixpence dissolve in a tablespoonful of hot water, lay some on the wood and rub hard with a cork until the stain disappears; then wash and re-polish. The above will remove the stain without injury to the wood—mahogany, or any other. It also cleans the brass work.

PARSNIP WINE.

Take fifteen pounds of sliced parsnips, and boil until quite soft in five gallons of water; squeeze the liquor well out of them, run it through a sieve, and add three pounds of coarse lump sugar to every gallon of liquor; boil the whole for three quarters of an hour; when it is nearly cold, add a little yeast on toast. Let it remain in a tub for ten days, stirring it from the bottom every day; then put it into a cask for a year. As it works over, fill it up every day.

FOR PICKLING EGGS.

If the following pickle were generally known, it would be more generally used. It is an excellent pickle to be eaten with cold meat, &c. The eggs should be boiled hard (say ten minutes), and divested of their shells; when quite cold put them in jars, and pour over them vinegar (sufficient to quite cover them) in which has been boiled the usual spices for pickling, tie the jars down tight, with bladder, and keep them until they begin to change colour.

FOR CHILBLAINS.

Take boiled rain water one ounce, lunar or silver caustic one scruple, dissolved. Then with a swan feather give the place a coating of the above; if it turns black in a few hours the chilblains are cured, if not, give another coating. Should the chilblains be broken, touch the parts round by the edges of the

holes. Use a clean feather every time. It is sure to cure, though they be broken.

FOR A COUGH.

Quarter of a pound of linseed; quarter of a pound of raisins; two ounces of stick liquorice; two quarts of soft water, to be boiled until reduced to half the quantity. When strained, add a quarter of pound of brown candy, pounded; one tablespoonful of good old rum, one tablespoonful of lemon juice or vinegar, A cupful to be taken on going to bed, and more frequently, if required. To be warmed. Used for years, and approved.

A VERY EXCELLENT AND CHEAP CAKE.

Two pounds and a half of flour, three quarters of a pound of sugar, three quarters of a pound of butter, half a pound of currants, or quarter of a pound of raisins, quarter of a pound of orange peel, two ounces of caraway seeds, half an ounce of ground cinnamon, or ginger, four teaspoonfuls of carbonate of soda, mixed well with rather better than a pint of new milk. The butter must be well melted previous to being mixed with the ingredients.

ECONOMICAL FAMILY PUDDING.

Bruise with a wooden spoon, through a colander, six large or twelve middle-sized boiled potatoes; beat four eggs, mix with a pint of good milk, stir in the potatoes, sugar and seasoning to taste; butter a dish; bake half an hour. This receipt is simple and economical, as it is made of what is wasted in most families, viz., cold potatoes, which may be kept two or three days, till a sufficient quantity is collected. It is a weekly dish at our table. A teaspoonful of Scotch ship marmalade makes a delicious seasoning.

WEATHER, MARKETS, &c.

The present winter, so far, has proved a great contrast to the last. Up to the beginning of the year, most field operations could be carried on in the western section of this Province, and the mean temperature ranged very high. January has been a seasonable month, moderate frosts with heavy falls of snow, so that the wheat plant has been sufficiently protected, and good sleighing afforded the farmers for hauling fire-wood and timber, and getting his produce to market. All kinds of produce continue to fetch remunerating prices, and a healthy trade seems to be opened for the future. Flour in Toronto market ranges from 21s a 23s 9d per barrel; Wheat 4s 3d a 4s 9d per bushel; Barley 2s 3d a 2s 6d; Oats 1s 8d a 1s 10d; Peas 2s 6d a 3s; Butter, Meat, Eggs, &c., continue to maintain comparatively high rates.

From England we hear that a succession of heavy rains during the last three months of the year had produced destructive floods, and had consequently retarded wheat-sowing, in some localities, indeed, very little wheat had been deposited up to Christmas, and what had been sown on wet ground was greatly injured or perished. This evil had been more or less experienced both in Scotland and Ireland, and must tell heavily on the crops of next harvest. The potato rot was extensively prevalent.

EDITOR'S NOTICES.

HON. ADAM FERGUSON ON DURHAM STOCK—Too late for the present number; it shall appear in our next.

AGRICULTURAL JOURNAL, AND TRANSACTIONS OF THE LOWER CANADA AGRICULTURAL SOCIETY. Montreal.

The January number, forming the commencement of the 6th vol. of this useful periodical, is before us, and we offer our hearty congratulations to its persevering Editor, Wm. Evans, Esq., and the Directors of the Lower Canada Agricultural Society, under whose auspices it is published, on the success which has evidently attended their labours. The present number of the Journal bears marks of a healthy progress; and when the Board of Agriculture for Lower Canada shall have been organized, in accordance with the provisions of the new Agricultural Statute, and shall have got fairly into operation, we shall confidently look to the pages of our respected contemporary (presuming it will be made the organ of the Board, as it is now of the Society) for much valuable and interesting information. We never turn over the pages of this Journal without discovering a large amount of plain, sound, practical information, which constitutes by far the most useful characteristic of an Agricultural periodical. From the Editor's long experience in practical farming in the Lower Province, we confidently look to the increasing usefulness of the paper when entrusted to his hands; and most sincerely do we hope that the only kind of rivalry between the two Boards and Journals of this noble Province may be that which consists in doing, the largest amount of good in its respective section of the country at large.

THE CANADIAN JOURNAL; A REPERTORY OF INDUSTRY, SCIENCE, AND ART. Toronto: Hugh Scobie. 1853.

This valuable serial fully sustains, as it proceeds, the high estimate of merit which we expressed at its commencement. It is conducted with much ability and judgment; and as being the organ, and, therefore, containing the proceedings of THE CANADIAN INSTITUTE, a young and already vigorous Society, it can hardly fail, we should hope, to command the confidence, as it most richly deserves the support, of the thinking and improving portion of the public. The January number is enriched by much valuable original matter, and the extracted articles evince a sound, discriminating judgment. We regret that we cannot make room, as we intended, for the eloquent and instructive annual address of Captain Lefroy, the President of the Institute, contained in the present number. Many of our readers will regret to learn that the country will shortly be deprived of the valuable scientific services of CAPTAIN LEFROY, the able and accomplished Superintendent of Her Majesty's Magnetic Observatory, near this city; but we earnestly

hope that means will be devised of continuing unbroken the interesting and important series of observations which have been for many years so accurately and systematically made in that Institution. Both the Canadian Institute and the University, we are glad to learn, are moving with a view to secure this object through the intervention of the Provincial Government. It would be alike a misfortune and a reproach to suffer the Magnetic Observatory to become extinct, and we should be glad to see the field of investigation enlarged,—embracing astronomy, &c. Our agricultural readers even, are much more deeply interested in several of the inquiries and observations made in such an Institution than would at first sight appear; and we hope the time is not far distant when Canada will take a respectable position among civilized nations in carrying forward the higher branches of science and art. With this view we earnestly entreat all well wishers of their country's enduring welfare and progressive advancement to extend a prompt and liberal support to all such organisations as THE CANADIAN INSTITUTE, and its Journal of Transactions. The price of the Journal, published monthly, is fifteen shillings per annum. Country members' subscription is only one pound per annum, including a copy of the Journal.

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Crosby Corners, P. O.,
Markham, Canada West,
December 23rd, 1852.

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N. B.—No advertisements inserted except those having an especial reference to agriculture. Matters, however, that possess a general interest to agriculturists, will receive an Editorial Notice upon personal or written application.