

that many years will not pass before we shall find the agricultural among the most popular of our institutions. It is to a certain extent true as regards the early history of this country, that our ancestors brought up their sons to feel that the farmer belonged to an inferior caste; and many of our fathers and illustrious mothers taught their children that manual labour was dishonourable and degrading, and that in order to be respected in the world, they must have a situation behind the counter, or study theology or jurisprudence. But how marked now is the change; we at the present time teach those under our care that there is no more honourable nor respectable livelihood than that of cultivating the soil, and its kindred arts and sciences. And we point them with pride and satisfaction to men occupying the highest positions in the country as being engaged in the noble pursuit of agriculture. In order to be a thorough-going, energetic and successful farmer, a man must be educated; he must have a good practical knowledge of agricultural, chemistry, natural philosophy, botany, geology, &c., and he cannot reasonably expect to succeed in the thorough cultivation of the soil, and raise good crops on his farm from year to year as long as he lives, unless he is a man of thought, accustomed to devise the best and most practicable arrangements and systems of management, not only for producing, but also for consuming the productivity of the soil. The most successful cultivators of the soil, whose opinions on agricultural subjects and whose practices are widely disseminated and adopted, are generally men who are not ashamed nor mortified to be seen holding the plough, swaring the cradle or digging the soil. Reason and experience teach us that manual labour is not incompatible with the growth and vigour of our intellects. Long experience has furnished us with the most undoubted proof that active and energetic physical employment imparts vigour to the system, and that vigour of body also invigorates the brain. Although a farmer's business is so extensive that he can find no time for anything but planning and superintending, still he ought to have a good understanding of manual operations, so as to be able to instruct those in his employ to handle their tools with skill and efficiency. It is also essentially necessary that a farmer should understand mechanics, not only theoretically but practically—there being such a variety of labour-saving machines annually invented and adapted to the pursuit of agriculture, that without that knowledge it would be almost impossible for him to reap the benefits which they are intended to confer upon him.

While we have accomplished much in the past, and gained for ourselves a proud position among agricultural countries, we must not forget that the future will demand our energies if we wish to keep pace with the rest of the world in the advance made in agriculture and in those manufactures in which, from our geographical position, we are capable of competing with other countries, we must to a great extent place our reliance upon the education of the rising generation. We cannot shut our eyes to the fact that while our Common School system has conferred inestimable benefits upon this country, and has done much to advance its material welfare, there has not been that attention given to the study of agriculture which our position demands. Our schools derive the greatest support from the rural districts, yet in how few instances do we find the youth receiving an elementary training in the theory of agriculture, and as a natural consequence a growing reluctance among them to continue the pursuit of agriculture as a means of existence? Many persons occupying high positions in the country have pointed out this defect in our common schools, and although those who are the public guardians of our youth may have in a measure endeavored to supply this great desideratum by the introduction into our school libraries of approved works upon agriculture, yet we have undoubted evidence of the fact that in but few instances is that knowledge which they are intended to convey imparted to the children in attendance at the schools. It is probable that these remarks may not be quite palatable to those to whose care is entrusted the education of our children, yet I would ask them to bear in mind the fact that a knowledge of the theory of agriculture is no test in the granting of certificates of qualification, and must continue to be so long as that prerogative is in the hands of boards of examiners who have not the remotest idea of either theory or practice of agriculture. In dismissing this subject, I cannot offer better proof of its importance than by quoting the language of the Chief Superintendent of Education for Upper Canada, who is reported to have said—

It is admitted by all that the changes in the commercial policy of the Mother Country should induce us to put forth extraordinary exertions, that we must put forth their efforts to demonstrate that two ears of corn could be grown where we now raise one. And what so important a means to this end as educa-

tion? The difference that has grown up results from the different ideas of education. Finding their sons return knowing nothing of what belongs to their future career, engenders dissatisfaction with farmers. When educated properly, with the same view to their future engagements as the students-at-law, medicine and theology for their respective offices; when regard should be had to their feelings, self-respect, and virtuous habits, then agricultural pursuits would rank as high as legal studies. Looking at these points, who could be unaware how important it was they should be carried out? It is not only with practical knowledge the farmer has to do, the seasons, &c., but it is also necessary he should know something of the constituents of the soil; some may be defective, some prolific. With plants, he should know how each is the best-suited to the ground; and this knowledge should extend to every kind and every soil. A proper knowledge of manures will require that he should inform himself of the first principles of chemistry and their application.

In reviewing the progress of our Association since its first organization, one cannot fail to see a growing disposition among all classes of the community to vie with each other in furthering the object which its earliest promoters had in view. A quarter of a century has passed, yet we find we have progressed in a ratio exceeding that of any other organization of a similar character in any country; we have established for ourselves a position, and gained an influence and importance which cannot but augur well for the future. This rapid growth is to be attributed to the fostering care of its early promoters, many of whom still lend their influence, and by their presence encourage those upon whom the responsibility of the future must rest, and many have gone to that "bourne whence no traveller returns." Year by year we are called upon to witness the removal of many of the old landmarks of our Association, and upon me devolves the melancholy duty of paying our last tribute of respect to the memory of one who has been associated with this institution from its first organization, and who, by his presence at every annual celebration, did so much to inspire those connected with it with confidence. I allude to the late President of the Board of Agriculture, the late E. W. Thompson, a man who, by his untiring energy, zeal, and devotion to the interests of agriculture in this his own native country, did more than any other to popularize these annual gatherings; who has shown to the young farmers of Canada an example which cannot but have a wonderful and beneficial effect in the future, and who, as a self-taught man, afforded us an illustration of what can be accomplished by industry and perseverance. Little did I think, when, as a youth, I saw him at the first Provincial Exhibition in 1846, that it would fall to my lot as its future President to witness his last and crowning efforts in behalf of the farmers of this country. His place at the head of the Board of Agriculture has been supplied by a gentleman who has always taken a deep and lively interest in everything which pertains to the prosperity of this country, and who is in every way eminently qualified to discharge the duties now devolving upon him.

Within a few years there has been a growing dissatisfaction in the country relative to the general management of this Association. Repeated efforts have been made to adopt measures which would prove beneficial, and have the effect of reconciling all differences; but, notwithstanding the suggestions which have repeatedly been made, we find ourselves in the same position. It is to be regretted that a matter so vitally important to the interests of agriculture in this Province should not have engaged the attention of the Government, upon whom must ultimately devolve the responsibility of passing such enactments as will harmonize with the feelings of those interested in our prosperity.

Surrounded by men thoroughly acquainted with the science and practice of agriculture, and who certainly have a more intimate knowledge of the culture of the earth than I have, it might be considered presumptuous were I to attempt in an address like this to propound to you scientific theories, or to show that some other system of farming might be adopted with more beneficial results. I shall, therefore, only offer a few suggestions, which I trust may not be altogether unproductive of good. The system of farming so long adopted and practised in this country, and which culminated in the production of the standard variety of grain, has had its effect upon the almost inexhaustible fertility of the soil; and combined with the annual visitation of these scourges, the weevil and other insects, the natural consequence in my opinion, of a system of farming which has had a tendency to impoverish the soil, has forced the farmers to experiment upon other crops, and in most instances not only successfully but profitably.

It is highly important that the farmer should bear in mind the great differences in climate, and found no important nor expensive operations upon the

practices and results of other countries, save with these modifications rendered necessary by difference of soils and climate; and these can only be determined safely and surely by experimental operations or trials, which should be at first on a small scale. Probably there is no country where a greater variety of soil exists than in Canada, hence the necessity for a thorough investigation by the farmers into its component parts. The crop which in one section of the country flourishes luxuriantly, is found totally unadapted to the soil in another section. One of our great causes of complaint is the loss annually sustained by the young wheat and clover being thrown out of the ground in the early spring, which, no doubt, is occasioned by the ground being at that season of the year saturated with moisture, which renders it more susceptible of expansion and contraction by the alternate process of freezing and thawing. Then, again, owing to the severity of our winters, the ground is frozen to so great a depth that before the frost is drawn out by the warmth of spring, the surface is robbed of its richness by the great quantity of water released by the thaw, but which is unable to find its way through the frozen mass beneath. These evils can be cured by the soil being kept dry beneath, and this can only be accomplished by a proper system of underdraining. There is nothing which so greatly tends to assimilate the different varieties of soil, and so thoroughly adapts them to the growth of vegetable matter as the practice of underdraining. The dark blue clay, the sandy soil, the vast marsh lands have all been recovered from their natural sterility by a proper system of draining. Land may be made unfit for cultivation by the superabundant water coming out of the earth, or by its being retained by a retentive subsoil. Where the super-soil lies upon a retentive sub-soil, water will often collect in ponds in small places, and so long a time will be required before it will disappear that a crop would be destroyed. Knowing the natural enterprise of our people, and the growing disposition to adopt the system best calculated to improve their condition, it is quite unnecessary and out of place to enter into details as to the best system of draining, as there are so many valuable works and treatises upon it, which it would be well for every person to study before commencing operations of any considerable extent. I am fully aware that the careful farmer, though of a reflective turn of mind, is not usually inclined to experiment, except on a very limited scale; but it is only necessary to show him a fair show of profit to enlist his acquiescence in a new enterprise of this description. If the system of underdraining were more generally adopted in this country, we would not annually be greeted with the common complaint that the fall crops have been frozen out, and we would be spared the infliction of witnessing vast fields of wheat rendered almost worthless by water standing in the furrows until it evaporates, leaving the land barren and impoverished and the crops entirely worthless. The plea put forth by many, that the expense of underdraining is not counterbalanced by the increase of the crops, is no longer tenable, since the facilities afforded to every farmer for making drains are so great. It is true that those who have experimented so much and with such beneficial results, and to whom we are indebted for a system which is certain to work a revolution in the practice of agriculture, have adopted the more expensive plan of drainage, yet it is a well-known fact that drains made of stones, timber and rubbish, a superabundance of which is to be found on every farm, will answer all practical purposes, and will endure for years.

The custom hitherto prevailing to a very great extent among our farmers of year after year, cropping the same soil with wheat, trusting to its natural fertility, without in any way nourishing the same, has been found to be highly injurious, and as a natural consequence, they have been compelled, in order to gain even a subsistence, to experiment upon a rotation of crops which in other countries has been found to be the true source of agricultural wealth. We no longer find the main dependence of the cultivators of the soil to be the wheat crop. Experience has taught them that while one crop has a tendency to impoverish, another will add to the fertility of the soil. Hence we find that during the last few years there has been a wonderful increase in the production of the coarser vegetables which afford nourishment to the stock, and thus increase the supply of manure, than which nothing is more essential to the farm. That a regular system of rotation should be introduced on all farms is what no intelligent farmer will deny; but at the same time it is impossible to recommend any system of rotation which would answer equally well upon all lands, on account of the difference of soils and situation in reference to markets. The plants which grow luxuriantly upon some soils could not be raised without expense and trouble in others of a different nature, and crops grown near a large town may return a large profit, owing to the little expense in-