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THE

Canadian Agriculturist,

OR

JURNAL AND TRANSACTIONS OF THE BOARD OF AGRICULTURE

OF UPPER CANADA.

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On Cross-Breeding.

There are few subjects, perhaps, connected h practical husbandry in which more misap- hension prevails, than in that which is usually gnated cross breeding; yet the true principles which this practice is or should be conducted, extremely simple, and ought to be familiar every breeder who seeks to obtain a useful profitable result. The great object of cross- eding is to produce an animal that shall ord a large amount of prime meat in a shorter e of time than in the ordinary way with breeds; and consequently such animals mainly bred for the butcher. They ot be perpetuated. It is a well-known fact ng practical men that you cannot go on eding from a cross-breed stock without ering a gradual, and in most cases, a rapid rioration. Successful cross-breeding is essen- y dependent on the previous existence of breeds, and can only be carried on with ficial results, after those breeds have been ughly established and have made conside progress. In crossing animals no ordinary unt of care and judgment is necessary in g suitable selections. Those of the most site natural or acquired characteristics will with each other, but the progeny in such will be found generally unsatisfactory. Cer- natural affinities or alliances should be sought or cross-breeding will in a great measure be nded by improvement or profit. In case where both parents are really good of their kind, their offspring will almost always possess advan- tages, especially for the butcher. But it is an error of the gravest kind, as all experience shows, that you can continue breeding from such a cross without suffering certain deteriora- tion, both as regards weight and quality of flesh, and, in case of sheep, of wool, also. In case of dairy stock the foregoing observations will likewise apply, although perhaps in not so marked a degree. The first cross is usually the best for milking purposes, and it is found tha the process cannot be carried on indefinitely with impunity.

Entertaining these views, which are now en- dorsed by the most enlightened breeders of all countries, we are happy to observe that our ven- erable friend the Hon. Adam Fergusson, who, as most of our readers know, has spent a long life in Scotland and in Canada, in promoting the improvement of agriculture, particularly stock- raising, has offered through the Board of Agri- culture a very handsome premium for the best grade heifer, the produce of a pure Durham bull, from a cow of any breed, not more than one remove from thorough breed. The prize is in the shape of a silver cup, which Mr Fergusson intends to present annually at the Provincial Exhibitions; also two silver medals for poultry: particulars will be found stated in the Prize List of the Association for the present year. We say that we are glad to see this, because it will

give an impetus to stock-breeding in the right, and, as we think, most important direction, admirably suited to the wants and necessities of this Province. It will for many years to come be perfectly impossible for our farmers generally to have their yards filled with pure bred cattle, even of ordinary excellence. It is so at present, even in England. Pure herds of first-rate quality are only here and there to be found:—whether they be Durham, Hereford, Devon, or other established breeds. To acquire such animals involves an amount of pains, judgment, and expense, which few can fully understand.—The quickest and most practicable way of improving our live stock, particularly cattle, is to put our best grade cows to the best pure bred bulls within reach. By such means the cattle of the country *as a whole*, will be speedily increased 30 or 40 per cent in value, thus greatly adding to the wealth of the Province. It is of course essential to the successful carrying out of this plan that individuals here and there should be encouraged to keep up a pure herd of stock of some established breed, who would supply bull calves as well as heifers to all parts of the country. We already owe much to a few enterprising individuals in this respect, to whom Canada is mainly indebted for the great improvement in live stock, which she has of late years made. The Durham bull has already done much service in several parts of this country where as yet very little that is really pure of that invaluable breed exists. It is easy to tell by looking at the ordinary stock of any particular district, whether any pure male animals have found their way thither; the progeny will speak for itself Not a single pure bred bull has ever been introduced into a township without raising the standard of excellence among its cattle, and the same remarks apply of course, more or less, to horses, sheep and pigs.

We have been much pleased with a paper in a recent part of the *Journal of the Royal Agricultural Society of England*, from the pen of W. C. Spooner, the well-known Veterinary surgeon, on the subject of cross-breeding, and submit the following condensed statement of the various points so ably treated in detail by the talented author, for the information of our readers.

1st. It is clearly shown by the writer that there is a direct pecuniary advantage in judicious cross-breeding; that increased size, a disposition to fatten, and early maturity, are thereby induced.

2nd. That whilst this may be caused for the most part by the very fact of crossing, yet it is principally due to the superior influence of the male over the size and external appearance of the offspring; so that it is desirable for the purposes of the butcher, that the male should be of a larger frame than the female, and should excel in those peculiarities we are desirous of reproducing. Let it here, however, be stated as an exceptional truth, that though as a rule the male parent influences mostly the size and external form, and the female parent the constitution, general health and vital powers, yet that the opposite result sometimes takes place.

3rd. Certain peculiarities may be imparted to a breed by a single cross. Thus, the ponies of the New Forest exhibit characteristics of blood although it is many years since a thorough bred horse was turned into the forest for the purpose. So, likewise, is observed in the Hampshire sheep, the Roman nose and large head which formed so strong a feature in their maternal ancestors, although successive crosses of the Southdown were employed to change the character of the breed.

It has been asserted by some observers, that when a female breeds successively from several different males, the offspring often has a strong resemblance to the first male; which is supposed to arise from certain impressions made on the imagination or nervous system of the female. Although this is sometimes or often the case, it is much to be doubted whether it is so frequent as to be regarded as a rule.

4th. Although in the crossing of sheep for the purpose of the butcher, it is generally advisable to use males of a larger breed, provided they possess a disposition to fatten, yet in many cases, it is of importance that the *pelvis* of the female should be wide and capacious, so that no injury should arise in lambing, in consequence of the increased size of the heads of the lambs. The shape of the ram's head should be thin, for the same reason. In crossing, however, for the purpose of establishing a new breed, the size of the male must give way to the more

ortant consideration; although it will still be esirable to use a large female of the breed we ek to improve. Thus the Southdowns have astly improved the larger Hampshires, and the eicester the huge Lincolns and the Cotswolds.

5th. Although the benefits are most evident in he first cross, after which, from pairing the cross-red animals, the defects of one breed or the her, or the incongruities of both, are perpet- ally breaking out, yet, unless the characteristics nd co-operation of the two breeds are altogether erse to each other, nature opposes no barrier their successful admixture; so that in the ourse of time, by the aid of selection and reful weeding, it is practicable to establish a new ed altogether. This, in fact, has been the istory of our principal breeds. The Leicester as notoriously a cross of various breeds in the rst instance, although the sources which sup-lied the cross is a secret. The Cotswold has en crossed and improved by the Leicester; the incoln, and indeed all the long-woolled breeds ve been similarly treated. Most of the breeds ve received a dash of better blood, and the ort-wooled sheep have also been generally so ved. The Hampshire and the present Wilt-ire Downs have been extensively crossed; the iends of the Shropshire cannot deny the 'soft peachment;' and the old black-faced Norfolk, ve been pretty well crossed out altogether. he Dorsets and Somersets remain pure as a eed, although they are continually crossed to prove their lambs. The Southdown is per-ps one of the purest breeds we have. No one serts that the immense improvement of this eed by Ellman was due to any crossing; hether the increased size and further improve-ent which it has received in other countries ve been effected in all cases without a cross of y kind, may be in the minds of some a matter doubt; yet it is only right to give the aigned, in the absence of any proof to the ntrary, the benefit of such doubt, and consider em still as pure as ever.

We recommend the following remarks, with hich Mr. Spooner concludes his paper, to the ntion of those who resort to cross-breeding th any other view than that of feeding the produce of that cross:—"When equal vantages can be attained by keeping a pure ed of sheep, such pure breed should unques-tionably be preferred; and though crossing for the purpose of the butcher may be practised with impunity, and even with advantage, yet no one should do so for the purpose of establishing a new breed, unless he has clear and well defined views of the object he seeks to accomplish, and has duly studied the principles on which it can be carried out, and is determined to bestow for the space of half a life-time his constant and unremitting attention to the discovery and removal of defects." And we may add that there is no instance of any one establishing a new breed, which has attained a permanent type. Where new breeds have been established, as, for instance, the Wiltshire and Hampshire Downs, it has been the result of a *general change* by all the farmers of a district, working under similar natural circumstances in one direction; but, after all, they are but sub-varieties of a pure breed, and gradually more and more approach the characteristics of that breed

The Mutual Relations of the Vegetable and Animal Kingdoms.

(*Continued from page* 426.)

In considering the principles of feeding, I may cite, as a special instance of adaptation, that the plant and animal were composed of the same chemical elements. Hence the food supplied by the latter invariably contains all the substances it requires for the maintenance of its functions; and not only is this the case, but these elements are to a great extent combined together in a similar manner, the fibrine, caseine, albumen, and fatty matters contained in animals, corresponding in all respects with the compounds extracted from plants under the same name. It is not within our province, and it is far beyond my ability, to prejudge the solution of those difficult and abstruse problems which have so long engaged the laborious research of the masters of science and practice. Still, whether we incline to adopt the respiratory or the nitrogenous theory of manures—whether we go with Lawes or Liebig—I think we may discern such a modification of views as will authorize us, in practice, to adopt a middle course, which has already shown itself in the advocacy of mixed food, so long established in practice—the flesh and fat forming constituencies combined, as in cake, turnips, and straw, the deficiencies of one being counterbalanced by the other. Without dispute, science and practice are cordially agreed—whatever may be said in support of the use, or condemnatory of the abuse, of special manures

—that well-made *farmyard manure* is the standard of economical efficiency, as "no other" (says Dr. Anderson) "fulfils the conditions of a general manure containing all the constituents of a crop in a state fit for assimilation, being derived from the *vegetable and animal* kingdom, and most effectually by the mixture of both." Peruvian guano is another very composite and valuable manure. Although its consumption is said to have declined from July '55 to July 1860 by a total diminution of 90,000 tons, it is still held to be the cheapest source of ammonia. I would mention incidentally as very important to be generally known, on the authority of Dr. Anderson, whose late valuable contribution to agricultural chemistry I cannot too highly recommend for its clear practical views, so plainly set forth "that it is no uncommon occurrence to find a difference of 1*l.* or even 2*l.* per ton, and in an extreme case 3*l.* between the values of cargoes of Peruvian guano which are sold at the same price." There may come a time when we shall be glad to meet the demands of an impoverished soil and an increasing population, to adopt the principle practised centuries ago by our new friends the Celestials, with their worldly sagacity, namely, the principle of restoring to the land everything that is taken away from it in crops. "The amount of phosphates in our edible crops is far beyond anything ever seen in natural wild plants; therefore the supply required by a dense population and obtained in the excessive development of seeds and roots in cultivated plants, must be given to the soil in the shape of manure, the best being that derived from man who consumes the crops.

The rotation of crops, which takes advantage of the fact that one crop requires more of one ingredient and less of some other, than another does, and the occasional use of fallow, which allows the weather to act and render soluble a fresh supply of mineral matter, are only different branches of the same great principle of agriculture. The cereals and grass require silica; turnips and potatos, more of the alkalies; peas, and beans, and clover, lime and sulphates; and thus may be alternated with advantage, although all require a full supply of the phosphates, in which night-soil is particularly rich." A grave stigma of reproach will continue to rest upon our skill and enterprise as a nation, so long as we permit this most valuable of manures to be worse than wantonly wasted. The growth of vegetables for the supply of man in this great city, according to Mr. Cuthill, requires no less than 12,000 acres of the richest land. "This," says Dr. Wynte, in his work on the "London Commissariat," "seems an insufficient area for the supply of so many months, but manure and spade husbandry compensate for the lack of space. By these agencies, four and sometimes five crops are extracted from the land in the course of the year. The old-fashioned farmer, accustomed to restrictions of old fashioned leases, would stare at such a statement, and ask how long it would last? But his surprise would be still greater at being told, that after every harvance the ground is deeply trenched, and its powers restored with a load of manure to every 30 square feet of ground. This is the secret of the return, and here we have a striking example of town and country reciprocation: the same waggon that brings a load of cabbages, is seen returning a few hours later filled with dung. An exact balance, as far as it goes, is thus kept up, and the manure, instead of remaining to fester among human beings, is carted away to make vegetables. What a pity the system cannot be extended to the whole sewage, instead of allowing it to pollute the Thames!" Nature, we are told, affords an appropriate vegetation to each class of animal. It is not by accident that the reindeer finds its support from the snow-covered lichen, or the camel from its thorny shrub, or the chamois a sufficient supply in the scanty vegetation of its Alpine home; but it is in obedience to the great law of nature, that wherever plants exist we find animals adapted to make use of their nutritious products.

The same principle applies itself, in a more familiar sphere, to the selection and management of stock, the grazing of cattle and sheep, with reference to soil, climate, and herbage. And no problem connected with the economy of farming is more important to be solved than the adoption of the breed of cattle and sheep most calculated to yield the largest balance of profit from the food consumed, with the most judicious general management. The different breeds are best adapted to their native pastures; and though they may, and have been greatly improved, they can very rarely be displaced with with impunity. How would the heavy Cotswold or the fat Leicester enjoy a scramble, in company with the active game-like little Welsh, in search of a scanty breakfast on his native mountains! What has been done by skill, capital, and enterprise, in bringing to perfection some of our choicest breeds of cattle and sheep, is too well known and appreciated to need special reference. It has not, however, been effected without a constant studious attention to the principle I am advocating, on which success mainly depends. The food directly or indirectly derived from vegetables must be skilfully adapted in quality and quantity to the requirements of the animal to be sustained or fed; and the animal must have such vigour of constitution and aptitude to thrive and fatten as shall enable it most beneficially to assimilate the largest amount of nourishment to be derived from the food presented to it. The formation of animals, breeding and grazing in all their departments, are amenable to this law of vegetable and animal dependence. How much valuable food is wasted by badly-bred animals, with no robustness of constitution, and but little aptitude to fatten; and how many a well-bred animal is

ined for want of suitable food and skilful gen-
al management! If the master's eye grazes
e ox, assuredly it should not long be diverted
m the fold if he would avoid that "one bad
" which every flockmaster knows too well
ll take many a good one to recover. It has
tely been held important to our national pros-
rity to attempt the acclimatization of the Al-
a to increase the supply of wool. The ques-
n to be determined yields us an illustration,
r even the *Ichu* grass—its favorite herbage in
ru—was found indigenous on the va t grazing
nds of the Australian continent, and the
mate brings the animal to earlier maturity
n South America; and so the animal and
getable are in adaptation. While we wish the
ject good success, still, as British farmers
dful of the old tradition, we should seek to
p the tottering wool sack with larger supplies
British wool; thus modifying our systems in
formity with the probabilities of future pro-
and the requirements of the community at
ge. Considering the almost universal depen-
nce of man on one important tribe of plants
fer to the cultivated grasses—and also the
e of grasses as fodder for cattle, hardly
ond to that of corn for human food, it is one
the most interesting of all subjects to follow
ir distribution, which is determined not mere-
by climate, but depends on the civilization,
stry, and traffic of the people; and often
torical events.

Within the northern Polar circle agriculture
found only in a few places. Only in Europe,
., Lapland, does the Polar limit reach an un-
lly high latitude (70 degrees). Beyond this,
ed fish, and here and there potatoes, supply
place of grain. The grains which extend
hest to the north in Europe are barley and
s. These, which in the milder climates are
used for bread, afford to the inhabitants of
northern parts of Norway and Sweden, of a
of Siberia, and Scotland, their chief vege-
le nourishment. Rye is the next which be-
s associated with these. This is the pre-
g grain of the northern temperate zone.
Siberia buckwheat is cultivated. In the zone
ere rye prevails wheat is generally found,
ey being here chiefly cultivated for the man-
ture of beer, and oats for horses. To these
e follows a zone in Europe and Western
where rye disappears, and wheat almost ex-
ively furnishes bread. The middle or south
France, England, part of Scotland, part of
rmany, Hungary, the Crimea, and Caucasus,
of America, also the lands of middle Asia,
re agriculture is followed, belong to this
e. In the eastern parts of the temperate
of the old continent—in China and Japan
ur northern kinds of grain are very unfre-
nt, and rice is found to predominate. In
rth America wheat and rye grow, as in
ope, but more sparingly. Asia is the native
try of rice, and America of maize. Both these grains are found in nearly equal quantity in Africa. Besides rice and maize, there are in the torrid zone several kinds of grain, as well as other plants, which supply the inhabitants with food. In the islands of the South Sea grain of every kind disappears, its place being supplied by the bread fruit tree and pisang plantains. In the tropical parts of New Holland there is no agriculture, the inhabitants living on the produce of sago and various palms. In the high lands of South America, there is a distribution similar to that of the degrees of latitude. Maize grows to the height of 7,200 feet above the level of the sea, but only predominates between 3,000 to 6,000 feet of elevation. Below 3,000 feet is associated with the pisang (plantain) and yams, batatas, and the bread-fruit; while from 6,000 to 9,260 feet the European grain abounds—wheat in the lower regions, rye and barley in the higher. Potatos alone are cultivated from 9,000 to 12,000 feet. To the south of the tropic of Capricorn, wherever agriculture is practised, considerable resemblance with the northern temperate zone may be observed. In the southern parts of Brazil, in Buenos Ayres, in Chili, at the Cape of Good Hope, and in the temperate zone of New Holland, wheat predominates; barley, however, and rye make their appearance in the southernmost parts of these countries, and in Van Diemen's Land. In New Zealand wheat is grown to advantage. The natives did subsist chiefly on the Acrastichum furcatum. Hence it appears that, in respect of the predominating kinds of grain, the earth may be divided into five grand divisions or kingdoms—the kingdom of rice, of maize, of wheat, of rye, and, lastly, of barley and oats. The first three are the most extensive, the maize has the greatest range of temperature, but rice may be said to support the greatest number of the human race. "Nor," says Johnson, "is a knowledge of the capabilities of a country for producing plants less important with reference to its population. Comparing Naples with Norway, for example, we find that the effect of climate is such as to render the harvest five times more productive in the former than the latter, while in consequence the population is twenty-five times more dense, in proportion to its area, in Naples than in Norway."

It is a remarkable circumstance that the native country of wheat, oats, barley, and rye should be entirely unknown. Though oats and barley were found apparently wild on the banks of the Euphrates, it is doubtful whether they were not the remains of cultivation. "It is an observable fact," continues Johnston, "that those plants of the grass tribe, the seeds of which furnish food for man, follow him like domestic animals. The reason is, that none of the corn plants can bear seeds that will yield a large quantity of flour without a good supply of phosphate of magnesia and ammonia. Hence these plants grow only in a soil which contains these

ingredients in addition to silex and potash, and no soil is richer in them than those where men and animals dwell together, since these substances are largely contained in the animal body, and are set free in their excretions during life, and by their general decay after death." Here are facts suggestive of important practical application. I fear I have exhausted the patience of my audience, for time and patience have their limits, though our subject is illimitable. The law of this divine harmony began in chaos, ages before man had an existence on the earth, furnishing it with stores for his use as a habitation; it is seen in constant operation throughout every part of the globe, and it stretches out into the vision of prophecy, when old things shall be done away, and there shall be a new heaven and a new earth adapted to perfected humanity. In conclusion, may I be permitted earnestly to recommend the study of the natural sciences connected with this deeply interesting subject (however feebly I may have developed it) to young farmers, on whose training the future of agriculture materially depends, during the long rustication, when the discipline of the school is gladly shaken off, and the youth, with his buoyant spirit revelling in his newly acquired freedom, flatters himself that he is studying agriculture, when he is in reality far too often losing all capacity for studious application, and enervating the noblest faculties of his mind by a continuous round of self-indulgent pleasure-seeking. Would that he were mindful, that of all the forces applied to agriculture, there is none worthy of comparison with the power of intellect, the power of knowledge, and the ennobling influences of high moral character. I would have him ponder well on the noble sentiment of the illustrious Charlemagne, "that they only can enjoy recreation aright whose sterner pursuits are sustained by the highest motives directed to the noblest ends." And "strange indeed," it has been well remarked, "must be the perversion of that mind which is made neither wiser nor better by studying the works of Him, whose own wisdom is infinite, and all whose operations tend to good and happiness." And nowhere is this more illustriously evidenced than in the sublime harmony which is seen to exist throughout the whole vegetable and animal kingdoms. (Cheers.)

The Late Duke of Bedford.

Just as agriculture is beginning to rejoice under the approving smile of Royalty itself, she turns aside for a moment to mourn the loss of a true friend. And right worthily may he who has just left us ask the tribute of a tear. He was a good man, who used his great means in doing great good to those around him. Descending of a noble race that has long stood high in the annals of agriculture, his own unchequered career of usefulness will eclipse even the fame of his ancestors. Seldom has a man worked so steadily onwards. Rarely has any one left so many lasting monuments to his memory. At every turn wheresoever his path was followed, you saw what a blessing it was for the poor to own such a friend, the tenant to boast of such a landlord, and the gentry to feel the force of such an example. The blocks of clean comfortable cottages—the complete well-finished homesteads—the thriving schools, and the spiring churches—either alike in town or country, there is that record of him that the sculpter's art or the poet's pen will seek in vain to vie with. The Duke of Bedford has done his duty in that state of life in which it pleased God to place him. The charge was, no doubt, a heavy one; but he ably fulfilled it.

This is a high character; but it is an honest one. Regarded strictly as a landowner, there is perhaps scarcely such another illustration of his order as the late Duke of Bedford now left amongst us. *Liberality* and *Management* were the watchwords of his system; and amply, indeed, did it succeed. His grace's own home farm was a very model for others: and an eminent agriculturist from a distance, who went over this only the day before the duke's death, was alike gratified and surprised—at having seen such a farm, and at having previously heard so little of it. Then so perfect in their way had the Woburn holdings become, so well were the occupiers started and treated, that the very fact of being a tenant on the Bedfore estate gave a man a name and a standing. One amongst them who but a few years since thought he required a new range of farm-buildings, was invited to go through the country, and to see what he should like; and having made his choice, some of a similar description were erected for him. But there was method in all his liberality; and the duke's property had with every justice the repute of being the best-managed estate in the country. Much as his grace did himself towards this, excellent man of business as he was, he was ever well represented; for few agents have ever more fairly earned the esteem he has than Mr. Bennett, while it is not often that two such farm stewards have been found, the one to follow the other, as Mr. Baker and Mr. Coleman. If you may judge of a man alike by his works as by those about him, then did the Duke of Bedford deal discreetly with the talent with which he had been trusted.

If we search further, we only find what is already famous. The home farming in the park may be not so well known to all as it should be, but the housing of the labouring man has long been held up as the example for others. The Duke of Bedford spent upwards of sixty thousand pounds in building cottages for the labourers in his native county, and he hit the happy medium in doing so. They were not too good nor too costly for their actual purpose. The

Royal Agricultural Society published plans of them; the *Farmer's Magazine* gave prints of them; and the *Quarterly Review* wrote essays on them in this wise:—"As they embrace, moreover, every variety of cottage accommodation, none have been published, even by professed architects, so useful to the country builder as those which emanate from the study of Woburn. The duke has been as conspicuous in his deeds as in his plans. He has erected scores upon scores of new tenements for the labourer, and the result has been a marked improvement in the well-being of their inhabitants."

That last line or so might be taken for his epitaph. Whether it were in the crowded St. Giles, or the pleasant paths around the Abbey —to wherever the Duke of Bedford's influence extended, there was *a marked improvement in the well-being of the inhabitants.* You witnessed it alike in the tenantry and the peasantry, and, we had well nigh added, in the gentry of the neighborhood. Let the reader only turn to our paper of last week, and note how our reporter for Bedfordshire cited his grace's conduct to the other magistrates of the county. Let us but remember that, though good shot as he was, he gave up game preserving, and made the farmers his keepers; confident they never would deny him the means for fair sport. And let us dwell for a moment on the welcome with which this example was cited in the discussion last year on that delicate subject, the over-preservation of game; and how the Bedfordshire men answered at once for the success of the experiment. It was this feeling of the true sportsman that went to complete the character of the Duke of Bedford as a country gentleman. He cared not for the butcheries of the battue, if he could get fair, open shooting. He was a really good judge of a horse, and he bred some of the best; but he hated the mere trickery of the turf, and for many years, though he ran horses, rarely showed himself attended on a course. He was an admirable horseman, and whenever the Oakley were in want of a master, he took to them, still subscribing liberally when he gave them up again.

We write on no hearsay evidence. We have been on the farming at and about Woburn. We have seen "told off" the cottages as we have driven along. We have heard the reception given to the Duke of Bedford's name at many a meeting in the country, and we have learnt his character from all classes. It is one that we feel we could scarcely color too highly, and it is one that we would specially offer for imitation to all other great landowners of the kingdom. Property has its duties as well as its rights—a principle of which no man has given a higher and more earnest interpretation than the late lamented Duke of Bedford.—*Mark-lane Express.*

The great underground railway in London, to connect all the railways of that metropolis, is being constructed with unflagging energy.

Sow Turnips.

Much discussion has been had in regard to the merits of what is called the English or flat turnip, and the expediency of its cultivation in this country. Without attempting an argument on the general subject, we venture to recommend the culture of this root under some circumstances:—

1. As an after-crop on grain and grass stubbles. Where winter rye has been taken off, the land, unless it is set to grass or is ploughed, is very liable to be overrun by weeds. The turnip may in such cases be sown as a fallow or cleaning crop. If the stubble is turned in soon after the grain is taken off, and a dressing of fine manure harrowed in, a fair crop of turnips may be obtained, if the seed is sown from the 20th of July to the 10th of August. It will be best to sow in drills, on account of the greater advantages which this method affords for killing the weeds—frequently an important object.—Sward-ground which it is designed to bring into cultivation next year, is often broken up in summer or early autumn. It is a very good plan, especially where the sward is tough and it is wished to have it rotten by the following spring. But growing a crop of turnips on it will hasten its decomposition, as after turnips are well started they shade the ground for the remainder of the season, and by preventing the grass and other vegetation from growing, cause the turf to decay rapidly.

2. Turnips are sometimes sown with rye and with grass seed. Where the ground is rich and free from weeds, a fair crop of turnips may sometimes be taken without any apparent injury to rye. In such cases the turnip seed is generally sown broadcast, and the plants are not hoed, as hoeing would destroy some of the rye; they can be thinned by hand, if necessary, when at a proper size. Turnips are sometimes sown in a similar way with grass-seed, and we have been informed that the practice has resulted favorably, but we cannot speak of it from personal experience. It is obvious that care should be used in gathering the turnips not to injure the grass.

3. It sometimes happens that spots of greater or less extent in corn-fields have not a sufficiently good stand of corn to make a full crop. Turnips are frequently sown on such spots to advantage; and in many cases the seed may be scattered where the corn is too thin, and whatever the turnip crop amounts to is clear gain.

In either of the above cases, turnips are produced at very little cost—not over four to six cents per bushel. It is true they cannot be kept long, but there are many ways in which they can be made worth more than their cost.

As to manure, we may remark that superphos

phate of lime, of proper quality, is excellent for turnips, and if the article is applied at the time of sowing the seed, a good degree of the effect will be likely to seen in the following crops.—*Boston Cultivator.*

Agricultural Intelligence.

The Exhibition of 1862.

The brick walls are now more than 30 feet high; the floor of the picture gallery is being laid, and the skeleton of the eastern end of the great structure is now mapping out in piles of brown columns, with some interlacings of trellis and face girders, the number and extent of which visibly grow with every hour's labour. Before August much of the second story will be completed, and even the massive arches which span the nave will be turned across and in their places. The immensely increased rapidity with which iron structures of the most enduring kind can be run up as compared with those of brick or stone is shown by the way in which the metal portions of the building have progressed over the picture gallery. The latter part of the structure, though begun long before the rest, is only about thirty feet high, while in some parts the iron work is upwards of fifty feet. The works connected with the picture gallery are, however, of no ordinary magnitude and substance, for all connected with this portion of the building is most massive, as may be imagined from the fact that these walls have already consumed over 6,000,000 bricks, and will require nearly 12,000,000 more to complete them. Upwards of two miles of little tramways intersect the ground in all directions, and along these a couple of men can move a truck with four or five tons of girders at a far greater speed than six or eight horses could move them in a wagon. With the same view a small powerful steam engine is placed in the centre of the works, and connected by a network of ropes passing through pulleys over all parts of the ground. By means of these loads are drawn about the tramways, or columns and girders hoisted and bolted in their places, with amazing rapidity and ease. But the most astonishing of these labor-saving contrivances is a gigantic travelling scaffold, which has been built on twelve wheels, to run on rails up and down the whole length of the nave. This huge structure is 60 feet square and 100 feet high, and weighs nearly 300 tons. Yet four men with levers can move it almost quickly to any part of the works. It will be used in hoisting the upper columns, the huge circular wooden ribs of the roof, for painting, or, indeed, for any purpose connected with the building where many men have to be employed at a great height. Messrs. Kelk and Lucas are confident that they will be able to hand the building over to the Commissioners completely finished before the stipulated time—even as early as in March next, it is said. As regards other matters connected with the intended display, everything is progressing in a most satisfactory manner. The local and trade committees have been formed throughout the United Kingdom, and are everywhere working well. In 1851 there were, at the opening of the building, 8,000 exhibitors. Already the Commissioners have received the names of upwards of 6000, and others come in daily. On the continent the intended Exhibition is received with the utmost favour. France, Prussia, Russia, Sweden, Norway, Italy, Spain, Portugal, and Belgium are especially active in the cause, and the latter country has evinced its interest by asking just double the amount of space it can by any possibility be awarded. In Russia the Emperor has appointed two commissioners, one for the north and one for the south of his gigantic empire. Only three governments decline to have anything to do with it. They are Turkey, Rome, and Morocco. Nevertheless some superb works of art from Rome are expected from individual exhibitors. Nothing is expected from America. The Commissioners communicated with the Federal government some time since, but the usual notice has not, we believe, been sent round to the Governors of each state, as it was not thought wise to do so in the present rabid temper of the Northerners. As a set-off to the secession of Turkey, the government of Egypt is exerting itself warmly so that, on the whole, all is going well, and promises an even greater success than that which attended our first great international effort in Hyde Park.—*Times.*

Norfolk (England) Agricultural Society.

We call the following remarks from the speeches at the dinner of this Association recently held at Swaffham, which will be found full of interest to Agriculturists *generally*:—

The Chairman (Mr. Hammond) in giving the toast of the Judges of short-woolled sheep observed:—He believed that Providence, the Almighty, or whatever name they might choose to use, had given certain localities to certain animals; and he knew it to be a fact that the improvement of almost any animal to its proper locality might be carried to a point which would make the animal a most valuable one. Take, for instance, the West Highland of Scotland. He remembered when those animals were of a very moderate description; after to starve for about four years, they were at the end of that time introduced to the south of England. If you put them into a yard to be killed all the pigs; if you treated them properly and put them into the grazing lands of the

thamptonshire—such a place as Oxton Field—in about five months they returned you a very fair rent for your land. He took the West Highlanders as the wildest sort of Scotch animals which could possibly be selected; but it was the same with the Irish. He remembered well of that district when there were animals which probably we should now despise, with horns almost as long as that (suiting the action to the word, and stretching out about a yard on each side). London at that time was almost supplied with beasts from that district. Mr. Keary, as a Northamptonshire man, would bear him out in what he said; and he must repeat his belief that there were no animals peculiar to any district in England which could not be improved by attention and careful arrangement between the male and female. Therefore if they had got a good breed of stock, let them keep to it. (Hear, hear). With regard to the gentlemen who had come to judge the Southdown sheep, he, as an exhibitor, felt in a wretched position. His object in sending sheep to the meeting was to show what a miserable beast an animal was which was left in a state of nature (laughter); although, as almost the largest farmer in the room, and having almost the largest flock in Norfolk, he bred sheep which fetched a very good price in London in the spring. Whether the grease administered to them in the six months previously to their arrival there was any benefit to them he would not say but he thought that particular article administered to them in the shape of cake would pay more money, but it was a matter of taste.

Lord WALSINGHAM said, with reference to the remarks which had fallen from his noble friend on the subject of breeding, he had no hesitation in stating his opinion. If regard was paid to the principles upon which all agricultural associations were founded, viz., the obtaining the largest amount of meat with the smallest amount of bone and offal, it would be seen that no animal in its own class had been so successful as the Southdown. It might be very true that a farmer might make a very good profit out of a half bred animal; but if he had not two full-bred stocks to go to, what would be the character of his half-bred? The worthy Chairman had suggested a variety of operations through which an animal passed before he became perfection; and he would not say that there was not some truth in what Mr. Hammond had stated. Other persons complained that some of the animals exhibited at agricultural shows were too fat; but as an aptitude to fatten was a proof of a breed being a profitable one, he should like to know how it would be possible animals were shown in the state in which Mr. Hammond said he shewed his, viz., to show how poor and miserable they were, for any man to say that they were animals which if they had been properly treated, could have been brought to anything like perfection. Some animals had an extraordinary tendency to fatten. Only four or five days since his excellent steward sent him a note, in which he wrote, "I am exceedingly sorry to inform you that our prize ram is dead; he had such an aptitude to fatten, that though we tried as hard as we possibly could to keep him down, we could not prevent his fattening too much. I thought he never would come to the show, and he is gone dead." Unless you absolutely starved some animals, you could not prevent them from fattening.

The CHAIRMAN said that he agreed thoroughly with his noble friend that to secure a well-bred animal you should go to two good breeds, for nothing bred an animal which came so soon to hand as a well-bred long-woolled sheep put to a Down ewe. He did not believe any man in Norfolk would say this was not the case. Some men were satisfied with great overgrown, long-legged, lathy sheep, but he saw a very eminent salesman present, Mr. Collins, and he put it to him whether a very long leg entered into the commercial part of the business? whether a good back was not preferable to a long leg? and whether a sheep crossed between two legitimate crosses was not a better thing to deal with in the Metropolitan Market than a lanky sheep with a rigid back bone, looking more like a tup deprived of the organs of generation late in life, which though respectable and useful in itself, did not attain to the full beauty of the animal. He agreed with the noble lord that the aptitude to fatten was a grand desideratum, but when a premium was proposed for animals not separated from the flock till a certain day, he could not bring himself to believe that any man could be fool enough to bring 40, 20, or 15 score ewes into the state in which they had seen 20 ewes exhibited that day. He could only say that in his case the destination of such animals would not be to the amorous proceedings of the tup, but rather to the mercantile proceedings of his friend below. There was no accounting for tastes, and no accounting for the quantity of pounds some men would throw away to win five.

Mr. TORR, the great Lincolnshire farmer and breeder, observed:—With regard to their home-breds, he saw in them a very marked excellence; he had always been one of those who advocated not improved breeds so much as the improvement of breeds natural and congenial to a county. Of the polled cow class, he declared without favour or affection—being a short horn breeder himself, and having a pretty general knowledge of the aboriginal breeds of the country—that he never saw in his life a more perfect specimen than Mr. Oliver's cow. If this breed was congenial to the climate and lands of Norfolk, why should they not cultivate it? The cow which he mentioned might be made a mine of gold. She might produce, if well crossed by good and compact bulls, a breed which might be most successful and valuable. It was not only the best breeds which were of the most value abstracted.

ly, but a great deal more might be done by improving breeds congenial to the climate than by pulling up one breed against another. He was a thorough-bred shorthorn breeder, and therefore they would receive this remark as quite unprejudiced. Shorthorns were best adapted to the north of England, as they could be got up at a much earlier maturity, and the inhabitants of the north did not care so much for the London market as to the value per pound, as they got more pounds for consumption. If it was found that in Norfolk that they had a home breed which could be got up with advantage, just as in North Devon they had a breed adapted to that climate, let them keep to it by all means, and they were sure to succeed; but let them not fall into the false economy of breeding merely class against class, a course which was not to be supported upon the true principles of breeding. Let every man try in his own circle of breeding to improve those animals which had been placed in his hands by nature. If he found them not congenial, *let him import others, but let the* importation be from an original stock. They had in Norfolk Highlanders crossed with Norfolks; whether it was to their advantage in paying their rents he would not say; but he believed they would do more by improving that which nature had given them than by seeking by violent crossing to abrogate the principle which God had laid before them. Violent crossing might pay for a certain time; but he believed it to be decidedly wrong in principle; for one should try to improve nature, and not to alter nature. The northern sheep called the Teeswater had become obsolete; the old Lincolnshire he was glad to say were obsolete, and the large horned Norfolk were obsolete also.

The CHAIRMAN next proceeded to direct attention to the horse classes, and observed that some Suffolk cart horses were deficient in their feet, although if a horse had to pull a large weight, it was a very important consideration that its hoofs should be strong, that its feet should be fully developed, and that they should be put on exactly in the right way. He saw a great improvement in the horses which had been exhibited that day, and if he could have found the gentleman to whom they belonged, he should *have tried to have bought one or two animals.* He supposed, however, that nobody sold a horse which could win a prize, and he went away with his money in his pocket. Well, there were worse things than that (laughter). The judgments given were, he believed, founded upon sound and true principles, and they were much indebted to the judges for marking by their decisions what was desirable, and what was to be avoided. A horse might be made to look uncommonly handsome, but unless his lower extremities were made in the right way, and unless his feet were strong in proportion to his body, you would merely have a very large animal to stand still, and a very slow animal to go on. What they wanted with good roads was a quick stepping animal, with good lower extremities, strong feet, and a certain amount of action. Every man thought he had got the best horse in the country, and as for the old mare, there was no mistake about her (laughter). He did not mind in the least giving, in his quiet independent sort of way, an opinion or advice; but if there was one subject upon which he would rather not give an opinion, it was riding horses. The fact was, a great deal depended upon the rider. In the case of one man's horse, the rider might be a very good one, in the other he might be a great brute, and the man who could discriminate which horse was most likely to make the most money in the horse market, was the man to decide which was the best riding horse. With some people a horse whose tail went over his back, and whose feet went over his nose, might be an uncommonly popular one.

The CHAIRMAN observed that he had acted for four years as steward of the implement yard at *the meetings of the Royal Agricultural Society,* and as he had paid much attention to the subject of implements, he would make a few hastily improvised remarks upon it. The topic was one of great complexity, and one which ran counter to the prejudices of many farmers. He remembered when the implements exhibited at the Royal Agricultural Society's meetings did not exceed in number those exhibited to-day, and had not one twentieth of the practical value. Very few could appreciate the difficulty, expense, disappointment, and trouble involved in bringing a good agricultural implement to that sort of perfection which rendered it fit to be put into the farmer's hands. Exhibitors of implements had to contend with two great difficulties.—Every labouring man who had been in the habit of working with the two old simple implements the plough and the harrow, looked upon every new implement with a feeling of the greatest possible contempt. When he (Mr. Hammond) had been unfortunate enough to buy a new implement, he had not half done his business, for he was compelled to devote a very considerable amount of time to its right application; and having arrived at the advertised use of the implement, he had then to set to work to discover *how many more uses it might be applied to.* His friend, Mr. Garrett, whom he saw present, would also tell them that nothing was so difficult as to introduce an improvement among farmers when they did not appreciate it, though it might do the work better than it had been ever done before, it was something new, and they hated accordingly. He remembered perfectly well when the thrashing machine was considered an innovation perfectly inapplicable to this country and when the labourers thought it would take the bread out of their mouths: now implements had been improved so much, that it was a monstrous difficult thing in harvest time to get a man into a good sweat (laughter). He confess

ed that on those who bought improved implements the onus rested of making them do all they were capable of doing. It was a difficult thing to talk to farmers. He could talk to them in a certain way—about hounds, or the cultivation of their land; he could hear them praise of abuse their neighbours, although he must say the abuse predominated (laughter); but whoever went out of the common path must submit to that sort of obloquy, which every innovator must expect.

Trial of MowingMachines at the Model Farm, Glasnevin.

On Wednesday last, a trial of mowing machines was held at the Model Farm, Glasnevin, on a fine piece of Italian ray-grass, kindly set apart for that purpose by Doctor Kirkpatrick, the head agricultural inspector and superintendent of the establishment at the Model Farm, and Mr. Boyle, the farm manager Though of two years' standing, and also the second cutting for the present year, it was a very fine crop, lodged in some parts, and just in order for hay making, weighing, after being cut, 10 tons 8 cwt. 7 stone per statute acre.

The machines tried on this occasion were Wood's one horse mowing machine; width of blade, 3 feet 6 inches. Price £20. Toole and Co., 41, Westmorland-street, agents. Next, Burgess and Key's one horse machine, 3 feet 6 inches blade. Price £22 10s.; belonging to Kennan and Sons, Fishamble-street Samuelson's two-horse mowing machine; width of knife, 4 feet 6 inches; under the directions of Mr. Cornes, Mr. Samuelson's agent. Price as mower, £23, and reaper, £26; and Burgess and Key's two-horse mowing machine, by Kennan and Sons. Price £25; width of knife 4 by 6.

The first was Woods', a very light and elegant-constructed machine, in which not an inch of wood nor a pound of iron was used that could be dispensed with. It had been in use at the Model Farm for several days previously, under the sole management of the pupils of the establishment, and the work left after it was well done, cutting close and even. At this trial it seemed of light draught, and cut at the rate of 1⅓ statute acre per hour. Burgess and Key's one-horse mower came the next on trial. Its knife was also 3 feet 6 inches long; it is a much stronger built machine and seemed to require more power; however, it did cut at the rate of about 1⅓ statute acre per hour, cutting close and clean.

Next came Samuelson's two-horse combined mower and reaper, but adjusted as a reaper; knife 4½ feet long. It cut extremely low and clean, at the rate of 1½ statute acre per hour. Next came Burgess and Key's two-horse mower, knife 4 feet long, cutting at the rate of 1½ statute acre per hour. It also cut extremely low and close; in fact, no man with a scythe could cut so clean as any of the machines operated with: but the general opinion seemed to be that Wood's was the best adapted for the generality of farmers, from its lightness of draught; that Burgess and Key's two-horse machine seemed of lighter draught than Samuelson's; but that the latter cut the closest. Further and more continuous trials on old meadows are still required to test the exact relative powers of the several machines, which we hope at some future day may be effected.

We must not omit stating that Mr. Dawson, who conducted Wood's (Cranston's) machine, got three of the pupils to draw it, which they did with comparative ease; and we have no doubt but that a good, stout poney would be fully equal to the work.

On the following day Burgess and Key's two-horse and one-horse mowing machines were tried at Mr. W. S. Purdon's, near Dundrum, on old meadow, some of which was very heavy, and well calculated to test the capability of those machines. Both machines executed the work well, but especially the two-horse one, which cut about an Irish acre close and clean, much better than any scythes-man could do it, when the rain put an end to the trial. Those present, amongst whom were several first-rate mowers, were astonished at the excellence of the work performed. —*Irish Farming Gazette, June* 22nd.

Profitable Farming.

The *New England Farmer* reports an interesting discussion by the Legislative Agricultural Society at Boston, on the subject of the most profitable kinds of farming in different parts of the State. Mr. White, of Petersham, said a farmer in Barrie kept 16 cows, that produced each 440 pounds of new milk cheese, at ten cents per pound—which is over seven hundred dollars for the sixteen cows. Mr. Proctor, of Danvers, said that in Essex county, men who cultivated from two to thirty acres, made as high as forty dollars per acre by thorough plowing and manuring freely, mostly by raising vegetables. Onions were raised largely before the insect was known—many had cleared over one hundred dollars per acre. Onions do not exhaust the land, and successive crops for 20 years had been raised, and at five hundred bushels per acre. Hay had proved profitable, as well as beets and carrots; and within a year 30 bushels of wheat had been obtained from an acre. Mr. Bushnell, of Sheffield, was strong in favour of sheep husbandry; but its profits had been greatly reduced by the ravages of dogs. Animals in which Spanish Merino blood prevailed, produced 3½ to 6 lbs. of washed wool per head, usually selling at fifty cents per lb. He had been engaged in the sheep-raising for thirty

years, and had increased the value of his land fifty per cent. by it. Land which cannot be plowed may be enriched on any desired spot, by placing there a movable structure for shelter, running on wheels, under which salt is placed, and where the sheep will lie. Paoli Lathrop said that along the Connecticut valley, winter and spring wheat, broom-corn, and onions were profitable. He preferred raising sheep to cattle; said that a pound of mutton could be raised as cheaply as a pound of beef, the cost of grinding grain being saved by the perfect digestion of the sheep. Mr. Sears, of Barnstable county, said that their best paying crop was cranberries; and he mentioned as an exception, not as a rule, that $1,750 had been realized in a single season from an acre of land; and a cranberry meadow, sold in the spring for $1,500, cleared in the same year $1,200. The average yield he thought about $500 per acre. Josiah Quincy, jr., said the best crop he had found was the manure crop. He raised 320 tons of hay, kept 80 cows, and mixing his manure with swamp muck, made 100 cords of compost per mohth for his grass lands. C. G. Davis, of Plymouth, stated that 4½ acres of grass, behind a livery stable, had received the manure of 15 horses, top dressed in November, and had yielded 26 to 34 tons of hay per year, last year cutting 26 tons the first crop, and 7 to 10 the second—(over 7½ tons per acre for the two cuttings.) Simon Brown said that the fruit, milk, and vegetables afforded large returns, near the cities. Cows had been so much improved as to nearly double in value within fifteen years.

The Royal Agricultural Society of England. Prince Albert President.

Our readers will learn with real satisfaction that his Royal Highness the Prince Consort has consented to act as President of the Royal Agricultural Society for next year, when the great show will be held in the Regent's Park. The election will be most likely announced at the general meeting of the society on Wednesday.—This is on either side no empty compliment, but a really auspicious omen for agriculture. The advance of the art well merits such countenance, and the Prince's own tastes point at once to him as the proper patron of such an occasion as the show of sixty-two promises to become.—The world already knows of his Royal Highness's success as an exhibitor of stock; but it is not every one who has had the delightful privilege of inspecting the Park Homesteads at Windsor, or of seeing and hearing how thorough an interest both her Majesty and her Consort take in the different phases of the home, the Norfolk, and the Flemish farms. With an enlightened and enlarged mind well fitted to his position, the Prince gives everything in any way worthy of his attention a fair trial. *We see this alike in* the breeds of stock he cultivates and the different descriptions of machinery he employs.—There are those first favourites, the little Devon at one farm, the Herefords at another, and the short-horns at a third; with, moreover, an especial place for the dairy. The day on which we had the pleasure of going round there was a new grass-cutter on trial; while one of Smith's steam-cultivators has been at work at Osborne, and another of Fowler's at Windsor. Both the Queen and the Prince make it their care to see such inventions well tested, and the Royal pair are equally zealous in marking the improvement of the animals. The Prince is known to be a capital judge, and there is not a beast but that he has the history and value of at his command. With, then, his great abilities and natural predilections, we may repeat that his Royal Highness's acceptance of the president's chair should inaugurate a great year for agriculture. It will be the especial duty of the society to make this worthy of him. There is an *eclat* already attached to the meeting that needs but careful cultivation to grow and thrive as time progresses. —*Mark-lane Express.*

British Wool.

At a meeting of the Council of the Royal Agricultural Society of England, held in London, on June 24th, Mr. Caird, M. P., read the following paper on British Wool, illustrated by samples from various parts of the United Kingdom. Professor Wilson, and other distinguished agriculturists, took part in discussing various matters connected with the subject embraced in Mr. Caird's paper; the substance of which we purpose giving in our next issue. As the culture of sheep is extending in several sections of this Province; and the demand for wool increasing, our readers will find much that is interesting and suggestive in the subjoined report.

Mr. Caird said: The subject that I venture to bring before the Society to-day appeared to me to be one of considerable interest to the agriculturists of this country, otherwise I should not at so late a period of the season thought it necessary to take up their time; and as I have been very much engaged, I think probably I may condense my observations better, by reading a short paper that I have written, which embraces facts rather than entering into any discussion upon the subject. There has been an immense increase in the importation of foreign and colonial wool during the last 20 years, yet the price of British wool has not only undergone no diminution, but its production continues to be one of the most profitable branches of our agricultural indus-

The total importations have increased from 45-000,000lbs, in 1842, to 133,000,000lbs in 1859; of which our own colonies and possessions furnished 82,000,000lbs. (I am giving you the last statistical account that we have furnished to April 1859.) From Germany and Spain there has been in that period a diminution of over 4,000,000lbs; but from other European countries, chiefly Russia, the low countries of Denmark and Portugal, there has been an increase of 20,000,000lbs. From our own colonies and possessions the increase during that time has been as follows, in round numbers—from Australia the increase has been during 20 years from 13,000,000lbs to 54-000,000 lbs; from South Africa, the increase has been from 1,000,000lbs to 14,000,000lbs; from the East Indies it has risen from 4,000,000lbs to 14,000,000lbs in the year, that is between 1842 and 1859. These figures show an increase so enormeous that we cannot but be amazed that the price of home grown wool continues, in the face of such imports, to be remunerative. But if we attempt to estimate the total produce of the United Kingdom, the result will appear still more remarkable. The number of sheep in the three kingdoms may be taken at 30,000,000. The total produce of wool may be estimated at 120,000,000lbs. In 1842, the home-grown wool could not have exceeded 100,000,000lbs. A comparative statement of the supply will stand thus: In 1842, the home and foreign supply amounted to 145,000,000lbs; in 1859, the home and foreign supply amounted to 253,000,000lbs; making a total increase of 108,000,000lbs, which shows an increased supply in the growth of one of our great staples of manufacture to the extent of nearly 75 per cent, and this not followed by any diminution of price to the home producer. This has been caused partly by the increasing prosperity of the woollen manufacturers at home, but partly also by their increase abroad. France alone took from us, in 1859, 6,000,000lbs of British wool, and upwards of 12,000,000lbs of colonial wool. She took the larger portion of Irish wool, and France and other foreign countries received our market on the whole, in 1859, of 45,000,000lbs of wool, which was equal to three-fourths of the whole produce of Scotland and Ireland. The practical point to which I am anxious to direct your attention is the change that has taken place in the relative prices of different kinds of wool, and the importance of a knowledge of this to the British farmer. The competition to which we are chiefly exposed lies in the shorter and finer qualities of wool. From Australia, the East Indies, South Africa, and South America, we received, in 1859, upwards of two-thirds of our imported wool. And the whole of that region, which will most probably continue to increase most rapidly in its produce of wool, is unsuitable to the production of the coarse long wools which are now in great demand. The British islands produce this kind of wool in the greatest quantity. A small portion comes from the North of Europe and Ireland; but hitherto we have held in our hands almost a monopoly of this supply, and as nature has given us this advantage we ought to make the most of it. The short fine wools of this country, such as the Down or Cheviot, formerly sold at double the price of Lincoln or long combing wool. When the colonial wool trade had no existence, in 1811, Cheviot wools were worth 2s. 6d. per lb, when the Lincoln brought no more than 1s. per lb. But in proportion as the market has begun to be supplied with fine Australian wool, the relative values of the two have greatly altered. In July 1851, the Lincolns had reached within 2d. per lb. of half-bred Cheviots, and, in 1856, within 1d. per lb., and in May, 1861, the Lincoln long wool was the dearer of the two. The change in price as between the Down and Lincoln wools has been equally great. The two kinds of wool are used in the manufacture of different classes of goods. Cobourgs (this is information that I received from an eminent manufacturer in Yorkshire, having no personal acquaintance with the subject myself) are made from Australian, Merino, Down, and other fine short wools, of which there is a constantly increasing supply. Orleans and Alpacas are made from the lustrous long wools for which there is a constantly increasing demand, and a limited area of supply. In the short, fine wools there is no lustre whatever; in the long wool lustre is a most important quality. Alpaca and mohair are introduced to a slight extent to produce lustre in the cloth; but as the supply of that description of wool is only two per cent of the whole import, it will be obvious how little that will affect the price of home-made lustrous wools. There is a great and increasing demand for orleans and mixed alpacas, and of lustrous goods in which the object is not merely fineness to the touch, but a lustrous appearance. Beside the Britsh demand, there is an increasing French demand both for that kind of wool and for the goods manufactured from it. The French manufacturers already take the most of the long, lustrous wool of Ireland. I have been favored by my friend Mr. Foster, M. P. for Bradford, with specimens of the various wools at present used by the manufacturers of the West Riding, with the prices affixed to each, and which I now beg to lay on the table for the inspection of the Society. The practical conclusion to which I arrive is that the British wool-grower should develope as much as possible that kind of wool which is least subject to foreign and colonial competition, and for the production of which he fortunately possesses the most suitable soil and climate, and the supply of which can be best increased by good farming, liberal feeding, and with a large frame of mutton, as well as a heavy fleece of wool. For this purpose the best cross probably that can at present be adopted on suitable soils would be by using the improved Lincoln or Leicester ram, in which the desirable qualities of length, lustre,

strength and fineness of wool seem to be best combined.

That paper contains all the material facts that I desire to bring before the Society for their consideration, and for such discussion as it may probably lead to. I imagine that the subject is one of considerable importance, and that upon careful examination it will be found well deserving of the attention of the practical farmers of the Royal Agricultural Society of England.

A Thousand Weeds at one Pull.

A single pigweed (*Chenopodium album,*) if left undisturbed, will ripen more than ten thousand seeds, each capable of producing a successor. The seeds of the dock, sometimes number over thirteen thousand on a single plant, and the toad flax (*Linaria vulgaris*) leaves provision for more than forty-five thousand plants the following year. Burdock will multiply twenty one thousand fold, and the common stinging nettle (*Urtica dioica*) ripens one hundred thousand seeds. Scarcely a weed comes to maturity without scattering from one thousand or more seeds to injure crops and annoy the cultivator. This is not mere guess work, for painstaking investigators have actually counted and calculated the increase. A single pull at the commencement of the season, will destroy the whole progeny.

It should be remembered that seeds mature sufficiently to vegetate before they are perfectly dry; and again, that the seeds are ripe on one part of the plant while there are flowers on another. Hence it is not safe to wait till the flowers are gone before pulling up weeds. Attack them before they blossom. Pull them up, or, if annuals, cut them off when quite green; and spread them in the sun to die. He who allows the weeds to grow in his potato field until he harvests the crop, is quite sure to sow many millions of seeds for next year's trouble.

This much for annual and biennial weeds. Perennials, like the dock, daisy and the thistle, should be treated with greater vigor. Cutting off the tops once will not suffice. Digging them up one by one, root and branch, is the only effectual remedy. Where they have invaded a whole field, plow up the land in the Fall, leaving many of the roots exposed to the action of the frost. Plow again in the Spring, taking pains to pick out and carry off every root that appears. Devote the soil to some hoed crop, and let it be repeatedly and thoroughly cultivated through the Summer, waging war upon the pests without any relenting. If they are cut off *below ground* several times in the Summer, they will grow weaker at every decapitation. The leaves being the lungs of plants, are essential to their breathing, and if this important operation be stopped, they must soon give up the ghost. Remember every extermination of a weed this year, is the death of a thousand of the future crops.—*American Agriculturist.*

ROMAN OATS ON ENGLISH FARMS.—In a field on the farm occupied by Mr. Binks, at Pepper-moor, near Alnwick, some ancient encampments *long existed which tradition ascribed to the* Romans. The lapse of time and the spirit of agricultural improvement gradually obliterated almost every trace of them; and about a year ago the last of the whins, which time out of mind had covered the ground where the Roman legionaries had trodden, were cut down, and the land plowed and sown with barley. When the barley was ready for the sickle, Mr. Binks was astonished to observe several heads of strange looking oats among it. Some of them were unusually tall and strong, with long branching stemlets, while others had globular heads resembling the seed of the onion. Mr. Binks collected no less than 75 varieties never seen in the district before. He has sown the seed, and intends to exhibit a collection of them at the next show of Alnwick Horticultural Society. The place, as it has been conjectured, has been a cavalry camp and the oats, which were perhaps ripened under other skies, after lying covered with the debris of the camps for probably 1,500 years, will again shoot into cereal beauty, and may add once more permanent varieties to the stock of the English farmer.—*London Globe.*

LAW TO PROTECT FAIRS.—The Legislature of Ohio has passed the following enactment:

"That it shall be unlawful for any person to exhibit or show any natural or artificial curiosity for any price or gain, or set up to let or use for profit any swing, revolving swing, flying horses, whirligigs, within one-fourth of a mile of the fair ground of any agricultural society in this state while the fair of such society is being held therein, unless such person shall first have obtained the written permission of the board of such agricultural society to make such exhibition.

"That if any person shall violate the provisions of this act, he shall, on conviction thereof, be fined in any sum not less than one nor more than one hundred dollars; and all moneys derived from the violation of this act shall be appropriated to the support of common schools."

The Management of Swine.

The following remarks were made by Mr. Stearn at the Farmers' Club of Framlingham Eng., April 22nd. We copy from the Gardener's Chronicle:—

I have had experience in management of pigs

good many years. I exhibited a sow and gs at the Framlingham show as far back as 847, and gained the prize; they were then nsidered superior to everything that had en seen in this neighbourhood, and many id I should never produce another lot so od. But as Mr. Bond says, "we keep pro-essing," for at the Framlingham show last ar I exceeded the former very much in ight at the same age. The same remark s then made again, but the two lots I owed at Birmingham and Smithfield were arier still at the age; and now I suppose ay make up my mind I have got to my thest in that point, as I have raised tween 14 and 15 stone, 14lbs. to the stone, the age of between five and six months, ad weight; and between 8 and 9 stone, lbs to the stone, live weight, at between and 13 weeks old; and I think I have w in the breeding of that animal arrived as arly at perfection as I could reasonably pe. I find that the profit or loss of the rests on the quality of the stock, and it st be kept in mind for what purpose the imal is intended, whether for bacon or pork, for bacon flitches, you must choose a ge kind, such as Berkshire, but if for k, the small kind is most desirable, such as Suffolk or Leicester, which are very simi-animals, and every judicious breeder will e to take into consideration many circum-nces in choosing a breed of pigs. The ect and purpose of breeding is profit. To ure the greatest amount of profit, it would well to consider the position in life of the population resident near one's a locality; the proximity to a good ket, and the kind and quality of meat essary for its supply. Formerly farmers no means of conveying their swine to a orable market, except the tedious one of ing them, or the expensive one of convey-them in carts. There is a pig called the roved black Suffolk which many persons fer to white, thinking they are more hardy, I have fully tested the thing of late, hich I suppose most present have been eye esses to) and proved that the white will ed the black as far as early maturity is cerned, and of course early maturity is re the profit is gained; and I find the ter the quality of breed, the more lucrat-it becomes, much less food being required. for our white Suffolk breed. In choos-the sow and boar, the chief points are a a smallish head, with short snout, wide chops, the ears rather small and thin, ends sharp, pendulous, and pointing a little forward, broad and deep chest, round ribs, long in the body and short in the leg, the haunch or thigh dropped almost to the hock, back broad, straight or slightly curved, shoulders and hams thick, and the neck to rise well behind the ears, small bones in proportion to the flesh, the hair to be long, thin and silky, tail small and curled. Strict attention to these points cannot fail of perpetuating good stock. Here I must add my surprise how careless breeders are in selecting the boar for their sows; if there happens to be a good animal within a short distance for the going to which half-a-crown is charged, they will often send double the distance to a thoroughly bad bred ugly brute, for the sake of the gain of a shilling; whilst the apparently paltry gain is so much looked after, improvement is out of the question. As to the time for breeding, the sow should be from 10 to 12 months old, and the boar from 8 to 12 months. I however find that very few people will keep them so long, but breed them much earlier, which very often prevents their growing to the proper size, or acquiring sufficient strength for breeding. I think good sized sows are best for breeding, and more likely to have a good number of pigs. Great care should be taken not to have one with less than twelve paps, for it is observed each pig selects a tit for itself. I consider twelve good even pigs to be sufficient for any sow to bring up. The sow I exhibited at Canterbury last summer has brought up fifty-one pigs in four letters without losing one. As far as my experience goes, the time of gestation averages about 113 days, or 16 weeks and one day. Two good litters in a year are all we ought to expect. When a sow is in pig she ought to have liberty and plenty of exercise. The boars kept for stock should be confined in a shed with roomy yard; if allowed to roam about, you are likely to get wrong in your breed. In managing the sow at the time of farrowing my practice is as follows: To have a man with her to attend to her; for it is absurd to have all the trouble and expense of keeping a sow, then at the most particular time to leave her alone to take her chance. In my idea there is not sufficient attention paid to the construction of piggeries; I have seldom seen one which I did not consider too small, except perhaps just for fat pigs, which of course, do not so

much signify for the less a pig put up for fatting moves the better. But the farrowing pen ought to be large, to allow the sow plenty of room, and likewise to admit of rails being placed round the side, so fixed as to prevent the sow lying on the young ones. These rails should be made to shift according to the size of the sow, I think in height from 8 to 12 inches, and extend out from the wall, about nine inches, having the supports carried up sloping from the side, instead of straight up from the floor, then when the sow lies down there will be no likelihood of her squeezing the pigs, as there is plenty of space left for them to pass between her and the wall, for nine times out of ten that is where the mischief is done, as sows invariably like to lean against something when they lie down. I have recently had a hundred pigs, without losing one from being crushed. Each place ought to be, at least, from 8 to 10 feet square, and the best floor, I consider, is asphalt. No damp or scent can rise from that; I tried boards, bricks, and almost everything in the way of floors; most would say boards are best but I think I can convince you to the contrary. If you will consider for one minute, they cannot be healthy; for if the boards are placed close, of course the moisture will stand, and the boards become saturated; and if a space is left, the refuse litter will go between, so it will become one mass of putrid matter underneath, quite level with the floor, whatever the depth may be; for what passes through will absob the urine and is likely to bring on many diseases. But I think it is well in the cold weather, to lay down a false lattice floor on the asphalt, so it can be taken up once a week, and everything swept from under, for two or three weeks, when the pigs are very young. I have the beds attended to and fresh littered every morning, for I find the cleaner the place is kept, the better the pigs thrive. The floor being washed once or twice a week, everything runs off, and the asphalt dries in a very short time. There is another great advantage; it does not take more than two thirds the straw it requires for any other floor; for the moisture appears to run under the litter, without wetting it so much, as it is laid a little on the slope; what is taken from the inside, serves as litter for the outside, which ought to be paved in some way to prevent the pigs from rooting. By following this plan, the manure is made very regular and good. A tank should be made just outside to receive the drainage from the pounds, the building to be troughed to take off the rain water, to prevent the manure being washed. The pens ought to be so constructed as to be closed up in cold weather, and well ventilated in warm. At the time of farrowing I allow a very small quantity of litter cut short, and have a hamper placed in the pen, with a little straw at the bottom, and also an old blanket. I put a slip or partition about 2½ feet high across the pen, to prevent the sow getting to the hamper; as the pigs come forth put them into it and cover them up, until the sow has done farrowing, after which put them to her and let them suck. When done put them back in the hamper, give the sow a little warm milk and bran and whilst she is eating this, have the bed attended to, by removing all the wet straw &c. Add a little fresh litter cut short, then when the sow lies down let the pigs go to her again; by pursuing this plan there is very little danger of losing them, for I believe one third are lost for the want of proper attention. I always give the man 6d. per head for all the pigs he can bring up to a fortnight old. I find this much the cheapest plan, for then there is no fear but he will see to them properly, and attend to them in the first instance as well in the night as in the dry. How often do we hear people complain of the sow eating her own young; therefore steps ought to be taken to prevent her doing so; for when once a sow does that she is of very little use for breeding purposes. If you will allow me, I will explain what I have found to be the cause. In some litters, the side teeth are much longer and sharper than others, when this is the care, and the pigs begin to suck, they bite and scratch the paps, and punish and irritate the sow to such a degree that it brings on inflammation, and the sow becomes mad with rage, she throws some one way, and some another. At last she bites them, and if she once draws blood, she will begin to eat them. Now the way to prevent this: when the pigs are a few hours old, have them taken away in the hamper, so the sow cannot hear them, and nip those teeth out with a pair of pinchers. I should have lost a lot of thirteen some time since, if I had not pursued this plan, for the sow was as soon as possible, threw the pigs all over the place, and I had great difficulty in taking them away, for she would not allow any one to approach her. As soon as I had drawn the teeth,

put the pigs back, she was as kind to them as possible, and perfectly docile. I think about eight weeks old is a good time for weaning the pigs, and I like to have them operated upon a short time previous.

Horticultural.

Fruit Growers' Association of Upper Canada.

A meeting of this association was held at Hamilton on Friday, the 19th day of July, 1861. The President, Judge Logie, in the Chair.

The following members were present: Geo. Leslie and D. W. Beadle, Vice-Presidents; Dr. Hurlburt, Secretary; J. A. Bruce, Treasurer; Dr. Craigie, and Messrs. Arnold and Whitlaw, of Paris; Smith, of Grimsby, and Carrol, Holton, Freed, McNab, Laing, and D. Murray, of Hamilton.

The association then entered upon the discussion of small fruits, beginning with currants.

1st.—Red Dutch Currant.

Mr. Lesslie said that it was an improvement on the old currant; more like *Red Grape* than any other; it is stronger in wood and foliage than the old English; a good bearer, superior to the old English; pruning is everything in the currant; recommends it for use as one of the very best currants.

Mr. Holton would not recommend for cultivation what is commonly called the Red Dutch Currant, (I mean the common red currant of the country.)

Mr. Arnold agreed with Mr. Holton, and considered that the Red Dutch was the common red currant, and that the variety spoken of by Mr. Leslie was the common red currant improved by good cultivation.

Mr. Leslie was very decidedly of the opinion that the red Dutch and Common Red Currant were two distinct varieties; the Red Dutch is a very superior currant, has a strong low growth; the Common Red is a more slender shrub, and grows higher.

Mr. Freed agreed with Mr. Leslie that the Red Dutch is one of the best currants of the country. (Mr. Freed in the evening produced branches of Red Dutch, Cherry, and Prince Albert Currants.)

Mr. Murray agreed with Mr. Leslie and Mr. Freed, and considered the Red Dutch the best currant for general cultivation.

Mr. Beadle said that the Massachusetts Pomological Society recommend the Red Dutch as the best variety.

Dr. Craigie spoke of the importance of pruning currants, and referred to two kinds of pruning he had seen in Scotland, many years ago. One mode was by constant shortening in, the branches that were allowed to stand produced large knots or lumps from which an abundance of fruiting branches or spurs issued, and which produced a very large crop of fine fruit, the other mode was to train the plant to a considerable height, making the top grow over a trellis and hang downwards.

2nd.—Red Victoria Currant.

Mr. Arnold said that it is a late currant of good size; good flavour; and a very good bearer.

Mr. Holton said it is a very valuable currant, good quality, fair size, and a profuse bearer.

Mr. Leslie,—It is a good late currant, a week later than the Red Dutch, but not so good.

Recommended for general cultivation.

3rd.—Red Russian Currant.

Mr. Leslie,—Good flavour, latest of all the currants, ripens the first week of August, medium size, wood stiff and strong, and strong foliage, and a good bearer, has had it for four or five years.

No other member present had this variety. Recommended for further trial.

4th.—Red Cherry Currant.

Mr. Arnold,—It is a large very sour currant, good bearer.

Mr. Holton,—A large sour currant; wood large and ornamental—poor moderate bearer.

Mr. Freed remarked that in the spring the buds did not come out well, they appeared to be not fully developed.

Mr. Leslie agreed with Mr. Freed as to the buds being not fully developed in the spring; the wood is tender, but he saw no difference between the acidity of this and of the other currants. A poor bearer, (at Toronto,) but it is a distinct variety, both as to wood and fruit.

Mr. Smith,—It is poor and sour; the largest red currant, a good bearer, (at Grimsby).

Mr. Beadle.—Best market currant; medium bearer, and does not compare with Red Dutch.

Recommended for general cultivation.

5th.—Prince Albert Currant.

Mr. Arnold,—It is a good fruit, not so large as the Victoria; wood has a large growth; a good bearer.

Mr. Freed,—It is later by two weeks than the Red Dutch. Wood thrifty and hardy.

Mr. Beadle,—A late currant; the leaf has a yellowish hue, crumpled, and deeply serrated.

Mr. Leslie has grown it for four or five years, has a crumpled foliage, of a yellowish green.

Recommended for further trial.

6 and 7.—Black English and Black Naples Currants.

Mr. Holton,—Valuable for family use; not a

good bearer; little difference, if any, between Black English and Black Naples.

Mr. Freed,—Black Naples larger than black English, and better.

Mr. Smith,—Black English is superior to the Naples, and better bearer; Black Naples runs wood.

Mr. Beadle,—Black English and Naples same in size and flavor; Black English bears better than Black Naples; but his Black English shrubs are older than his Black Naples. Mr. Taylor, of St. Catherines had the Black Naples larger than the Black English—Mr. Taylor's are on gravelly soil—his, Mr. Beadle's, on sandy loam.

Mr. Leslie—Grows three kinds, Black English, Black Naples, and Bang-up. The Black English is the best for general cultivation; the Naples are larger for size and beauty, is *the* currant, but it is a poor bearer. Bang-up is almost worthless.

Both the Black English and Black Naples recommended.

8th—Ogden's Black Grape Currant.

Mr. Arnold,—Size and flavor same as Black English and Naples; bunches longer, does not bear well when young—same is true of other black currants. Recommends it for further trial.

9th.—White Dutch Currant.

Mr. Smith,—The fruit is very fine, and moderate bearer at Grimsby.

Mr. Arnold,—Same as common red currant, but of a different colour; same in flavor.

Mr. Laing,—The fruit is excellent, a prolific bearer.

Mr. Murray,—Fruit much the same as Red Dutch; a good bearer. Recommends it.

Mr. Beadle,—An improvement on the old white; not so good a bearer as the white grape currant.

Mr. Leslie,—An improvement on the old white English; as a table fruit very good; a pretty fair bearer.

Recommended for general cultivation.

10th.—White Grape Currant.

Mr. Leslie,—There is no currant equal to it.

Mr. Beadle,—The best white currant in cultivation—a prodigious bearer.

Mr. Arnold,—Fruit first-rate; wood liable to be attacked by a borer.

Mr. Murray agrees with Mr. Arnold.

Mr. Smith,—The very best currant.

A branch of the white currant, in fruit, was exhibited by Mr. Smith.

Recommended as the best white currant for general cultivation.

RASPBERRIES AND BLACKBERRIES.

(See proceedings at last meeting of the Society reported in the *Canadian Agriculturist*, February 16th, 1861, page 114.)

1.—*Brinkle's Orange Raspberries.*

Mr. Murray prefers it to White Antwerp.

Mr. Smith has grown it this year for the first time; Superior to White Antwerp; hardy.

Mr. Beadle,—It is a berry of great promise, and a good bearer.

Mr. Leslie has grown it for two or three years; best of all the white raspberries; canes tender; a good bearer.

Recommended for further trial.

2.—*Fastolff Raspberry.*

Judge Logie has grown it for eight or nine years, and has found it hardy, very productive, fruit of fine quality, but soft.

3.—*Belle de Fontenay Raspberry—(Red.)*

Mr. Arnold,—A good crop; later than Antwerp; bears a succession of crops; hardy.

Mr. Smith,—Best variety; two fine crops in one year; hardy.

Mr. Beadle,—Valuable berry; hardy; good bearer; will bear two crops in a season, one on the old canes of the previous year, and the other on the new canes. The September crop will be finer if the old canes are cut away in the spring.

Mr. Leslie agrees with Mr. Beadle.

Recommended for cultivation.

4.—*White Antwerp Raspberry.*

Mr. Arnold,—Best fruit, of the best flavour; canes tender; a moderate bearer.

Mr. Murray,—Good flavor; cane hardy; a good bearer.

Mr. Smith,—Fruit good; cane tender, liable to be killed in winter; should be laid down. All raspberries should be laid down in winter; the canes need no protection but simple laying down.

Mr. Leslie,—One of the best.

Recommended for cultivation.

5.—*New Rochelle or Lawton Blackberry.*

Mr. Smith,—Hardy at Grimsby; never winter kills, a prodigious bearer.

Mr. Beadle,—Berry large; cane hardy, and an enormous bearer at St. Catharines.

Mr. Arnold—Worthless at Paris; winter kills, when it gets into the garden it is difficult to eradicate—those acquainted with the bramble generally consider it the same as the Lawton.

Mr. Leslie,—It does not thrive in Toronto.

Mr. Taylor, of St. Catharines, sent to the meeting, by Mr. Beadle, nine varieties of Raspberry, viz., Brinckle's Orange, White Antwerp, Col. Wilder (white), Belle de Fontenay, Fastolff, Franconia, and Allen; also, the Native White and Black Cap Raspberry.

Mr. Smith, of Grimsby, also laid on the table two varieties of Raspberry and Trollope's Victoria Strawberry; and Mr. Freed laid on the table two varieties of Strawberry.

Mr. Arnold stated that he had this season produced seven bushels and five quarts of Wilson's Albany Strawberry, on a plot of ground eighty feet by twelve feet—bring at the rate of 300 bushels per acre. These he sold at one shilling and six pence, york, per quart, or at the rate of $7 per bushel.

The next meeting of the Association is to be held in the Mechanics' institute at Toronto at the time of the September Show of the Toronto Horticultural Society. The members of the Association to take to the September meeting specimens of grapes, gooseberries, cherries, and plums, &c.

T. HURLBURT,
Secretary.

Hamilton, 19th July, 1861.

Defoliation.

[The principle involved in stripping a plant or tree of its leaves, when it becomes too luxuriant, is well explained in the following article taken from the *Gardener's Chronicle*.]

As an instance of the destructive effects of defoliation let us select some plant well known to be remarkably tenacious of life, as for example Couch Grass, which is one of those troublesome weeds in whose extermination much time and money have been spent, and often in vain, so great is its vitality. This plant consists of a root, which throws out leaves and almost simultaneously under-ground jointed stems or runners, the points of which are sharp and penetrating, white and polished like ivory. The green parts above ground may be hoed over, but the creeping underground runners are still capable of sending up shoots from their joints, and thus a number of fresh plants are originated, so that any given space, instead of containing only one plant, is now stocked with many.

To fork up the whole is easier said than done; and is an operation next to impossible in many kinds of soils, for some of the joints are apt to remain hidden in bits of clods, and when these are softened by warm showers each joint soon takes the opportunity of pushing roots, an upright shoot, and runners which make rapid progress in the well forked over and now pulverized soil. Thus from each concealed joint a vigorous plant starts up, so that this plan for killing it often turns out to be one which facilitates propagation. The green portion of the plant above ground naturally dies down in winter; but the underground runners live, although the soil is frozen round them with a temperature at zero. If in spring their points are turned up in the air, they will burst their ivory-like casing, become green, and develope themselves into leaves. It is true that repeated forkings and careful pickings will ultimately annihilate Couch-grass; but the time thus occupied in thus clearing a rod of ground would in many cases be more than sufficient for trenching an equal extent to permanent advantage.

As has been already observed, Couch withers above ground in winter; its vital part is then under ground; but it is not wholly an underground plant. It cannot always exist entirely below the surface, any more than a whale can live continually under water. Its prolonged existence depends on the green leaves which the roots naturally throw up. These leaves are the organs which elaborate the sap to form the tissues of roots and runners, and that being the case their existence is essentially necessary for that of the whole plant. The roots cannot long exist without being fed by a supply of matter that has passed through the leaves; it therefore follows, that the most effectual means of destroying the plant is to cut of this supply, by keeping the foliage hoed over immediately it makes its appearance. If this is persevered in, the underground portions will ultimately die. Close watchfulness will, however, be necessary, for if the leaves are allowed to proceed for even a week, fresh runners will be formed from new cellular tissues, and will be capable of living till next season independent of foliage, especially if the foliage is permitted to take place towards the end of summer. On the contrary, by prompt though slight hoeings, the destruction of Couch grass, Crowfoot, Bear-bine, and other inveterate weeds will be completely effected at a cheap rate. Whilst other modes of eradication cannot well be carried out in hot weather, the one above recommended may be practised at any time, for according to the principle of privation of foliage, it matters not whether the latter is cut off in wet or in drought. If the plant is not allowed to have any top in the growing season its roots will decay and rot, and that the more quickly if the ground is hot and moist.

From what has been stated it will be evident that by acting on the principle of defoliation we can annihilate the most obstinate of weeds. Leaf removing is therefore a potent operation either for good or evil, and should not be acted upon without great caution in cases where it becomes partially necessary, as for example in the disbudding of fruit trees. Keeping any tree, even the most vigorous, entirely divested of foliage for one or more seasons will certainly kill it; if we only half denude it we may reasonably expect its vigor will be thereby reduced one-half. Now is the time when Peach and Nectarine trees require to have superfluous shoots thinned off, and to those engaged in the operation we may be permitted to say, remember the case of the Couch grass and

bindweed, &c, just related, in which the process of defoliation was carried to the extreme; and when you must now apply the same process to some extent to those trees which you wish to befriend, you will scarcely require being told to be cautious. It should be borne in mind that an animal may lose a large quantity of blood at intervals without serious consequences; whereas the same quantity lost at once would prove fatal. So the trees to which we allude may lose a considerable amount of foliage and still be healthy, provided it is removed judiciously, and by degrees.

In favorable summer weather trees make fresh leaves progressively, whilst those already partially developed acquire greater expansion, so that every day the total surface of foliage is considerably augmented. The increase is progressive unless interrupted by insects or interfered with by the pruning knife. It cannot, however, be denied that the latter or pinching by the finger and thumb must be employed, and defoliation to a certain extent must be the consequence. In the case of wall trees this is absolutely necessary, otherwise there would be three times as much foliage as there ought to be n a given space, and badly ripened wood and fruit would be the result. Many are of this opinion; and some accordingly set to work and at once reduce by shoots and leaves the superfluous two thirds, thus leaving for the flow of sap only one-third of its wonted channels, the operator never thinking what is to become of the superabundant fluid, or whether it will not stagnate, become putrescent or inspissated into gum, and in either way render the tree diseased. Instead of this dangerous mode, let defoliation be practiced in the manner in which leaves are made, viz., gradually. As it is natural for the trees to have less foliage than it had yesterday, let it not be found at any time in the growing season to have less foliage than it had perhaps a month ago. In short the only way to make the necessary reduction of foliage with safety, is to do it frequently and but little at any one time. Healthy, vigorous, and fruitful trees will then be the result.

The Dairy.

About Butter Making.

The dairy woman cannot do her part well if she do not have the advantage of proper fixtures and implements. A good, cool place for setting the milk in summer is absolutely indispensable, and there is no farm where cows can be kept profitably, that such a place cannot be provided at small expense. The use of spring houses is one of the causes for the good butter of the hilly regions. But a good *spring* house can be made near a well, and often much more convenient, as being nearer the house than the spring. I saw a very nice one, which answered an admirable purpose, and is a model of its kind. The ground was excavated about four feet by some twelve feet square, and a solid stone wall two feet thick, laid in cement, four feet high. The floor inside was also laid in cement, slightly inclining to one corner. The wall was carried up full width four feet, and then an offset of eighteen inches made to the rear, carried up two feet higher, and connecting with the wall to form the foundation. Upon this foundation was erected a balloon frame with eight feet posts, boarded outside and in, and the wall made as tight as possible. Upon the ledge created by the offset a wall about four inches high and wide, is made on the front, by which, being well plastered with the cement, a gutter or vat is made some three inches deep, with a slight descent to the corner opposite to that where the water is introduced. Into this vat the fresh milk is set while warm, and cold water conducted into it from the well. The milk cools rapidly, and a low temperature is maintained through the day or night. At each milking the pans are removed to the shelves to make room for the fresh milk. Some very nice dairy houses are rigged up entirely above ground, and one I saw last summer in the town of Solon, Cortland county, was so arranged that it seemed almost as good as a spring-house. In that and many others I noticed the pans were set upon shelves made by turning two narrow boards edgewise, so that the least possible surface was kept from the air. But much of this expense and trouble may be saved if the practice of churning the milk instead of the cream be adopted.

Butter-makers seem to be divided into two classes upon this question of churning the milk or only the cream. By far the largest number in this country churn the cream, while in England Scotland, and a good part of Ireland, the milk is more generally churned. Carefully conducted experiments have established the fact that there is a gain in quantity where the milk is churned of full seven per cent over the yield from the cream alone. In small dairies the quality may be much improved, for by churning the milk the risk of tainted cream is avoided. Some of our best premium dairies churn the milk. The most common objection made to churning the milk is the labor; but power (horse, dog, or sheep,) is now so cheap that the objection has but little force, as compared with the increased quantity and improved quality. Where water power can not be had, sheep power is preferable to dog power, for small dairies; horse or steam for large ones.

The condition of the cream or milk when churned, is of the highest importance, for upon that depends the value of the butter. If tainted in the slightest degree, no good butter can be obtained. Everything about the dairy must be sweet and pure. Pure air is as essential as pure water, and as much butter is spoiled by foul air where the milk is set as by any other cause. Many a dairy woman has wondered why her but

ter was not as good as her neighbour's; she had just as good cows, and was quite sure she took as much pains, and knew how to make good butter. Her mother always had good butter, obtaining the highest market price, and that she did not also get the best price was a wonder. Her father probably was a very neat man, and did not have his hog pen just under the window of the milk room, the privy on one side and the sink hole on the other. Hundreds of farmers lose from five to ten cents per pound upon all their butter by a neglect of the most obvious rules of neatness, and then blame their wives for the faults of their own shiftlessness. Then again there are great numbers of farmers that water their cattle at some slough hole of stagnant water, and then wonder that their butter is not of the best. Let no man look for good butter who has not pure water, and sweet, good herbage for his cows, and pure air in and around his milk-room.—T. C. Peters, in *Rural New Yorker*.

Domestic.

French Mustard.—One of the most relishing condiments which has ever been invented is that now known as French mustard. It is equally good with fish, flesh, or fowl, and wonderfully helps bachelors' bread and cheese (Betty says they don't deserve anything better) to go down savorily. The following recipe is an excellent way to make it, and plain table-salt may be used in place of anchovies, where there is any difficulty in procuring them. Take one pound of flour of mustard, a quarter of an ounce each of the following plants in a green state, and quite fresh; parsley, tarragon, chervil, and celery, together with one or two eschalots or garlic, and half-a-dozen pickled anchovies. Mince all these latter very fine, then rub them with the mustard. Next mix one ounce of honey, one ounce of salt, and a wineglassful of vinegar, in half a pint of water, more or less, as you wish the consistence of the mixed mustard to be, then put the mixture into small pots, with a teaspoonful of vinegar on the top, cork well down, and as its flavor improves by age, it may be kept a month or six weeks before it is brought to table. No less than five tons of mustard so prepared are imported every year from France to England, and a large amount is annually imported and consumed in this city. Why not make it at home? —*Scientific American*.

Ginger Beer.—Put a gallon of cold water into a pot upon the fire; add to it one ounce of good ginger, and one pound of sugar; let all this come to a boil, and continue boiling for half an hour; then skim the liquor, and pour it into a jar along with one sliced lemon and a quarter of an ounce of cream of tartar. When cold, or nearly so, put in half a teacupful of good yeast, to cause the liquor to work. The beer is now made. After it has worked for two days, strain it and bottle it for use; leave it bottled for a week or two. Be careful that you do not taste it before the time expires, or you will be sure to drink it all up before it reaches its prime.

Patience in Milking.—A writer in the *Ohio Farmer* says that a cow was cured of holding up her milk, by patiently milking until she ceased to hold it; and by continuing the practice, she has become an easy regular milker, and a good cow.

Whitewash.—Whitewash adds so greatly to the picturesque in the cottage and the farm-house, and is such an absorbent of impure odors, that it should be freely used, at least in the spring. Take half a bushel of fresh burned white lime, and slake it either in hot or cold water, in a tub or barrel. When thoroughly slaked, dissolve in the water required to thin the lime, two quarts of common salt, stir it thoroughly, add one quart of sweet milk, and it is ready for use, to put on with a brush, frequently stirring it up. Glues and gums cause it to scale off in hot weather.—*Hall's Journal of Health*.

Wells in Cellars.—Wells in cellars should be covered tight in order to prevent their becoming receptacles for vermin of every descriptions that infest most cellars and houses, and thus are liable by falling into them to render the water unfit for domestic uses. If the bottom of a cellar be covered with a cement, as all should be, this should extend over the covering of the well. No other serious evils result from open wells or springs in cellars, but on the other hand it has been remarked that jack frost is less likely to visit such cellars. The advantages of covering wells closely, whether in or out of cellars, are much greater than those secured by leaving them open.

Veterinary.

On the Roman Bath as Applicale to Training Race-Horses.

(*Continued from page* 437.)

The trainer now has a lucid interval. He turns the sick horses into open boxes from a temperature of 65 to 40; the cold air invigorates them, the fever is checked, the cough ceases, and the horses get well in a week. Woe to the invalids if they are still confined to the warm stable.

They may be on the sick list for months. But the racing season is over, and the money is lost. Again the trainers fall back to the ancient system, and all experience is lost upon them.

It is not to be wondered at that these horses suffer catarrhs, and that their legs fail. If you talk to a trainer, he will say: "I must keep my windows shut during the night, or the horses will be ill; they must be warmly clad, or they will catch cold; they must be well physicked, or they will fly to pieces when I put them in hard work; and they must have hard work at any risk, otherwise they won't stay a distance; if their legs show symptoms of weakness, I must support them with plaisters, elastic cloths and flannel bandages." The answer is simple. If Miss Nightingale, of undying fame, and our cleverest doctors, insist upon the windows of an hospital containing patients with every disease being kept open night and day, why are trainers to be more learned than they If the fresh air at night is not salubrious to a healthy horse, why do you strip a horse labouring under a violent inflammation and turn him out in the cold air, as the only means of saving his life? Every year tells the same sad tale of coughs and illness: they are considered as dispensations from Providence—no fault of the trainers. It is their *kismet*, like the fatalists of the East, who have great contempt for drains to carry off the filth of their cities, and thereby patronize the plague.

Warm clothing is useful after a long, severe race (a dead heat), and the horse is required to run a second time: then a trainer thinks it advisable to discontinue its use. He will walk his horse stripped in cold wind; and there he stands with his coat dry and wiry, the heat driven back to his lungs and heart. An American trainer covers his horse up with clothes, and moves him about till he breaks out in a profuse sweat. This brings the enemy to the surface; the heart and lungs are relieved; and if the horse dries up well after he is rubbed down, he is fit to run for his life, when the English trainer's horse is suffering from internal fever. An Affghan trooper comprehends this theory, and acts upon it after a long, fatiguing march; to a common English groom it is a paradox. He will clothe his horse when he ought to be stripped, and he will strip him when he ought to be clothed.

If horses be free from organic diseases, water, hot, tepid, or cold, variously applied, and hot-air baths, will cure every complaint incidental to the equine race; cold, wet linen bandages, covered with oilskin and woollen cloths, will cure sore throats more readily than mustard poultices or blisters and leave no mark. Fever, influenza, and cholic may be subdued by cold wet linen sheets around the body, and the evaporation carefully guarded by blankets till the patient perspires freely, and the disease comes to the surface; then drench well with cold water when you strip him; let him drink cold water, rub him well dry, and keep him in a cool well-ventilated stable. This water system is cheap and simple, and acts promptly on the disease, without impairing the horse's natural vigour, and there are no bills to pay. If the horse's constitution is like iron he may recover by the aid of medicine in the last stage of debility.

My training theory is, that no race-horse should be clothed beyond a linen or a cotton sheet either in the stable or at exercise, excepting during a cold winter when a simple rug may be allowed both indoors and when his work is confined to a straw bed during a frost. It is an outrage on common sense to say that an old horse is more tender than a sucking foal. The hot-air bath, by cleansing and opening the pores of the skin, restores its tone, and reinstates the animal in his original purity to despise the changes of the weather, the trainer having exerted all his ingenuity to make him tender, helpless, and susceptible. As the hot air stimulates the action of the liver, physic will seldom be required, and then in very small doses. When a yearling comes into the stable fat and fleshy, instead of giving him extra slow work and keeping him out four hours, it saves a great deal of trouble to physic him well. Extra physic is less troublesome than extra work, and it is supposed to be all the same thing in the end.

From the 15th of March to the end of the racing season, the horses should be exercised twice a-day, and be kept out altogether four hours, instead of the present system, from two hours and a half to three hours at one interval. They should always have access to water, or, according to the American system, it should be offered to them in small quantity six or seven times in the course of the day. Most horses you cannot feed too highly when they are in strong work; and my belief is that no three horses require exactly the same food and the same exercise.

A stable should be built on brick arches, unless the foundation is chalk or limestone. Rooms about seventeen feet in height, with large windows, ventilated near the ceiling by hollow or perforated bricks; no mangers to the stalls or boxes; large white wooden basins hooked on to staples in the wall for the corn—the said basins to be taken away and washed, when the horses have fed; and in every stall a fixture for a water-pail. There are three appendages necessary to a perfect establishment—a dormitory for the lads, who should not be allowed to sleep in the stable, because when the night air is cool they will shut down the windows; a Roman bath; thirdly, a weighing-machine, to register each horses weight after each operation of the hot air, and after every public race or trial. A wooden grating over the floors of the stalls fitted with iron hinges to trice up to the sides, in order to be washed and purified, would be a great improvement, and there would be no necessity for straw litter. The stable plans of Mr. Knightly,

nnon-street, London, are admirable, and ord the most perfect ventilation without a ld current of air.

All the cavalry depots in Great Britain, Ire-d, and India ought to be fitted with Roman ths capable of containing six horses. In In-a there are two indigenous complaints which stroy forty per cent. of our cavalry horses. e first is a cutaneous disorder called burnsatee, m the Hindostanee word burusaria, relating to is disease, peculiar to the rainy season: it rally attacks horses picketed out in wet und. No doubt, the disease is propagated an insect, and is contagious. This fearful mplaint is of a tubercular nature; the skin ells, then ulcerates until regular sores are med: no part of the body is exempt but it nerally commences in the legs, and is con-lered incurable. The second, a cold night air lled the wind-stroke, which paralyzes a horse's ins—and I have heard of every horse in a stable ing disabled in one night: they rarely recover. is very probable that the hot-air bath would re both these terrible diseases, and at a very all expenditure millions of rupees may be ved.

To a hunting establishment a bath is a most luable acquisition: during a long frost horses ay be kept in the most perfect condition. fter a hard day's work it is a most powerful storative to man and horse; and nothing ould surprise me less than to hear that the nnel lameness in hounds (which I presume is eumatism) can be cured by the same process. Finally, old-fashioned trainers will condemn e bath without condescending to investigate results, for nothing is so intolerant or pre-mptuous as the prejudice of an ignorant man. reminds me that when steam was in its infancy celebrated stage-coachman hoped to be hanged, something worse, if they could ever travel so t upon an iron rail for twenty miles as he could rve his old chestnuts. Of course, this hot r, so potent in its effects, may be abused like y other valuable gift. I leave to clever and perienced men to define where its use ends d buse beg us. Grooms h ve much to learn; ill more to forget. And as the farmers of 80 ridicule the system of husbandry in 182-, will the trainers of 1879 amuse themselves ith the errors of their predecesors in 1806.—*om. Admiral Rous, in Bailey's Magazine.*

Corns in Horses.

By Hugh Fergtson, Her Majesty's Veterinary Surgeon in Ireland.

There is, perhaps, no defect constituting unsoundness in horses more frequent than that of corns, nor more dreaded by purchasers yet more misunderstood. It is an erroneous idea to imagine that a corn in the horse is the same as a corn on the foot of a human being: they present no resemblance whatever, excepting occasionally in one of the effects they produce—namely, lameness. The corn of the human foot is a callous thickening of the skin, particularly of its outer layer, resulting from pressure, and causing by its presence, considerable tenderness on the cutis, or true and highly sensitive skin beneath. The corn of the horse's foot is quite different. What smiths and horsemen call a corn is a reddened state of that portion of the sole at the heel intervening between the bar and the crust. But this reddened state of the horny sole is merely an injury done to the sensitive part by which it is secreted; nor is the injury immediately vertically above the discolored horn, but rather posterior to it, or further backwards, the sole in that region growing downwards and forwards. Corns in horses do not produce lameness in one case out of twenty in which they are present. When they do so, it is in consequence of the sensitive part which secretes the discolored horn becoming inflamed and, consequently, tender. The inflammation in some instances, goes on to the formation of matter which, increasing in quantity, unless the horn beneath it is cut away, allowing its escape, gains the upper margin of the crust, and finds vent between hair and hoof at the coronet; until it escapes thus, or is let out by paring the horn away at the sole, the animal evinces symptoms of intense suffering, which is diminished immediately on the matter getting vent. In a little time the lameness disappears, fresh horn of a healthy character is secreted, and the parts assume a thoroughly normal state. In time the healthy growth of horn displaces the horn that had by the suppuration been separated from the secreting surface. This is the most favorable termination. Not unfrequently, however, the secreting surface of the sensitive sole and heel becomes so injured that its function becomes permanently impaired, to such an extent that it never afterwards secretes horn of a healthy character, or that is able to protect the internal sensitive parts from external injury. This generally occurs in flat-footed, weak heeled horses, particularly if the sole be what is called pumiced—sunken towards its centre.

The usual mode of treating corns is calculated rather to aggravate than diminish the evil. From fancying the corn in the horse to be similar to the corn on the foot of the human being, it has been the habit of farriers and veterinaries to keep the discolored horn, called the corn in horses, continually pared down and thinned, as nearly to the quick as possible. This practice is bad and calculated to make matters worse. It merely removes a portion of the discolored sole, which had far better be left for the protection of the part beneath it. The disease lies not in the reddned horn, but in the state of the secreting parts by which it is formed, and effusion of the blood which mingles with its structure, and thus gives that reddish tinge to the horn which

has led people to mistake it for the disease itself, instead of merely one of its effects. The sole admits, under some circumstances, from its peculiar structure, to some extent, even of sanguineous percolation taking place. In the horse, corns are, in the majority of instances, rendered more likely to produce lameness by being pared than by being left alone, at least as far as the application of the knife. The paring, certainly, diminishes the appearance of the redness, but generally does more harm than good to the part causing the redness—namely, the tissue that secretes that portion of the sole and bar.

The great majority of horses with good action on the road get corned; yet if the feet be well formed, and fairly shod, it is not one in twenty cases in which the corns are found productive of any inconvenience. It too often happens that corned horses, even with well-shaped feet, are made lame merely from the injudicious application of the knife to remove the discolored sole in the angle between the internal bar and quarter. The principal cause of corns is shoeing. It is exceedingly rare to see a corn in an animal that has not been shod. The inner heel of the shoe seems to be the cause of the mischief. Horses that are shod with three quarter shoes, or tips, are very rarely affected with corns—not, perhaps, one in a thousand. It is generally thought that corns proceed solely from bad shoeing. But there are horses, even with finely shaped feet, that no shoe covering the inner quarter, however well made, fitted, and put on, will prevent from having corns. It too often happens that the shoeing smith is blamed for the presence of corns without reason, many imagining that if a horse be properly shod there can be no corns, no matterwhat his action, or work: a most mistaken idea. There are many farriers, grooms, horse fanciers, and even veterinarians, who state that whenever there are corns it is the fault of the shoeing, and that good shoeing is a certain preventive against the affection. Never was there a greater fallacy.

Treatment of Corns.—This will much depend on the state of the affection, and the peculiarity of the foot. If there be merely redness of the sole between the bar and quarter of the crust, and that the foot is well shaped, a three quarter shoe should be used. In case it is determined to use a full shoe, there should be a portion cut out of its foot surface, for about an inch and a half on its inner quarter, so that when the shoe is nailed on, and the animal is standing, with the opposite leg lifted up, there will be a space between the inner quarter, and the shoe. If the foot have weak qearters, be very broad and flat, or have a pumiced sole, a bar shoe is desirable. Bnt the paring, or the thinning, of the reddened sole of the heel should be avoided, as it should in all cases of corns, no matter how the foot is shod, excepting where there is a formation of matter, which should be let out as soon as its existence is ascertained with certainty; and a poultice applied to the foot until all pain and inflammation shall have subsided. The animal should not be worked until the horn that had been cut away shall have been replaced. It is the habit of farriers to, what they call, "dress corns" with butter of antimony and other caustics. The practice is a bad one, and is often productive of serious mischief. I have on several occasions seen fatal results from the injudicious application of caustics to suppurating corns. Some practitioners go even to the extent of applying a heated iron. I lately saw a case in which fatal tetanus (locked-jaw) was the result of such treatment.

Corns, however trifling, legally speaking, constitute unsoundness. Yet, if the animal have a well shaped foot, goes free from lameness, and that the horn of the affected portion of the sole seems strong and sound, with no alteration in its structure excepting discoloration, the horse should not be rejected by the purchaser merely on that account; although such is the established custom and the state of the law, that the veterinary surgeon is obliged to pronounce him unsound. These cursory observations are not intended as a complete treatise on the subject, which is a very extensive one, but merely for the purpose of correcting the principal errors generally received as truths relative to corns in horses. —*Irish Farmer's Gazettee.*

Miscellaneous.

The Fox-Hunting Pretender.

BY BALLINASLOE.

To my thinking the genuine Fox-hunter of the present day is the *beau-ideal* of a sportsman. There was a time when the fox-hunter could not mention racing, and racing men, but in terms of contempt. Those old times and old prejudices are happily gone by, and the fox-hunter and racing man are now found in the same person.

The nobleman or gentleman with a stud of hunters during the season, is frequently seen as an amateur donning the silk in the summer, and often steers his own or his friend's horse to victory. This is cheering to the heart of the *general sportsman* when he sees it, and though he may prefer one sport to another, he is ever found ready to promote *all sport*, where it is in his power to do so.

The truly noble science of fox-hunting, like all pursuits, as well as phases of society is, however, not without its pretenders, men who are too conceited to be considered amateurs, and too ignorant to be taken as professors.

The first exhibition of the fox-hunting pretender is at the cover-side. He wishes to be, indeed he thinks *he is*, the observed of all observers;

at by far the greater part of him is his *dress.* 'e is the pink of fashion, if not the mould of rm in the saddle. His chief desire is to ca'ch he eye of the ladies in the carriages assembled witness the first cast of the hounds on a eautiful morning. He is perfumed like a court illiner; nothing can surpass the elegance of is *kid* gloves, carefully buttoned, and fitting thout vulgar wrinkle, to show the shape of what considers an aristocratic hand. His bright arlet is without a crease, smooth, shining, and *illing,'* though it has never been in at a *'death.'* is necktie is of the most fashionable p ttern d color; his cap is as smooth at the skin of a ole, black as the raven's wing, and has never en soiled in the least by vulgar mud. His expressibles are as clean as a new-washed ncher, and his black lea'hers are so br'ghtly panned that they would serve his groom as a irror while he shaves. He carries a whip, too; t more for ornament than use. It is of the st fashionable make; the thong surpases anything ever witnessed in the possesion of an old and.

His hunter, of course, is likewise of the most shionable blood and high descent, clipped to e extremest nicety. In order to attract the tention of the carriage parties, he makes his rse curvet and frisk about, the ladies arrive an unanimous conclusion that he is "too handme for anything."

Well, the hounds are cast into cover; it is well awn and a "find" is almost certain. Our hero s in front of all the carriages, and then cants gaily along the margin of the cope, the foreost apparently on the alert. He is doing uble duty, listening to the pack and admiring mself. He is very happy (vain people are stly happy) but he is not on such good terms ith the members of the hunt as he is with elf. Yet he is invariably placing himself the ost forward, and in the very spot where he ght not to be. The "old hand" with his scarfaded and stained with many a desperate run er every sort of groud, and every description of se, his cap awry, and mounted on his old brown teran that has carried him up to many a burstfinish, surveys him from head to stirrup, tly remarking to an equally old stager "Wigs will lead the field to-day, and outshine us ." "No doubt about that, and return home th the 'narrative,' not of the 'brush.'"

One of the whips proceds to the place where Wiggins" has placed himself, and observes, "you ust come away out o' that, sir, for, if the fox eaks cover on this side that is the very spot, t not whilst you place your horse right in the y." But as this mild reproof is disregarded, iggins stands his ground, as much as to say, should like to see *you* try to move me." But master now approaches; one *look* does the ss; Wiggins changes position, but is not least crest-fallen.

The fox breaks at the point where the whip had intimated. The huntsman has his hounds well together, and well laid on the drag, without that loud shouting and hallooing which prevails in some hunting countries when a fox is viewed away. Take your time, gentlemen," says the huntsman, we have a staunch fox before us to-day." This is only meant for such as Wiggins, though not for the veterans. Horses are nicely collected in hand, and attention directed to the line which the fox shapes out for himself. The larger number of the field are on the move forward. Wiggins rushes his horse to the front, and makes running, but he instantly receives an admonition from the huntsman to hold hard, and not gallop over the hounds.

The fences are all cleared in very fair style, but soon afterwards the field began to be rather squandered, and the selection principle is adopted, curving hither and thither to obtain the easiest leaps; the tailing system has commenced; the best men and horses now draw to the fore; the game old dog-fox tears along his course for dear life. Wiggins is determined to be up; he now approaches a bullfinch with a drain beyond, and gallantly charges it; but, taking off too soon, his horse lights with his chest on the opposite bank, and poor Wiggins is thrown backwards into the drain; and the bright scarlet is of tan hue, his white cords are cordless and besmeared with mud, and crest-fallen, he leads his horse across the fields in the direction of home.—*Irish Country Gentleman's Newspaper.*

To Prevent Flies from Teasing Horses.—Take two or three small handsful of walnut leaves, upon which pour two or three quarts of soft cold water, let it infuse one night, and pour the whole, next morning, into a kettle, and let it boil for a quater of an hour. When cold it will be fit for use. No more is required than to wet a sponge, and, before the horse goes out of the stable, let those parts which are most irritated be smeared over with the liquor, viz: the flank, etc. Not only the lady or gentleman who rides out for pleasure will derive a benefit from the leaves thus prepared, but the coachman, the waggoner, and all others who use horses during the hot months.

How to oil Harness.—We all know that it is of great benefit to oil our harnesses, yet many of us neglect to do it, because we regard it as a dirty job; but it is easy enough, if done right. My process for doing it is as follows:

First, I take the harness apart, having each strap and piece by itself; then I wash it in warm soap suds. I used to soak it in cold water for half a day, as others did, but I find that warm water does no harm, and much facilitates the job. When cleaned, I black every part with a harmless black die which I make thus:—One ounce of exfract of logwood, twelve grains bichromate

of potash, both pounded fine; upon that I pour two quarts boiling rain water, stirring until all is dissolved. When cool, it may be used. I keep it on hand all the time, in bottles. It may be applied with a shoe brush, or anything convenient. If any one objects to the use of this blacking, fearing the bichromate of potash it contains would injure the leather, I would just say that this kind of potash will not injure the leather, even when used in a much larger proportion. The blacking generally contains copperas—a sulphate sometimes made of oil vitriol and iron, and it is found that it will eat out the life of leather, unless used with great caution. When the dye has struck in, I go through the oiling process. Some have a sheet-iron pan to oil in, which is better than anything; but I have a sheet of iron nailed to a board; it is about two or three feet square. This I lay upon the table, and I lay a piece or part of the harness upon this, and with neats-foot oil applied with a paint brush, kept for the purpose, I go over it, till every part is oiled. The traces, breaching, and such parts as need the most, I oil again. For the last oiling I use one-third castor oil and two-thirds neats-foot oil mixed. A few hours after, or perhaps the next day, I wipe the harness over with a woollen cloth, which gives it a glossy appearance. Why I use castor oil for the last coat, is because it will stand the effects of the atmosphere, the rain, etc., much longer than neats foot oil, consequently the harness does not require oiling so often by its use. One pint of oil is sufficient for one set of harness.

The common way of oiling harness is to apply as much neats foot oil containing lamp-black as the leather will take up; then washing off with castile soap and water. This way is not so good as mine, because it makes the harness smutty, and also the soap that is used contains barilla—a strong alkali, which eats up and feeds upon the oil in the leather, and the weather (especially if rainy) soon renders the harness stiff and unyielding as before; the wax in the threads is also destroyed, and the stiches give way. I have experimented with different kinds of oil, and find that the kind, and the process, I now use is the best. —*New England Farmer.*

Small Horses.—New England has become quite celebrated, the world over, for fine horses, no small portion of which distinction has been contributed by the different branches of the Morgan horse family, and almost the only objection made to them by purchasers is, that they are all too small for common purposes. This objection may not hold good in all cases, with those who own and use them, but it is a most serious one when they are put into market, and especially when brought to our large cities for purchasers.

The idea we intended to convey in our remarks in the last number was, that with more care in breeding, we could have the same horses of the same blood, and the same comparative goodness, of equal proportion of bone, muscle, activity, endurance and courage, and from one or two sizes larger, which would obviate the only serious objection to our Morgan horses, if the breeders of them would but give them the care and feed necessary to keep them constantly growing, from the time they are taken from the dam until fully matured By this we do not wish it understood that we would in any way advocate pampering and over feeding, for this we believe is but little better for the animal, than the neglect which too many of the New England farmers treat their colts from the time they are taken from the mare, until they are of sufficient age to be of some use upon the farm. Colts at all ages should have good care, and such quantity and quality of food as will keep them in a healthy and growing condition, rather than in a high state of flesh. In addition to this, they should have such light work put upon them as to develope their bone and muscle, but not enough or of such kind as to over-task them.

We should think that the average weight of Morgan horses would fall nearly or quite as low as eight hundred and fifty pounds. This, every intelligent breeder knows, is more than a hundred pounds less than it need or should be, under proper and suitable breeding. Indeed, we believe the average could be made a thousand pounds, which, according to our notion, is the best size, when in competent form, for a horse for all the purposes of the farm and road.

Mr. Rarey, in his exhibitions in this and other cities, brings out some very diminutive ponies scarcely more than two feet high, which he brought home with him from Europe. He think they are of the same race of our common horses but which have run down to their present size from entire want of care. On the same principle we can see no reason why our Morgan horses would not become larger or smaller, according as they are bred, and still retain all the good qualities.—*American Soock Journal.*

The Soil Breathes.—Certainly it does, just as truly as you do. A few years since; if one asserted that trees had lungs and breathed, it would have been held to an argument to prove it; just as a few years earlier nobody would have believed that a fish's gills, and the leaf of a tree, and the lungs of a beast, all perform the same office, that of aeration, the blood or sap. The soil breathes. How does it breathe? The circulating fluid, the blood of the soil, is water; this comes to it from the air, and is already aerated. True but this soon loses its gases by contact with the soil, just as the arterial blood from the lungs, loses its oxygen when passing the circuit in all parts of the body. The blood comes back to the lungs for more oxygen; the blood of the soil cannot do this, so we must let the air in, to come in contact with it. I cannot here explain the working of the soil, b

ould thus briefly enforce the necessity of irring the soil during droughts as deeply as eticable, not to interfere with the roots of owing plants and those of previous culture, so st a deep and light soil shall invite a free cir-lation of air beneath the surface. Hot air the ement it presses beneath the surface, becomes y moist, from the water which it originally ntained, and it deposits it, thus not only aer-ing the soil, but adding to its moisture. Co'd -can hold but little moisture, but hot air dis-lves an immense quantity, which it deposits en it cools, or on cool surfaces. Who has not ticed of a winter's day, a locomotive leaving hind it a snowy cloud of vapor, like a comet's l, often floating for a minute after the train passed? Think of this and watch the steam en days, when the hot breath just as full of ter as in winter, is puffed out into the eye of sun, and not steam enough shows to make a dow—it is so quickly absorbed by the air.—*mestead.*

HE IDEA OF THE SPINNING-JENNY.—Sudden y (James Hargreaves) dropped upon his knees, rolled on the stone floor at full length. He with his face toward the floor, and made a and circles with the end of a burned stick. rose, and went to the fire to burn his stick. took of his bristly hair with one hand, and bed his forehead and nose with the other and blackened stick. Then he sat upon a chair placed his head between his hands, elbow on knees and gazed intently on the floor. Th n prang to his feet, and replied to some feeb'e tion of his wife (who had not risen since the she gave birth to a little stranger) by a loud rance that he had it; and taking her in his dy arms, in the blankets, the baby in her s, he lifted her out, and held her over the drawings on the floor. These he explain-nd she joined a small, hopeful, happy laugh his high toned assurance, that she should gain toil at the spinning-wheel—that he ld never again 'play,' and have his loom ing for want of weft. She asked some tions, which he answered, after seating her e arm-chair, by laying her spinning-wheel on ack, the horizontal spindle standing verti-, while he made the wheel revolve, and a roving of cotton from the spindle into ttenuated thread. "Our fortune is made that is made," he said, speaking of his ings on the floor. "What will you t." asked his wife. "Call it? What an ll it after thysen, Jenny? They called Spinning Jenny,' afore I had thee, because beat every lass in Stanehill Moor at the . What if we call it 'Spinning Jenny?'" *who have Risen.*

TLED.—It was early in the month of July, in drops were glistening on the countless of the trees, as the rising sun shed his glories upon them; I was silently forcing through the water-laden branches which over-hung the path to the rend-zvous, where I expected to meet the old voyager's son with his canoe, when I was startled, nay, nearly horrified, by the sudden and rapid reproach of some gigantic and unknown animal rushing towards me through the trees with a frightful noise. I stopped, I stood, my blood ran cold; I tightly grasped my gaff; I endeavoured by staring to ascertain what brute it might be and how I could defend myself. As it quickly approached me, when the apparition —which was nothing more than an Indian (and a boy) with his canoe carried in the usual manner upon his head and shoulders—passed me by, and in a soft and rather melodious voice uttered the words "allons"—*Salmon Fishing in Canada by a Resident; edited by Colonel Sir James Edward Alexander.*

THE DELIGHTS OF DEMERARA.—The men in Demerara are never angry, and the women are never cross. Life flows along a perpetual stream of love, smiles, champegne, and small talk. Every body has enough of everything. The only persons who do not thrive are the doctors; and for them, as the country affords them so little to do, the local government no doubt provides liberal pensions. The form of government is a mild despotism, tempered by sugar. The Governor is the father of the people, and the Governor's wife the mother. The Colony forms itself into a large family, which gathers itself together peaceably under parental wings. They have no noisy sessions of parliament as in Jamaica, no money squabbles as in Barbadoes. A clean bill of health, a surplus in the colony treasury, a rich soil, a thriving trade, and a happy people—these are the blessings which attend the fortunate man who has cast his lot on this prosperous shore. Such is Demerara as it is made to appear to a stranger.—*Mr, Trollope's West Indies.*

MENTAL POWER OF THE BULL TERRIER.—A well known black-and-tan terrier, which lately resided at Margate, and was named Prince, was accustomed to make his own purchases of biscuit, as often as he could obtain the gift of a half-penny for that purpose. On several occasions the baker whom he honored with his custom thought to put him off by giving him a burnt biscuit in exchange for his half-penny. The dog was very much aggrieved at this inequitable treatment, but at the same time could find no opportunity of showing his resentment. However, when he next received an eleemosynary half-penny, he wended his way to the baker's, as usual, with the coin between his teeth. As soon as the baker proffered him a biscuit Prince drew up his lips, so as to exhibit the half-penny, and then walked coolly out of the shop, transferring his custom to another member of the same trade, who lived on the opposite side of the road. —*Routledge's Illustrated Natural History; by the Rev. J. G. Wood.*

IDLENESS NOT HAPPINESS.—The most common error of men and women is that of looking for happiness somewhere outside of useful work. It has never yet been found when thus sought; and never will be, while the world stands; and the sooner this truth is learned the better for every one. If you doubt the proposition, glance round among your friends and acquaintances, and select those who appear to have the most enjoyment through life. Are they idlers and pleasure-seekers, or the earnest workers? We know what your answer will be. Of all the miserable human beings it has been our fortune or misfortune to know, they were the most wretched who had retired from useful employment, in order to enjoy themselves. Why, the slave at his enforced labour, or the hungry toiler for bread, were supremely happy in comparison.

PHYSICAL TRAINING OF CHILDREN.—Is it not an astonishing fact, that though on the treatment of offspring depend *their lives or deaths*, and their moral welfare or ruin, yet not one word of instruction on the treatment of offspring is ever given to those who will hereafter be parents. Is it not monstrous that the fate of a new generation should be left to the chances of unreasoning custom, impulse, fancy—joined with the suggestions of ignorant nurses and the prejudiced council of grand-mothers? If a merchant commenced business without any knowledge of arithmetic and book-keeping, we should exclaim at his folly, and look for disastrous consequences. Or *if*, before studying anatomy, a man set up as a surgical operator, we should wonder at his audacity and pity his patients. But that parents should begin the difficult task of rearing children without ever having given a thought to the principles — physical, moral, or intellectual—*which ought to guide them*, excites neither surprise at the actors nor pity for their victims.

To tens of thousands that are killed, add hundreds of thousands that survive with feeble constitutions, and millions that grow up with constitutions not so strong as they should be; and you will have some idea of the curse inflicted on their offspring by parents ignorant of the laws of life. Do but consider for a moment that the regimen to which they are subject is hourly telling upon them to their life injury or benefit; and that there are twenty ways of doing wrong to any one way of going right; and you will get some idea of the enormous mischief that is almost everywhere inflicted by the thoughtless, haphazard system in common use. Is it decided that a boy shall be clothed in some flimsey short dress, and be allowed to go playing about with limbs reddened by the cold? The decision will tell on his whole future existence—either in illness; or in stunted growth; or in deficient energy; or in a maturity less vigorous than it ought to have been, and consequently hindrances to success and happiness. Are children doomed to a monotonous dietary, or a dietary that is deficient in nutritiveness? Their ultimate physical power and their efficiency as men and women will inheritably be more or less diminished by it. Are they forbidden vociferous play, or (being to ill-clothed to bear exposure,) are they kept in-doors in cold weather? They are certain to fall below that measure of health and strength to which they would else have attained. When sons and daughters grow up sickly and feeble, parents commonly regard the event as a misfortune—as a visitation of Providence. Thinking after the prevalent chaotic fashion, they assume that these evils come without causes; or that the causes are supernatural. Nothing of the kind. In some cases the causes are doubtless inherited; but in most cases foolish regulations are the causes. Very generally parents themselves are responsible for this pain, this debility, this depression, this misery. They have undertaken to control the lives of their offspring from hour to hour; with cruel carelessness they have neglected to learn anything about these vital processes which they are unceasingly affecting by their commands and prohibitions; in utter ignorance of the simplest physiologic laws, they have been year by year undermining the constitutions of their children; and have so inflicted disease and premature death, not only on them but on their descendants.—*Education; Intellectual Moral and Physical,*" *by* HERBERT SPENCER.

Forests—influence on Climate.

That a *tree* should ever need an advocate, strange enough. It can assert priority of claim—"the right of possession,"—it was here before the white man,—before the Indian even! It's about as handsome as any man, full as honest and sometimes a good deal more useful. It's the most perfect specimen of architecture the human eyes ever looked upon. If a tree must be felled—if what no man could create, must yield its beautiful form, and its valued life, man's necessities, let the woodman *spare the tree* if he can. I adduce valuable testimony to the importance of forests, as follows:

Extract from the Report of the Secretary of the Bombay Geographical Society for 1850.

It was early remarked by HUMBOLDT, that in every climate, by felling the trees that cover the tops and sides of mountains, prepare at once two calamities for future generations,—the want of fuel and a scarcity of water. Trees, by the nature of their perspiration, and the radiation from their leaves in a sky without clouds, surround themselves with an atmosphere constantly cold and misty. They affect the copiousness of springs, not, as was long believed, by a peculiar attraction for the vapors diffused through the air, but because, by sheltering the soil from the direct action of the sun, they diminish the evaporation of the water produced by rain.

When forests are destroyed with an imprudent ·ipitation, as they are everywhere in America, springs entirely dry up, or become less abun- n. The beds of the rivers, remaining dry ring a part of the year, are converted into ents whenever great rains fall on the heights. e sward and the moss disappearing with the shwood from the sides of the mountains, the ters falling in rain are no longer impeded in ir course; and, instead of slowly augmenting bed of the rivers by progressive filtration, y forrow, during heavy storms, the sides of hills, bear down the loosened soil, and form se sudden inundations that devastate the ntry. Hence it results that the destruction forests, the want of permanent springs, and existence of torrents, are three phenomena ely connected together.

n India their effects are very appreciable. At olie the climate is much more hot and dry formerly; streams now dry up in December ch used to flow until April or May. This is buted to the destruction of forest which for- ly covered the neighboring hills, now barren desolate. In southern Coucan, within the e of fifteen years, the climate has been ly deteriorated by the diminution of vege- on, and consequently of rain. The people of ng have memorialized government against destruction of their forests, feeling sure that result, by its continuance, will be the ruin of r climate. The dreadful drouths which now quently visit the Cape de Verde Islands are edly due to the removal of their forests; in the high lands of Greece, where trees been cut down, springs have disappeared. dia, a few years since, a proprietor, in lay- down some grounds, well watered by an ex- nt spring, for a coffee garden, at Genmore, ite the advice of the natives, *cleared the ad- ground*, when the supply of water vanished. are also cited, where the clearing of jun- was followed in every case by an almost im- iate diminution of water; when the jungle allowed . r again, the water returned; springs were opened, and flowed as formerly St. Helena Almanac for 1848, gives particu- of the increase of the fall of rain for the few years, attributable to the increase of ; within the present century the fall has doubled. The plantations seem to have rmed another service to the island. For- , heavy floods, caused by sudden torrents , were almost periodical, and frequently destructive; for the last nine years they been unknown.

SIR FREDERICK SCHOUW, Professor of Botany penhagen, speaks as follows of the influence ests upon the atmosphere:—"We find the evident signs of it in the torrid zone. The increase the rain and the moisture, and reduce springs and running streams. Tracts ute of woods become very strongly heated, above them ascends perpendicularly, and prevents the clouds from sinking, and the winds (trade winds or monsoons,) where n blow interruptedly over large surfaces, do not allw the transition of vapors into the form of drops. In the forests on the contrary, the clothed soil does not become so heated, and, besides, the evaporation from the trees favors cooling; therefore, when the currents of air loaded with vapor reach the forests, they meet with that which condenses them and change into rain. Since, moreover, the evaporation of the earth goes on more slowly beneath the trees, and since these also evaporate very copiously in a hot climate, the atmosphere in these forests has a high degree of humidity, this great humidity at the same time producing many springs and streams."

Testimony of this kind could be accumulated, and I hope that the reading public will give the matter serious thought.—H. T. B.—*Rural New Yorker.*

The Salmon.

A writer in Chamber's Edinburg *Journal* says, "the destruction of this fine fish would seem to be the same everywhere." This is indeed true. It is yet within the memory of many, when the rivers of Maine were so plentifully stocked with salmon as the most productive stream in the B. N. A. Colonies. Now, the taking of a single one even, is an event of rare occurrence.

The same is true of New Brunswick, where the noble fish was once taken upon the small streams in hundreds, they are now found but in small numbers or not at all. Indeed, whether in England, Ireland, Scotland, Wales, the United States, or these British North American Provinces, the course pursued is that which will eventually lead to the extermination, rather than the preservation of this noble fish. Thus destroying a valuable source of revenue and profit, as well as exterminating this Prince of fresh water fishes —the Salmon.

"So great has been the diminution of Salmon of late years in the United Kingdom, that serious fears have begun to be entertained, lest the supply should fail altogether. In consequence Royal Commissioners have been appointed to enquire into the matter in England, Scotland and Wales." Copies of their reports to Parliament have already been published. "They are very bulky, but most interesting volumes, scarcely to be waded through, however, except by those who take a deep interest in the matter."

The London *Times*—which is a good authority on all topics—takes up the matter in a leading editorial, from which the following extracts are made.

"Sowing and reaping, working and eating are things which in this world of ours, go so necessarily together, that an exception to the universal rule reads almost like a miracle. Yet an exception there is. One description of produce, and one only, is self-grown, self-reared, and self-ripened, without any demand for space, care, seed, or investment of human pains or money. Salmon flock of their own accord to the rivers of these islands, and there deposit their spawn.—

The spawn is quickened into life, and myriads of little fish soon swarm in the stream. At the beginning of May, or about this very time of the year, these young fish swim down the river to the open sea. There, in their natural feeding-grounds, they fatten so rapidly that they increase upon an average, at the rate of two or three pounds in weight every twelve months. The little fish, about the size of a gudgeon, which left the river in May, 1861, would be a fine salmon of six or seven pounds in April, 1863. But the singular point of the case is, that after fattening himself in this manner, he will of his own free choice, come back again to be killed. The same instinct which took him off to sea, brings him back again to the river. He will infallibly return from his pasture to his nursery, and there offer himself for capture, without any cost for keep, attendance or transport. He will make flesh more rapidly than an Essex pig, and do it all for nothing. The only thing he asks is, not to be interrupted—not to be stopped when he comes here to breed—not to be turned back when he goes away to grow. All the rest he will do for himself; and will add pound after pound to his own substance for our benefit and delectation, if we will but leave him alone to do it."

"The salmon lives at sea, but comes up the rivers to spawn. The young salmon, bred in the river, go down to the sea to grow, after which they, in their turn, come up the river, as their parents did before them. They may therefore be caught either in the sea itself, just by the river's mouth, or at any point of the river between its mouth and the place to which they ascend. Now, the old legal maxim says that *feræ naturæ fiunt occupantis*, which doctrine, applied to the present case, imports, that a salmon belongs to the man who can catch him first.

When the fish are going up, the first chance, of course is to be found at sea, and this is where "fixed engines" are established to intercept the supply from the river. When the fish are coming down, the condition is reversed, and the best chance lies in the river at the point nearest the spawning ground. This, therefore, is where the "weirs" are placed. The fixed engines catch the great salmon on their way up; the weirs trap the little ones on their way down. But, besides this, every proprietor of the land on each side of the river, and throughout its course, has his own interest in the produce of the stream, and is anxious accordingly, to increase his particular dividend at the expense both of his neighbours above, and his neighbours below. "Human nature," will be the remark. No doubt; but the nature of man in such respects conflicts terribly with the nature of salmon, and the poor fish are killed altogether, while "proprietors" are fighting for them. Half the old fish cannot get up to spawn; and half the young fish cannot get down to grow. We have been assured on good authority, that several hundred weight of salmon fry have been taken and sent off, at a single despatch, from a single English river. The young swarm was stopped on its way to the sea by a dam or weir, in which only a single hole was left for passage. At this hole a net was placed, and the little fish were dipped out by bushels at a time, to be pickled and sold as "sardines." When it is to be remembered that every one of them would, in the course of a few months, have come back again to that very river in the shape of a fine salmon, it may be imagined how deplorable was the waste of food."

"We want to see salmon plentiful—less of a luxury, and more of an article of food. It is not a rich man's affair—not an affair of sportsmen or game preservers. It is a matter in which all have a concern, and so long and so truly has the fact been felt, that it actually found a place in *Magna Charta*. That title deed of our liberties includes a stipulation for the free run of salmon, and the same object was sought, with more or less success, in many a statute afterwards. We now know, too, that legislation can be applied to the case with advantage, for the experiment has been tried. The thing to be prevented is simply waste. It needs no argument to prove that killing salmon when they are unfit to eat, or before they are one-tenth part grown, is a waste and wicked act, for it is a wholesale destruction of nutritious food. It is only destruction of the character which requires to be prohibited. Let the salmon have free and unobstructed run, and no more will be necessary. We are so fortunately situated, that they come by force of instinct to our rivers, without allurement of any kind. They want only a free passage up, and a free passage down; or at least, so far free that they may increase, multiply, and grow without material hindrance."—*Halifax Journal.*

CHILDREN AND FLOWERS.—There seems a close connection between children, and flowers,—children of men, and flowers, the children of earth. Flowers constitute their great natural playthings, and the young heart rejoices over the possession of a bunch of wayside flowers. And between the unstained mind of the child and the susceptible nature of the poet there is a strong likeness. As the child loves, so loves the poet; childhood and genius alike admiring the grand and beautiful in nature, and alike regardless of the pomps and vanities of life. The child's prattle and the muse's tongue speak the praises of the flowers, rejoicing in their fragrance and color, and touched with sadness when the color fades and the odor has departed. The busy people of the world, active in its stern reality, intent on enterprize and speculation, have little sympathy with the child's enjoyment or the poet's sentiment; to such a primrose is a yellow primrose, nothing more; but it is more to the child and more to the poet.—*Ladies' Treasure.*

TAKE CARE WHAT YOU SAY BEFORE CHILDREN.—"Ah, Charley," said one little fellow to another, "we are going to have a cupola on our house." "Poh! that's nothing," rejoined the other, "Papa's going to get a mortgage on ours."

THE MIND WANTS FOOD.—In a civilized community mental food is as necessary as bodily food. The mind "feeds" as well as the body. It is always active. It receives and digests, and grows or dwarfs according to its nourishment. But food of some sort it must have. Milk for babes, and meat for strong men, an apostolic maxim, applies as well to the mind as the body. The speaker meant it to do so; and as there is no possible satiety in riches, as our first pound in the savings bank makes us desire to make it a hundred, our first hundred a thousand, and so on, so there is no possible satiety in knowledge. We know something—we desire to know more; we would know all things. If in our days a tree of knowledge were planted, it is not only a single apple that would be plucked therefrom, but scarcely a leaf would be left on the tree.—[Family Herald.]

THE BIBLE.—To the Bible we owe all the best things in our best civil institutions. To the Bible Europe is indebted for much of the liberty which it now enjoys; and, little as we may think of it, the Bible too was the means of preserving the small share of learning which was cultivated during the dark ages.—*Jortin.*

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DUNDAS, OR A SKETCH OF CANADIAN HISTORY, James Croil, Montreal; B. Dawson and Son, 23 St. James Street. The groundwork of a portion of this volume appeared as the Agricultural Report of the County of Dundas in the *Agriculturist* of last year. The author has now entirely re-written the Report, and added to it much other matter of an interesting character; the whole now forming a good sized volume of 300 pages, handsomely printed and bound; containing a very full sketch of the early settlement, geology, climate, agricultural and other resources, the political, municipal and social history of the County of Dundas, and embracing incidentally more or less, that of other parts of the province. There are numerous attractive sketches of the history of the early distinguished residents of Dundas and the neighboring counties, many of whom we are happy to learn are still living in a hale old age, and who will no doubt peruse with pleasure the reminiscences of their early days and of the infancy of their country as brought before them. This book will form a very acceptable addition to the library of any Canadian interested in the history and resources of the country, especially of the counties of Stormont, Dundas and Glengary.

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