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SPRING WORK.

The advent of the busiest season of the agricultural year is near at hand, and present appearances clearly indicate an early spring. Frost in warm and dry situations is nearly or quite out, and in a few days, as the ground gets consolidated, the plough may be put into requisition. Such has been the peculiarity of the past winter, that, in some parts of the Province, ploughing need not have been suspended more than a few weeks.

The farmer will now be busy in preparing his seed-bed for spring sowing, and where land is naturally dry, or rendered so by artificial means, his labors this season promise to be more than ordinarily light and pleasant. The final result of the crops will very much depend upon starting well. The mechanical, as well as the chemical, condition of the soil, is of vital importance; hence, the necessity of draining where the land is wet, of deep and clean cultivation, and of a sufficiently fine tilth, in which the seed can freely germinate, and the young plant rapidly grow and mature.

Farmers will do well at this season of the year to examine closely their wheat fields. Where land has not a pretty even surface, and is more or less wet,—conditions necessarily common in new countries,—much may often be done by a little extra attention and labor at this season of the year. A man with a spade may sometimes, in a few hours, very much relieve hollow, wet places, of the water they contain, by making a shallow open drain to connect with the nearest furrow; and the furrows themselves may often be made more perfect as drains, by deepening them here and there a few inches, thereby greatly relieving low and wet places of the stagnant water which often injures the young wheat for many rods around. Much might be done to protect the wheat from rust and other casualties, by paying more attention to the efficient ridging and farming of land in the fall, and scouring out, where needed, these water-courses in the spring.

With regard to the time of sowing, it may be safely assumed as a good general rule, to perform this operation as soon as the soil is sufficiently warm and

dry. Land should never be cultivated, and, if possible, much less sown, in a cold, wet state. In such conditions, much of the seed is likely to perish in the act of germination, and what plants survive can seldom come to a healthful maturity. It is unwise, therefore, to adopt a precise and rigid rule for the time of sowing; an operation that must be varied to suit the differences of soils and seasons.

Preparations for sowing spring wheat must be proceeded with, and the land brought into a clean, friable state, as much of the success attending wheat culture depends upon the manner in which these preliminary operations are performed. There can be no doubt that many of the disasters to which this crop has of late years been so peculiarly liable, arise from, or at least are greatly increased by, the slovenly and imperfect way in which the soil is prepared.—Want of drainage and manure, and the too frequent recurrence of the same crop, with imperfect tillage, and want of care in selecting, cleaning, and changing seed, are unquestionably the chief causes of the failure of wheat, now so extensively and disastrously experienced. In changing seed it is of importance to take from an inferior soil and climate to a superior—from sand to a limestone, and from the shallower soils of the latter to the better classes of the former. In the Western States, grain grown on the sandy plains, or “oak openings,” answers admirably, as a general thing, when sown on rich limestone prairie soils, which often constitute extensive areas.

It would no doubt be highly advantageous to procure a much greater change of seed-wheat than is commonly done. The “Black Sea” variety has been for some time deteriorating, and the same remark applies to the “Club,” which deservedly obtained a high celebrity; but the “Fife” seems now to be the favorite in Canada, and last year, from the fall returns obtained by the Bureau of Agriculture, this variety generally escaped the rust, which was extensively destructive of other sorts.

The preceding remarks will more or less apply to oats and barley, both of which might be materially improved by proper attention to their culture, in quantity and quality. The latter should not be sown till all risks of severe night frosts are at an end; as young barley is particularly tender, and when once injured in the early stages of its growth, never wholly recovers.

The summers of Upper Canada are generally too dry for maturing heavy oats, although we have now and then seen very fine specimens grown on deep, humid soils, in a season more than usually moist and cloudy. With regard to heat and drought, wheat and oats have what may almost be termed opposite habits.—Hence the peculiar adaptation of the climate of this portion of the American continent to the production of the former, while the more humid Eastern Provinces on the sea-board yield in a superior degree the latter. The “Tartarian Oat”—either black or white—seems to be the best adapted to this section of Canada, particularly when *quantity* is considered. In quality, however, the grains are generally inferior to some other sorts.

As soon as the frost is out and the ground dry and consolidated, every effort should be made to prepare the land intended for potatoes, turnips, and other root-crops, in the most perfect manner. When farmyard manure is applied broadcast, it should be divided and mixed up with the soil as thoroughly as possible, and no pains or expense spared to obtain a deep and fine tilth, upon which, and the subsequent cultivation with the horse-hoes, these crops essentially depend.

SEASONED WOOD FOR FUEL.

In some way or other the notion has got abroad that it is more economical to burn green than seasoned wood. The reason for the practice is said to be to make the fire burn longer, and accordingly it is not an unfrequent thing to see people mix green wood with dry, with a view of making the materials "burn further." That green or wet wood, which are precisely the same thing, is more difficult to kindle, and will continue longer in the fire than when dried and well-seasoned, is patent to every one, and it must surely be equally apparent, that such fires afford but little heat compared with the time and amount of fuel consumed, and are most difficult and tedious in their operations, most sadly taxing the temper and patience of females to whose lot the management of these matters generally falls.

The preference shown for green wood, however, is generally found in the country where wood is plentiful and cheap and burnt in large quantities in open fire places. In towns where fuel is dear and has always to be bought, it is rare to see green wood used when dry and seasoned can be got. Most people thus situated cut and split their wood under cover, instead of exposing it as is commonly the case in country situations to all the changes of the weather. Parties connected with steam-boats, railroads, factories, &c., where large quantities of fuel are used, and profit and economy systematically studied and calculated, dry seasoned wood is invariably preferred; showing thereby that the common notion in this matter in our farm houses is a popular fallacy.

Let us, however, go a little into the philosophy, if we may use such a term, of the matter. What is the object of kindling a fire but to eliminate *heat*? Now, if it is found that combustible bodies will not readily burn when saturated with moisture, which has first to be evaporated before combustion fairly acts. Green wood has a large amount of water (sap) which has to be driven off into vapour before the material will readily burn, and in this process of evaporation a large amount of heat becomes latent—that is concealed—or, in other words, does not raise the temperature of surrounding bodies, such as the air, &c. Newly cut wood will, according to the variety used, contain from 20 to 50 per cent of water. Trees contain more sap during the season of growth than in winter, and soft woods more than hard. Wood kept dry and exposed to the action of the air for a year, will in general part with something more than half of its moisture, particularly if it be split or divided. More of its moisture may be expelled by subjecting it to artificial heat, and before it parts with the whole of its moisture it will begin to decompose or char. Thus we see that green or wet wood is tedious and uneconomical in using, as it hinders and delays the combustive process, and wastes heat by evaporation. Suppose that 100 pounds of wood contain 20 of water, they have then but 70 of true combustive material. When burned one pound of the wood will be expended in raising the temperature of the water to the boiling point, and six more in converting it into vapor; making a loss of seven pounds of real wood, or one tenth of the combustive force. Besides this dead loss of 10 per cent of fuel, the water present is an annoyance by hindering free and rapid combustion."

Different species of wood, it is well known, possess different degrees of density or specific gravity, and they vary as much in their relative quantities of natural moisture or sap. Wood is generally sold by measure, but equal measures or bulks yield very unequal amounts of heat. Mr. Bull, some time ago, made a number of carefully conducted experiments to determine the relative heating values of the following American woods, taking Shell Hickory as the standard represented by 100:—

Shell bark Hickory.....	100	Yellow Oak.....	60
Pig nut Hickory	95	Hard Maple.....	60
White Oak.....	81	White Elm.....	58
White Ash.....	77	Red Cedar	56
Dogwood.....	75	Wild Cherry.....	55
Scrub Oak.....	73	Yellow Pine.....	54
Witch Hazel.....	72	Soft Maple.....	54
Apple tree	70	Chestnut	52
Red Oak.....	69	Yellow Poplar.....	52
White Beech.....	65	Butternut.....	51
Black Walnut.....	65	White Birch.....	48
Black Birch.....	63	White Pine	42

The same species of wood will vary in density and amount of moisture, and consequently heat giving power, according to its various stages of growth, and the nature of the soil, climate and kind of exposure to which it is subjected. Trees grown in low, damp and sheltered situations will generally be found less dense, and their foliage and branches less tightly put together, than such as grow in open fields and in high and dry situations.

In the ordinary way of burning wood, either in stoves or in open fire places, there are two stages: In the first, heat comes chiefly from the flame; in the second, from red hot coals. Soft woods are more active in the first condition, and hard woods in the second. Soft woods produce much flame in a state of combustion, but have little coal, while their conditions are usually reversed in cases of hard wood. The cause of this partly arises from soft woods being more porous and more readily filled with atmospheric air, the oxygen of which supports combustion more rapidly. But, perhaps, the chief cause arises out of their differences in chemical composition. "Pure woody fibre, or lignin, from all kinds of wood, has exactly the same composition; a compound atom of it containing 12 atoms of carbon, 10 of hydrogen, and 10 of oxygen,—or, there is just enough oxygen in it to combine with all its hydrogen, and change it to water in burning. But in ordinary wood the fibre is impure; that is, connected with other substances which particularly alter its composition. The hard woods are nearest in composition to pure lignin, but the softer woods contain an excess of hydrogen. For this reason, they burn with more vehemence at first; more carbon is taken up by the hydrogen, in producing flame and smoke, and the residue of coal is diminished. The common opinion that soft wood yields less heat than hard (*equal weights*) is an error; it burns quicker, but it gives out an intenser heat in less time, and is consequently better adapted to those uses where a rapid and concentrated heating effect is required."

The price of wood for fuel has of late years greatly advanced in Canada, and although at present that article partakes of the depression common to other things, it is pretty certain for the future that fuel will command a high price in all the older settled portions of the Province. Hence the necessity of preserving the productive portions of the native forest, by the encouragement of second growth trees, and of economizing fuel, by the use of improved stores and the keeping of firewood dry, and only using it when it is properly seasoned. The expense of erecting a capacious wood shed is but a trifle compared with the loss that is sustained by the present too prevalent practice, in most parts of the country, of allowing firewood to rot without any kind of protection. When cut and piled out of doors, with a slight covering on the top, wood may be generally preserved, and will amply repay the little extra trouble and expense. In all yards and premises where these common sense precautions are not heeded, and where wood is allowed to lie about without order or protection, an untidy and disagreeable appearance is witnessed, and much loss and inconvenience are experienced in this important item of domestic cost and management.

THE PUBLIC GRANT TO AGRICULTURAL SOCIETIES.

In reply to inquiries from various Agricultural Societies, we have to say, that in consequence of the necessity, under the present depressed state of the public finances, for retrenchment in every department of public expenditure, the Government has deemed it expedient to limit the amount of appropriation in the public estimates for Agricultural Societies, to £60,000, one-half of which, we presume, is intended for either section of the Province. This would give to Upper Canada a considerably smaller amount than was drawn by this section of the Province last year, when, owing to the forming of Electoral Division Societies, under the Act 20 Vic. cap. 32, the amount of the grants was largely increased; but it will not be very much less than was drawn in 1857 and preceding years, under the old Act. We are not in a position to state the precise mode intended to be adopted by Government for carrying out the reduction; but the general effect will probably be, that each Society will receive some 20 or 25 per cent. less than the amount to which they would otherwise be entitled.— Of course the Societies should not neglect to secure the full amount of subscription necessary to obtain the maximum grant available.

Correspondence.

ON THE IMPORTANCE OF FLAX CULTURE IN CANADA.

ST. CATHARINES, March 5th, 1859.

GEORGE BUCKLAND, Esq.

DEAR SIR,—For a number of years back I have taken notice of many ably written articles on the cultivation of flax; but as yet have seen nothing done for the encouragement of its culture.

When I arrived in this country in 1818, I soon began farming in this part of the country, and it was my intention at the time to have gone into the cultivation of flax somewhat extensively; but when I came to ascertain that no market could be had for it in Canada, I of course abandoned the idea of raising flax to any extent. At the time I am speaking of, there was considerable flax raised in the old Niagara district; but it had to be broken and scutched by hand, which was rather a laborious operation; in consequence, the culture of the flax plant was soon abandoned.

I am well satisfied in my own mind that the climate and soil are well adapted for the cultivation of flax in Canada, and if a market was once established in the Province, and one or two sets of breaking and scutching mills were introduced, the time would not be far distant when they would be found in every part of the Province, which would soon add beneficially to the resources of the country. At an early period of my life, I was on a farm in the Province of Ulster, Ireland, but a short distance from Belfast, in the very centre of the linen trade, where flax was raised very extensively, and subsequent to my coming to America, I had charge of a flax mill for some years, and at the present day I could give instructions for building a breaking and scutching mill, such as was in use in the Province of Ulster, in 1816. The cost would not be much, I should suppose not to exceed £60, exclusive of building, which need not be large, and any horse-power used for thrashing purposes would answer to propel the mill. One of those mills, placed nearly in the centre of a township, with three hands, would clean all the flax likely to be raised in any one township, and that, too, in the winter season. Having been employed in the summer season in the cultivation of flax, and in the fall and winter seasons in the management of the mill, I am well persuaded in my own mind, that from the cultivation of the plant till prepared for the heckler, I know the whole minutiae of the operation.

It appears to me that something ought to be done to counterbalance the loss of the wheat crop, which has been the chief source of our wealth, and that crop having failed

and likely to be a failure for years to come, it behoves us then to try some other that will be as nearly an equivalent as possible to the loss of the wheat crop, and there is no crop (that I know of) more likely to fill the place of wheat (so far as money is concerned) than *flax*. If the Government intend to give encouragement for the cultivation of flax, I am willing, so far as my experience goes, to render every assistance in my power to any one who may embark in the business; with such a mill as I have mentioned, I could instruct any man in a few days to go through the whole operation.

I can take hold of any part of the business myself, having been obliged to do so sometimes when a hand was sick or from some other cause.

As ever forty years have elapsed since the mill I have been speaking of was in use, I would not recommend the plan of that mill, without ascertaining what improvement has been made within forty years, in the North of Ireland, for breaking and scutching flax, and if an improvement has been made, it should be adopted in Canada, unless at too heavy an outlay. When I left the County Down, I am not aware of a spindle being used for spinning flax by machinery, in the North of Ireland; the small wheel and the hand loom was all the machinery then used,—nevertheless, the linen trade was carried on very extensively.

I will give you an extract from a well-written article in the *British American Cultivator*, in 1843, which will show a wonderful improvement in the linen manufacture from the time I have been speaking of, 1816. I don't think there was a mill in Belfast, at that time, for manufacturing flax into cloth, that is, by spinning and weaving by machinery. I will give the part most interesting to ourselves:—

"Last year, before a Committee of the House of Commons, which sat upon the export and import, it was ascertained that 80,000 tons of flax had been brought over from the continent to Ireland, at a cost in money of six millions of pounds sterling, which would average £75 sterling per ton. This fact would appear almost incredible; but when the extent of the Irish linen manufactures are taken into consideration, all doubts on the subject would be set aside. In Belfast alone, there are upwards of forty mills in full operation, some of which work up fifty tons a week."

I have been ruminating in my mind for some years back, how this important business could be profitably started in this country. The most feasible means that I can now see is that recommended by the *Protectionist*, and copied into the November number of the *Agriculturist*. The writer states, "The great object to be attained is a ready market, at remunerative prices, for every stone of flax offered for sale. Were its cultivation once established, capital would be attracted for the purchase of both flax and seed; but something must be done at the outset. At the risk of being charged with a desire to return to the bounty system, we would propose a plan by which the Government might encourage the growth of flax without expense to themselves, and with manifest advantage to the country. Let the Government establish warehouses in Quebec, Montreal, Kingston, Toronto, and London, for the receipt of flax, and appoint well-qualified persons to receive and examine the same, and to grant receipts for the quantity delivered, describing the quality according to a scale agreed upon. Those receipts to state the quantity and quality of the flax, to be payable six months after date, at the current price of flax, less a certain per centage for freight and commission, &c., and to be negotiable instruments passed from hand to hand without endorsement. They would thus obtain at once a money value, while the flax could be shipped in bond and sold by an agent in the British markets. This could be equally well performed by a private company; but, in that case, the receipts would not be available to the farmers so readily as if they had the guarantee of the Government."

I can see no improvement that could be made in the above suggestion, unless in the number of warehouses. I think they might be reduced to two; it would curtail the expenditure from five warehouses to two, and at the same time reducing the number of agents, and I think not much inconvenience would be felt from the reduction. I would recommend one warehouse in Montreal and the other at Toronto, and if in the course of time it may appear necessary to increase the number of warehouses, then it can be done.

If the Government think it advisable to encourage the growth of flax, I think the models of two of the most improved mills would be all that would be necessary: one for Canada East, and the other for Canada West. Those being once established, and their operations satisfactory, the time would not be far distant when like machinery would be erected in every part of the Province.

When we come to look so far back as 1843, and to able writers on the subject of flax culture, when at the same time our wheat crop produced abundantly, and brought more money into the Province than all other crops combined, how much more now should the cultivation of flax be urged on the farming community, when the cultivation of that formerly very important crop (wheat) is a total failure. I don't write this for the purpose of being published; but I wish to draw your attention closely to the subject I have been writing upon. Knowing that you have always taken a lively interest in the welfare of our splendid Province ever since your arrival amongst us, and to impress upon the Board of Agriculture,—and to impress it very strongly, too,—the great importance of taking action on the matter of the cultivation of flax, and that that Board would bring the subject before the Government, and to recommend the importance of taking prompt measures to accomplish what seems to be so very desirable at this time to the community at large. I observed before, that I did not intend this article for publication; at all events, it would be too lengthy for the newspaper press, and being not in the habit of writing articles for publication, the one I have just penned would be rather an awkward production to be placed before the public view; but if, at the same time, you can glean anything from the foregoing that you may think would be interesting to the public, you are at liberty so to do.

I am, dear Sir, yours truly,

JOHN GIBSON.

SHORT RAMBLES IN KENT AND SUSSEX.

(Continued from page 35.)

I must now leave Rye, and direct my steps to the ancient town of Winchelsea, formerly a place of great importance, but now only a large village, about three or four miles distant. My walk was over a perfect plain, consisting of extremely rich pastures, judging from the thickness and softness of the sod, and the thrifty appearance of the numerous cattle and sheep, which were everywhere to be found, with scarcely a cottage, and only here and there a solitary shepherd, or cattle-man, with his dog. This rich alluvial tract is a continuation of the extensive marsh, extending eastward from Rye to Hythe, and was doubtless formerly overflowed by the sea. The most conspicuous object on this dead level is the ruins of Winchelsea Castle, situated on the margin of the Channel, erected by Henry the Eighth, for the protection of the coast. There is nothing particularly remarkable about this ruin, which is now only tenanted by bats and owls, and other kinds of creatures, which frequently, without ceremony, take possession of buildings when vacated by man. In the distance, on an elevated bank, stands the decayed town of Winchelsea, surrounded on all sides by trees and underwood, green pastures, smiling corn fields, and beautiful hop gardens. I climbed up on the east, a steep bank, thickly wooded, and entered the town by one of its ancient gates, two or three of which are still in a good state of preservation. It would appear that the site of the former town was in the low ground near the ruins of the castle, and that it was entirely destroyed by the inundation of the sea. The following occurs in one of the old perish records:—"Be it remembered, that in the year of our Lord, 1287, in this even of St Agath, the Virgin, was the town of Winchelsea drowned, and all the lands between Climesden and the vocher of Hithe. The same year was such plenty of corn throughout all the counties of England, Scotland, and Wales, that a quarter of wheat was sold for two shillings." Soon after the new town had been erected on a high eminence, in the reign of Edward the Third, the French attacked it, and did much damage, and in the reign of Richard the Second, A.D. 1379, they landed again, and "slew all such as did oppose them, sparing no order, age, or sex." Queen Elizabeth, in a tour she made along the southern coast, in the year 1573, passed through this town, and was so much pleased with the place and situation, that she called it Little London. The remains of three extensive parish churches, Lombard affirms, were standing within living memory, when he wrote in 1575, one of which, at least a part, now remains in the midst of the central square, and must have been originally a spacious and beautiful building. The church only is now used for public worship; it is

spacious and lofty, and its massive walls and roof are literally covered with ivy, which has a solemn and majestic appearance. The south aisle contains two monuments of Knights Templar. It is said that the town formerly contained fourteen or fifteen chapels, which probably belonged to as many religious houses. The gable ends of several are yet standing; the Friars has an arch of uncommon extent and beauty, but the cloisters are taken away, and the cells converted into a family house. This monastery was founded by William de Buckingham, who dedicated it to the Virgin Mary, and it long enjoyed a very high reputation. How pregnant of instructive suggestions are these decayed monuments of the ancient faith and habits of old England! Their inspection, as it were, enables one to live through the past. Winchelsea is a member of the Cinque Ports, and formerly sent two members to Parliament,—among them may be ranked Henry, now Lord Brougham, one among many proofs that the close boroughs, as they were formerly termed, did at least occasionally return distinguished men in the walks of science and literature. The Reform Bill took away the franchise, and connected, for electoral purposes, Winchelsea with Rye.

Between Winchelsea and Hastings, I passed through some rural parishes,—Icklissay, Pett, Udimore, Brede, &c. The country is beautifully undulating, with occasional sea-views,—what, in short, may be characterized as highly pleasing and picturesque. In this part of Sussex there is no waste or unproductive land, and there are rather extensive areas in primitive woods, abounding in forest trees and thick undergrowth, which is cut down every ten or a dozen years, for hop-poles, hoops, faggots, &c. In some places a large outlay of money is made in the improvement of these natural woods, the produce of which, in the hop districts, will sell for £20 to £30, and upwards, per acre, exclusive of the timber trees, many of which attain to great age and size. These natural woods of England are far prettier than those of Canada,—the undergrowth is generally thicker, and the trees more spreading and symmetrical, with denser foliage. In many of these nooks and corners in the beautiful and sunny south, you can as completely retire from the busy haunts of men and smoky chimneys, as in your backwoods, and the solitude is equally complete. In many of the farm houses and cottages of this district, wood is burned in an open fire-place; and the baking of bread is invariably done by wood in brick ovens. Firewood sells for about twenty-five shillings a cord, and faggots, consisting of large bundles of spray, for about twenty or twenty-five shillings a hundred. In the towns, however, coal is principally used; but the amount of fuel required in this climate is not large.

Among the peculiarities of the agriculture of this part of England, that attracted my attention, was the prevalent breed of cattle, denominated the *Sussex breed*. They greatly resemble the Devons, but are larger and coarser, and I should judge, hardier.—Their skins are generally thicker than the Downs, from which this breed is supposed to have been derived. A change of climate and pasture, and more strictness in the breeding of late years, have brought the Sussex cattle into a position of being recognized as a distinct breed, and they are now allowed to be exhibited as a class both at the Smithfield Fat Cattle Show and that of the Royal Agricultural Society. They may be said to belong to the larger breeds of the country; their color is red, with horns somewhat longer than the Devons, with thick shoulders, strong, and moderately short legs; but their general build and symmetry, I think, are scarcely equal to the North Devons, especially of such as I saw at the last shows of the Smithfield Club and the Royal Agricultural Society's Show at Chester. From all I can learn, the cows I should not consider as eminently distinguished for the dairy, and they appear small compared with the bulls, some of which are really splendid animals. For the purposes of working, however, I am inclined to think that the Sussex oxen stand unrivalled. They possess great power of endurance, having great weight of body combined with a sufficient degree of muscular action. They appear to be very docile in the yoke, when properly managed. On most farms in the Weald of Kent, Sussex, and Surrey, too large for three or four horses to manage, oxen are, in addition, usually employed; and it is truly surprising how steady and effective they are at work. You will frequently see two pairs drawing the heavy and clumsily looking turnwrest wheel-plough, in the unprecedently stiff clays so common in this district, turning over a furrow eight or ten inches deep, and although apparently slow in motion, yet doing upon the whole, where heavy and continuous draft is required, as much work per day as horses, with less fatigue and expense. In the woods I saw teams of oxen, consisting of sometimes three, four, and even five pairs, attached to large and heavy vehicles, laden with immense weight of squared timber, or faggots, which they steadily drew along in a style, of which the

strongest and best trained horse-teams would be wholly incapable. I am inclined to think that the Sussex breed of cattle, at least for working purposes, would be admirably suited to the wants of many farmers in Canada and the States; they are unquestionably strong and hardy—reach a large size within a moderate time, and fatten tolerably fast. In the two last qualifications, they are, of course, much inferior to the Shorthorns and Herefords, but little, perhaps, to the Devons, while in the power of endurance and labor they are unquestionably their superiors. I am told, however, by experienced agriculturists, that the employment of oxen in farm work, is rather a sign of a stationary or slowly advancing husbandry, and that upon dry, light turnip lands and rich pastures, naturally suited to the Durhams and Herefords, cattle are now seldom if ever seen attached to the plough. In this part of England, however, the practice of working oxen, although not now so extensive as formerly, since draining and enlarging the fields have been carried out, has yet a strong and wide hold, and must therefore be considered as locally suited and advantageous. The ox, unlike the horse, increases in value as he grows older,—within certain limits,—and can at last be fattened and turned into money. In speaking of the Sussex cattle, I am told that much greater attention has been paid of late years to their improved breeding, particularly in reference to symmetry, and early growth, and ripeness. And there are now several distinguished breeders of these animals, among whom may be mentioned Messrs. Selmes and Trolley, in this immediate neighborhood, whose herds will favorably compare, making due allowance for differences in pasture and other local conditions, with some of those of the more popular breeds. There are but a few other varieties bred in this district, and as yet much has to be done in effecting needful changes and improvements in this most important department of agricultural management. As yet, I feel at times somewhat confused with the great diversity of farm practice that I have already observed in different parts of England, and I am mainly guided by the advice and opinions of practical men of good standing. There is here much to learn, and a wide and most interesting field for investigation; and, after all, as far as I can judge, there are some parts of this country, in which the horses, cattle, sheep, and pigs are but little, if at all, superior to some of the best and oldest farming districts of Canada. But I am told that railroads and free trade in corn, by stimulating farmers and allowing of cheap and expeditious intercourse, are rapidly bringing up the more backward districts towards a higher standard of improvement, both as respects the growth of grain, and the breeding and management of live stock, and there can be no doubt that the general agriculture of England is still rapidly improving, with no prospect in view of reaching an ultimate limit.

From Fairlight Down, on the southern slope of which lies the fashionable and flourishing town of Hastings, to which thousands resort at all seasons of the year in quest of pleasure and health, the view on all sides is truly magnificent. The prospects are equally pleasing, whether contemplated agriculturally, geologically, or artistically.—This elevation forms a sort of centre to an extensive district of country which geologists denominate the Wealdon, and is supposed to have formerly been a vast estuary into which large quantities of fresh water were delivered from the higher grounds, ages before the present crust of the globe was consolidated. From this point, on a clear day, the coasts of France, to the south, are distinctly visible, while the north Chalk Downs of Kent, with the bold escarpment of Shakespeare's Cliff at Dover, and the Sussex Downs, with their termination of the bold promontory of Beechy Head, all consisting of white chalk, can readily be seen at a distance, I should suppose, of some sixty or seventy miles. This country is extremely diversified, both in its scenery and soil, and in summer time it has the appearance of a rich garden, with natural woods, and abundance of beautiful trees and green hedge rows appearing in all directions.—In some places the soil is exceedingly rich, particularly the alluvial pastures; in others, the stiff, weald clay approaches within a few inches of the surface, forming a wet, heavy, and poor soil, very expensive to work.

ON SOWING PLASTER.

MR. EDITOR,—As the time is near at hand when the unpleasant and laborious task of sowing plaster must be performed, if we mean to have anything for the grasshoppers to munch this summer, and as few people seem to know how to do it as easily as they might do, I will describe a mode of which I read and have practised for some years, with much comfort and expedition. When your land is tolerably free from obstruc-

tions, not too hilly, and dry enough in spring for a wheel carriage to pass over it without damaging the clover; rise with the sun, or a little before it on a still morning, take a cart (as it is better to turn than a wagon), put a barrel of plaster in the fore end of it and a shovel to fill with; fix a box or tub close by the tail board of the cart, about the height of your knees, and an old chair or seat in front of it, fill your tub, take your seat, tell your boy to drive on, and commence sowing over the tail of the cart with both hands, just as you would do if walking and carrying the article, the difference being, that instead of walking into the dust, you are riding away from it, and by being elevated, can sow a wider cast; instead of having to go across an acre several times, while sowing it, to fill your hopper or tub, you can do it without moving a yard; instead of having your mouth, nose, and eyes, filled with the dust, you may be as clean as when you began, except a little scattered upon your trousers; when the wind rises, quit, and you will do more in one morning, than in half a day by the old method.

Yours, &c.,

AGRICOLA.

OTONABEE, Feb. 18.

Agricultural Intelligente.

AGRICULTURE IN THE UNITED STATES.

At the Agricultural Fair, recently held in Fayette County, Indiana, the Hon. Horace Greely delivered an address, in which he drew the following picture of the present condition of agriculture in the United States :

"It is a melancholy truth that while the acreable product of Great Britain has increased at least fifty per cent within the last century, that of the United States has actually fallen off! With all our boasted progress, our fairs and premiums, our book and periodicals treating wholly or mainly of agriculture, our subsoil ploughs and vastly improved implements, our self-glorifying orations and addresses at gatherings like this, and our constant presumptions and assumption that no people were ever so enlightened and free from antiquated prejudices as ours, this is the net result. Even I can remember when the New England farmers grew wheat as an ordinary crop; now you shall not find a patch of wheat grown this year or to be grown next on one New England farm in five hundred. Thirty-five years ago when I was boy employed at land-clearing in Western Vermont, I used to see thirty or forty wheat-laden waggons pass daily in October and November, on their way to market at Troy or Albany; now Vermont does not export a bushel of wheat, but imports at least two-thirds of the Western flour consumed by her people. In those days Western New York produced larger crops of wheat than any other section of our Union; and 'Genesee flour' was about the best that could be bought anywhere; to-day New England not only does not, but could not, by her ordinary processes produce eight bushes of wheat to each arable acre, while the product of my own State does not exceed ten bushels from each acre sown."

Nor is this fearful falling off, by which, Mr. Greely says "we are quite likely, before the close of this century, not to be able to grow enough for our use," confined to the North and East. It is universal throughout the oldest States. These are his words: "Our longest cultivated soil is, in the average, far poorer this day than it was when Columbus first set foot on the shore of the New World, and the larger part of it is steadily growing worse. Old Jamestown, the site of the first successful attempt by Englishmen to colonise North America, could be bought to-day for less than it was worth in John Smith's time; and Plymouth Rock, though not quite so badly run down, cannot prudently take on airs at the expense of her rival. There are hundreds of square miles together of Maryland, Virginia, and the Carolinas, that yield absolutely nothing, and are scarcely worth taking as a gift; that is to say, it would be cheaper to buy good lands at \$50 per acre than to take these as a present and make them worth as much as the former. In whole sections they know no other way of renovating worn out fields than to throw them out into common and let them grow up to bushes, and ultimately to wood, then clear and start afresh—which is a little behind the agricultural wisdom of the days of Moses."

DESCRIPTION OF THE BREEDING HORSES OF THE QUEEN OF ENGLAND.

[This and the following article on Horses, are taken from an excellent weekly paper recently established in London, devoted to Rural Sports and pursuits, entitled *The Field.*]

In pursuance of our intention to continue an account of the breeding studs of England, we have this week paid a visit to that of Her Majesty, at Hampton Court.—There we were happy to find that best of blessings, health, amongst old and young in every paddock, box and hovel. The first of the mares we saw on entering the gates were Barcelona, by Don John, Vivandiere, sister to Voltigeur, and Vesuvienne, by Gladiator, the dam of Volcano, winner of the Prince of Wales' St. kes, at York, last year. We were next shown Chaseaway, by Harkaway, and Crochet, by Melbourne, the latter in foal to Stockwell. Each of these mares is sent by her owner to Orlando; twelve or more are to follow them, at 50 guineas each. Thus a nice little total of £735 will be earned by him for extra service. This horse's door was then thrown open, and we stood in the presence of the most gentlemanly-looking horse in existence. He is to all appearance as fresh as ever, and a living proof of the good results of care and vigilance, added to moderation in the use to which a stallion may be put during the season. His fame is too widely spread to require a word of praise; the best test of his excellence being the performances of his stock, and the prices realised by them when yearlings. Should those of 1859 continue to thrive as they now do, the stud groom needs not to be under any apprehension of their falling short of last year's average.

In the next box now stands the Tie Cure, well known in Yorkshire. He and his colleague Orlando are of the same age, and look equally fresh and well. The Cure has taken the place occupied last year by Barnton, who has gone to the Swalecliffe stud. His size of limb makes him appear less in height than he really is; his length gives every evidence of his having been, and being certain to beget a racehorse.—He has not a white hair about him, except a saddle mark or two. Ireland may well be proud of having sent over such a nag as Faugh-a-ballagh to beat him for the St. Leg'r, although in their maiden essay together on the same ground The Cure had defeated him. He is one of the best tempered stallions in the world, and if all we have heard be true, his son M. D., who broke down in running for the Derby of 1857, was by far the best horse of his year. The first yearling that we saw was a chestnut filly, by Orlando out of Martha Linn, (Voltigeur's dam). She is very neat, with the white heels of her sire's family; having been a little amiss she was standing in a box by herself, and is rapidly improving. On again going into the paddock, we found two fine fillies by Orlando, with the easily-recognised family marks—the one a chestnut out of Torment by Alarm, the other a bay out of Little Finch by Hornsea. These are sure to repay their breeder, Mr. Greville: of the two we preferred the chestnut. We then beheld a remarkably neat and clever colt, and one that will bring a large price at the sale in June. He is not over large, but has two powerful recommendations, he is a fine mover, and brother to Teddington. In the adjoining paddock was a bay filly by Orlando out of Nelly, sister to Voltigeur, with the neatness of her father, but rather inclined to be narrow; and a filly by Barnton out of Trickstress by Sleight-of-hand. A bay colt by Barnton, out of Gin's dam by Sir Hercules, with crest erect, like a "monarch of all he surveyed," was ranging his paddock in all the happiness of an animal in the full vigor of his prime. He had been a poor, puny foal; but is making up for lost time, and hourly improving as he grows. Two bay daughters of Orlando were the next we were introduced to: one out of the Venison mare, sister to Filius, with most beautiful back and loins; the other sister to Fitz-Roland, showing all the quality of her brother; her quarters are well let down, thighs long, hocks near the ground, and action unexceptionable. Orlando has got winners of the Derby and St. Ledger; his turn seems now coming to add the Oaks to his list. A chestnut son of Newminster and Himalaya by Bay Middleton, and a brown son of Barnton and The Arrow, by Slane, next came under inspection. These are both clever; the one by Barnton looks like making a useful horse, being, as all the Barntons are, of good size, and to all appearance, hardy. We then found at their mangais, and making themselves comfortable with winter oats (43 pounds to the bushel) judiciously mixed with carrots and a few split peas, a chestnut colt by Orlando out of Equation, and a brown

by Barnton out of Rosaline—the latter a strong growing colt, and the former with a shoulder sloped enough to satisfy the most fastidious stickler for symmetry. A brown colt, by the Flying Dutchman out of Nina, by Cotherstone, and another by Barnton out of Amazon, by Touchstone, did not take our fancy so much as many of those previously mentioned. The young Dutchman is somewhat deficient in his quarters, and the Barnton too high on his legs with a plainish head. In the adjoining hovel and yard stood two truly worth looking at—both so quiet as to dispel any doubt about the kindness of their grooms, or whether, before handling them, it would be necessary to send for Rarey. On our praising one of them, with, we hope, an excusable degree of energy, Ransom lifted his legs and feet, which little ceremony seemed to be exactly to the sensible creature's taste. Could he have spoken he would have told us that the best animals are the most gentle. He is a chestnut, and has a white blaze down his face, but no more whi e about him. He is by Orlando out of Flight, by Jereed, and to our unskilled mind, "All the world to nothing," the pick of the basket. The other is a level, handy-looking brown colt, by Barnton, dam by Pantaloona out of Touchstone's dam, combining in his veins the valuable blood of Blacklock and of Whalebone. He is every bit as quiet as his partner. A bay colt, brother to Imperieuse and Eurydice, is light and airy, but from having been a late foal is rather undersized; and a bay or brown, by Barnton out of Lady Palmerston, by Melbourne, which stood with him, is a powerful colt, with limbs that bid fair to become as large as those of his lately departed grandsire.

This brought us to the end of the yearlings belonging to Her Majesty, and we then saw two mares in foal to the Flying Dutchman, namely, Distaffina, who beat Surplice at Goodwood in the wet season of 1848, and Bay Celia. On quitting their paddock we were shown two colts by Barnton—the one out of Raillery by Pantaloona, the other out of Melody by Bay Middleton; these colts are large and much alike. Adjoining them was a remarkably fine chestnut colt by Orlando out of Twitter; with large hocks and thighs and a staying appearance; and a bay out of Alkaii, which looked likely to grow into a quick active horse; both of good size. We continued our walk through the paddocks amongst mares in foal to Orlando and to Barnton, with others to West Australian, to Stockwell, to Voltigeur, to Newminster, to Bolingbroke, and Ellington. The most beautiful of them all to our eye appeared Eulogy by Euclid; her roomy body on short legs, her pleasing countenance, and large e'ry ears, give one the *beau ideal* of what the dam of Imperieuse should be. She is again in foal to Orlando.—Her half-sisters, Volley and Vivandiere, are also there, and her dam Martha Lynn, now 22 years old, in foal to Ellington. Miss Twickenham, 21 years old, dam of Teddington; Jamaica, dam of Yellow Jack, and a few more are barren. A three year old filly, by Stockwell out of Miss Twickenham, and Braxey, half-sister to Blink Bonny, in foal to Voltigeur, are additions to the stud for this season. Fiantic's dam, worn out with age and infirmities, was obliged to be destroyed.

The Barntons are easily distinguished from the Orlandos by their Blacklock heads; but where the blood of that famed stallion and Whalebone can be mixed through Orlando and Barnton, the cross should nick exceedingly well. Not the least happy-looking of the animals that mused in idleness and luxury in this well-sheltered corner of Bushey Park, are ten black polled Scotch Galloways, which came from Brentwood Fair in October, and are doing service to the pastures by "eating up the rough stuff." The mares expected to foal earliest are Apricot and Lady Melbourne, those which will drop their foals the latest are Torment and Distaffina; but none will be later than the first or second week in May. There is ample room for separating the colts, as the spring advances and they begin to be saucy; for at least eighty boxes and hovels, with twenty-six paddocks of about three acres each, are ready for their accommodation.

BULL TAMING.—The Duke of Portland, highly approving of the system of Mr. Rarey in reference to the taming of horses, sent his head groom, Mr. James Thompson, to undergo a course of instruction under him. Since Mr. Thompson's return to Welbeck, he has tried the system on a valuable but very vicious Alderney bull, which had become almost unmanageable, and even a terror to his keeper. He practised a short time on him in his shed, and then took him into the open park, having only Messrs. J. and A. Field with him as spectators. After operating on the bull for a short time, Mr. Thompson and his friends each lay down between his legs, the bull having become as tractable and docile as a child.

PLOUGH HORSES AND THEIR TREATMENT.

The treatment of the farm horse at this season of the year requires great attention, patience and labor. His work is connected either with the plow or the cart—if with the former, his legs and belly are not so much exposed to damp and mud of a sticky nature as when performing his work in the cart in a very soft and wet road. The operation of cleaning and drying cannot be too carefully attended to. There are, however, many of our farm servants who undertake the duty of driving our horses in the wagon and plough who are quite unconscious of the evils which arise from inattention to scraping and cleaning their horses after work in wet weather. The scraping knife generally used in the farm-table is a piece of iron hoop, which will answer the purpose if properly applied, in the absence of a wooden instrument. In the case of a team having been exposed to a great deal of rain, the scraping instrument will be found exactly suited to remove the wet mud, the rain, and perspiration. The operation need not be confined to the belly of the horse, but to the neck and sides also, and other parts to which the knife may be applied. Drying is necessary before cleaning. Cart horses have generally a large quantity of long hair attached to their heels.—Where the horse, with very long hair growing from the back and hollow of the pastern is daily exposed to wet feet, the plan of partially reducing the hair will be found to hasten the process of drying, which ought to be the great object of the farm servant when engaged in whisking the horse. The following we quote from good authority: "When the horse is carefully tended after his work is over, his legs quickly and completely dried, the less hair he has about them the better." It is the cold produced by evaporation that does all the mischief; and if there be no moisture to create evaporation there can be no cold, no loss of heat save that which is taken from the air.—If there were more hair about the heels, they could not be so soon nor so easily dried. In some horses, the hollow of the pastern is very apt to crack; the unctuous secretion is not sufficiently plentiful to keep the skin from cracking. This evil, with others of a more serious description, may be numbered in the train of diseases which are to be traced to bad grooming. We do not recommend that the mane and the tail of the draught-horse should be often thinned, but that they be daily combed and brushed. Heavy draught horses are very subject to colic, brought on by water given after a liocral feed, by exertion with a full stomach, and by a sudden change of food from hay to grass, or from oats to barley. The treatment to be used in case of colic is recommended as follows, in "Stewart's Stable Economy" (where draught horses are kept this remedy should be always at hand): "Take a quart of brandy; add to it 4 oz. of sweet spirit of nitre, 3 oz. of whole ginger, and 3 oz. of cloves. In eight days this mixture or tincture is ready for use; the cloves and ginger may still remain in the bottle, but they are not to be given. Set the bottles past, and put a label upon it; call it 'colic mixture.' The dose is 6 oz., to be given in a quart of milk or warm water every fifteen or twenty minutes, till the horse be cured. Keep his head straight and not too high when it is given. Rub the belly with a soft wisp, walk the horse about very slowly, or give him a good led and room to roll."

"In eighty cases out of ninety this treatment will succeed, provided the medicine be got over the horse's throat before his bowels become inflamed, or strangulated, or burst. The delay of half an hour may be fatal." A disease called the *Stomach or Grass Staggers* has been lately brought before the public by Professor Dick, of the Veterinary college, Edinburgh. The Professor describes the symptoms of the disease in a horse he had been called to see. He found his head was pressed into a corner of a loose box in which he was placed, and with difficulty could be moved from this position. The animal appeared quite unconscious; his pulse was about forty, full and strong; he would take nothing, and his bowels were inactive. He was therefore bled freely, a dose of laxative medicine given; glysters were administered and cold water constantly applied to his head. The horse got worse during the night, and died next morning. This disease appeared as an epizootic since the summer of 1846; the season of the year, as well as the nature of the food, being concurrent with the cause. Farm horses are more liable than any others, but neither carriage nor stable horses are exempt. Rough, coarse grasses, which spring up luxuriantly on moist ground in hot and dry seasons, when taken into the stomach, after using hay or another kind of feed, produce staggers, from inflammation of the stomach. The principal

symptom described by the Professor is that of paralysis, or want of power to direct his motions. The same disease is stated to be common also amongst cattle, but in its effects more fatal, the symptoms and causes of which we shall refer to at another time.

Miscellaneous.

BEE-KEEPING.

We take the following report of a lecture on this subject by the Rev. F. T. Scott, Vicar of Sibertswold, (England), from the *Dover Chronicle*, delivered before the Philosophical Institution of that town. The subject is one possessing both a scientific and economical value, and cannot fail to interest many of our readers. It is true that the climate of Canada is not equal to that of the British Islands for the profitable management of bees, the absence of the heather, bean-fields, and early spring flowers so common in the latter, must necessarily be somewhat disadvantageous. Yet, we think that many of our farmers, in the better cultivated districts, might commence the keeping of bees with a good prospect of success, and their products in wax and honey would furnish a domestic luxury, and might be made a means of profit. Clover, Buckwheat, &c., which are extensively cultivated in this country, furnish, when in blossom, ample material for bees, whose habits and instincts form an admirable study for the young, leading to the formation of careful habits of observation, and directing the mind to a devout contemplation of the great Artificer, whose wisdom and goodness are as conspicuous in all the works of His hands, whether small or great.

The Chairman briefly introduced the lecturer, who said,—When a request was made to him in the course of last summer, as one of the vice-presidents of the East Kent Natural History Society, to deliver a lecture before their excellent institution, he consented to do so, on one condition, and that was that he should be allowed to select for his subject the one on which he was about to address them that evening, viz., the "Honey Bee." He was induced to make that condition, first, because for the last few years, his attention had been specially directed to that branch of natural history; and hoping, therefore that he might be enabled to convey to others some of the information on the subject which he had been enabled to collect for himself, either from the writings of former bee-authors, or from his own experience in bee-keeping; and in the second place, because he considered the subject was one which well deserved the attention of the philosopher and man of science as well as the naturalist, for he felt sure there was no duty so interesting, nor perhaps so profitable, in the highest and best sense, as the philosophy of nature. It not unfrequently happened that in this branch of intellectual research, the smaller the object upon which attention was engaged, the greater were the marvels discovered to be connected with it; and this, he conceived, to be specially the case with the subject of the present lecture. The study of it had engaged the attention of many master minds, from the very earliest, down to modern times.

The lecturer afterwards went on to say that in introducing the subject of the honey-bee, he would only add, that in putting together a few notes upon it, he had not scrupled to avail himself of the labours of former bee-writers, wherever it suited his purpose, nor had he hesitated to give his own opinion where it was opposed to names who are held to be authority on the subject. It had been his endeavour to treat the subject in a popular, rather than a scientific way, and if he succeeded in arresting their attention, and exciting their interest in behalf of his little favourite—the honey-bee—the small labour which he had expended in preparing the lecture, would be amply repaid. He then said he should draw their attention to those points in connexion with the honey-bee, in doing which he should endeavour to throw some light—first, upon its natural history; secondly, its productions; and, thirdly, its management.

Under the first head he proceeded to describe the various tenants of the hive, and the different kinds of bees which were necessary to form a complete family or stock. Of

these, first and foremost came the Queen bee, the presiding goddess of the temple—the worshipped mother of the whole family—the Queen mother who had actually given birth to every individual bee, whether male or female in the commonwealth ; for they must bear in mind that was always the case, when a stock of bees lives to be a year old. The Queen bee was easily distinguished from all other bees, and might be known by certain peculiarities, not principally by its size and form ; so that a practised bee-keeper had no difficulty in picking her out from any quantity of bees. The lecturer then described those peculiarities, and said next in order to the Queen came the most numerous tenants of the hive—the workers or working-bees—which, by some writers had been called neuters or mules, as being neither males nor females ; by others, female non-breeders ; and from what he should show them by and bye, he thought they would consider the latter as the more appropriate title. These bees are the most numerous class in the hive, there being from 12,000 to 20,000 in single hive, and when swarming was intentionally prevented, even 50,000 or 60,000. The workers were the smallest numbers of the bee community, and were furnished with a long flexible proboscis or tongue ; they have a peculiar structure of the legs and thighs, on the latter of which were small hollows or baskets, and they were armed with a straight sting. Upon these bees devolved the whole labour of the colony ; they nursed and reared the young ; they guarded the entrances of the hive ; collected and stored the provisions, and built the cells in which it was warehoused, as well as those which contained the brood. Now, when it was considered the labour which fell to this portion of the family, he thought his hearers would readily allow that they deserved the title of the workers.

The third kind of bee in the family were the drones, or male-bees, and these would be found to the number of 1,500 or 2,000, according to the strength of the family. They made their appearance about the end of April, or beginning of May, and were never to be seen after the middle of August, except under very peculiar circumstances. After giving a full description of the drone, the lecturer proceeded to notice the Queen bee as the parent of every individual in the stock, and therefore able to produce queens, workers, and drones. This office of multiplying the species she performed by laying eggs in cells constructed for their reception by the working bees. The cells varied from one another in size, form, and direction, according as they were intended to be the depositaries of eggs that are to become queens, workers, or drones. The eggs of the mother bee were then described, as well as the mode in which the various kinds of bees were propagated, after which the lecturer made some observations on swarming, which he looked upon as the most interesting feature in the bee economy. He pointed out the best mode to be adopted in those matters, and then noticed the length of time bees were supposed to live—a question, he said, which was, perhaps, very difficult to decide with any degree of accuracy. From all the recorded observations and experiments which had been made with a view to such discovery, the general conclusion was, that the queen bee lived from three to four or even five years ; the workers only from three to five months,—this variation depending in a measure upon the time of year when they were hatched, and the work they had to do. Of the drones, as he had before said, their lives extended from April to August, unless, for special reasons, they were permitted to remain in the hive for a longer period : in fact, those unfortunates may be said, from their very birth, to live only by sufferance, and to be merely tenants at the will of others.

After some further remarks on the first part of his subject, the lecturer spoke of the productions of the honey-bee, and in doing so observed that they were at once reminded that not only did that insect afford matter of interest to the philosopher and naturalist ; but the consideration, if not the study of it, also merited the attention of the community at large, for it was a profitable, as well as a pleasurable subject. The honey-bee could boast of some importance, both in a social and commercial point of view. Very few people were to be found who were proof against the attractions of the full honey-comb ; and the large quantities of honey and wax annually imported into this country, prove that those articles contribute greatly either to their necessities or their luxuries ; perhaps he might say, to both, for the medicinal properties of honey were too well known to admit of any doubt, and the elegancies of life, which wax was made to supply, did not need discussion. First in importance among the productions of the busy-bee was that of honey, and from which it therefore derived its specific name the honey-bee. This delicious liquid the insect collected from the flowers and leaves of trees and plants. The other productions of the honey-bee, wax, propolis, and bee-head, or brood-head, were then noticed, the reverend gentleman concluded this part of his

lecture by remarking that he had intended to have given some statistics on the subject of the importation of honey and wax into this country, and thus have proved to them the vast importance of the honey bee; but time warned that he must hasten to the discussion of the third part of his subject in which he proposed to treat of the management of the honey-bee. He cautioned his hearers against attaching too much importance to his remarks, because his experience in bee-keeping did not extend beyond a period of ten years; but during that time he had made himself acquainted with the various kinds of hives and boxes both ancient and modern, as well as the different modes of securing the produce of the little insect. He was enabled, therefore, to speak from his own knowledge and practice, as well as from the recorded experience of others on the matter. Every bee-keeper, whether he sets out with the prospect of pleasure or profit, or of both combined, should furnish himself with a bee-house as it would serve to keep his bees cool in summer and warm in winter; besides which he might thereby make his property more secure by having it placed under lock and key; for he was ashamed to say that the practice of stealing bees was still indulged in in country places, where the poor man had no such protection as he had recommended, for his stock in trade. He hoped, however, that, now they had a rural police, that system of petty robbery would be put an end to, and the poor cottager's garden ornament and pride, be in future unmolested.

Having first recommended a bee-house or apiary, he next came to the subject of hives or boxes, and here at once was the most "vexatious question" which engaged the attention of the bee-master. The wooden box and the straw-hive, having each their champions amongst the ranks of bee-writers, his opinion was, that it signified but little whether his hives were made of wood or of straw, provided they were of the right size, of proper construction, and placed in a good situation, and tenanted with a numerous colony. If they paid a visit to his bee garden and apiary, they would find about an equal number of boxes and hives, and the difference of this yield in honey he was enabled to trace, not to the material of which they were constructed, but to the prosperity and number of the family by which they were tenanted. In the year 1857, the yield of the two, (taking the bees' box, and the bees' straw-hive) was exactly equal, whilst in the present year the largest yield was from a wooden box which stood in his study window, amounting to the large quantity of 32lbs. nett. After giving his opinion as to the best mode of taking honey from the hive, the lecturer said it was perhaps hardly necessary to tell them to which class of bee-keepers he belonged, namely, the conservative or destructive, and which mode of taking honey was humane or cruel; for they had no doubt already guessed that he practised the humane system, and had shown himself in these politics to be a Conservative to the back-bone. In this matter, he thought they would all allow that the Conservative was also the most liberal, for he only took from his bees what honey they could spare, leaving them enough for their own use in the winter, and not sacrificing the life of a single bee, if he can possibly avoid it; whilst the destructive was so inhuman, that he killed all his bees, and took all their honey. He waited till they had finished their summer's gathering, and then he applied the brimstone-torch, and for his pains gets a quantity of honey which must, more or less, be defiled by the foul vapours which had destroyed his bees. The conservative bee-keeper had an advantage over the destructive, by being earlier in the market; for he took the honey as the bees made it, and sometimes commenced deprivation as early as the month of May, and in a favourable season, continued to increase his stores to the end of July. Let not the bee-keeper, the lecturer said, though a conservative, and with a heart full of humanity, be too greedy of gain, for a man could not grow rich suddenly, and at the same time honestly, even in his pleasant craft, the crop of honey depending chiefly upon circumstances which are altogether beyond his control. There must, for instance, be a genial season, and a plentiful bee-pasturage, or vain would be the labours, and melancholy the prospect of the anxious and industrious bee-keeper. In this variable climate, only three or four good seasons could be calculated on out of ten; so that the average yearly produce of stock must not be set at too high a figure, or disappointment would be the inevitable result. In a decidedly bad season in this part of the country, the gains upon a stock managed upon the humane system must be set down at *nil*, the bees only storing as much honey to help the family during the winter; whereas, in a favourable one, the profit may be reckoned at from 10lb. to 30lbs. of pure honey, worth in the London market from 2s. to 2s. 6d. per lb. Under very favourable circumstances and in a good season, one single stock had yielded 40lbs. and 60lbs., and even as much as 80lbs. The latter was the largest take he had ever heard of, and he saw it in a shop in Holborn last year. It came from the neighbourhood of Huntingdon, the glass being filled in thir-

teen weeks. The monster glass was exhibited at many places, and gained many prizes; and he only wished their eyes could be gratified, as his were, with so charming a sight. In conclusion the lecturer recommended every person who had the opportunity, to lose no time in becoming bee-keepers, and carry on their business on the humane principle; to avoid disappointment, they must resolve to be content with a moderate share of the profits in a concern in which they could be said to be little more than a sleeping partner, and let their standing motto be "God save the Queen and the People."

DUTCH BUTTER MAKING.—There they come, the milkmaid and the boy. The boy is towing a little boat along the canal, and the maid, with her full blue petticoat and her pink jacket or bedgown, walks beside him. Now they stop; she brings from the boat her copper milk pails, as bright as gold, and, with a cooing greeting to her dear cows, sets down her little stool on the grass, and begins to milk. The boy, having moored his boat, stands beside her with the special pail, which is to hold the last pint from each cow; the creamy pint which comes last because it has risen to the top in the udder.—Not a drop is left to turn sour and fret the cow. The boy fetches and carries the pails, and moves as if he trod on eggs when conveying the full pails to the boat. When afloat, there is no shaking at all. Smoothly glide the cargo of pails up to the very entrance of the dairy, where the deep jars appropriate to this "meal" of milk are ready—cooled with cold water, if it is summer, and warmed with hot water if the weather requires it. When the time for churning comes, the Dutch woman takes matters as quietly as hitherto. She softly tastes the milk in the jars till she finds therein the due degree of acidity; and then she leisurely pours the whole—cream and milk together—into a prodigiously stout and tall upright churn. She must exert herself, however, if she is to work that plunger. She work it!—not she! She would as soon think of working the mills on the dykes with her own plump hands. No—she has a servant under her to do it. She puts her dog into a wheel which is connected with the plunger; and, as the animal runs round, what a splashing, wolloping, and frizzing is heard from the closed churn! The quiet dairymaid knows by the changes of the sound how the formation of the butter proceeds; when she is quite sure that there are multitudes of flakes floating within, she stops the wheel, releases the dog, turns down the churn upon a large sieve, which is laid over a tub, and obtains a sieveful of butter, in the shape of yellow kernels, while the buttermilk runs off, for the benefit of the pigs, or of the household cookery.—*Dicken's Household Words.*

A TAME RAT.—Some time ago the driver of a Bow and Stratford omnibus was moving some trusses of hay in his hayloft, when, snugly coiled up in a corner, he found a little miserable-looking rat whose mamma, having carefully tucked him up in bed, had gone out on a foraging expedition to find something for her darling's supper. The little fellow being of a remarkably piebald color, excited the pity of the omnibus man, who took him up, and brought him home to his family. The children soon took to their new pet, and named him Ikey, after their eldest brother whose name was Isaac. The little creature soon grew up, and reciprocated the kindness he had received, by excessive tameness towards every member of the family. He was therefore allowed to roam about the house at perfect liberty. His favorite seat was inside the fender, or on the clean white hearth, but strange to say, he would never get on it unless it was perfectly clean. On one occasion, when the good wife was cleaning the hearth, she gave Master Rat a push; up he jumped on the hob, and finding it an agreeable resting place, there he stayed. As the fire grew brighter and brighter, so the hob became warmer and warmer, till at last it became unpleasantly hot; but he would not move from his perch till the hair on his legs and body became quite singed with the heat.—His master had a perfect control over him, and made, for his special benefit, a little whip, with which he taught him to sit upon his hind legs in a begging posture, jump through a whalebone hoop, drag a small cart to which he was harnessed, carry sticks, money, &c., in his mouth, and perform many other amusing tricks. The rat perfectly understood the meaning of the whip, for, whenever it was produced, and his master's countenance betrayed coming wrath, in fear and trembling he would scamper up the sides of the room or up the curtains, and perch himself on the cornice; waiting there till a kind word from his master brought him down again, hopping about, and squeaking with delight. In these gambols of mirth he would run so fast round after his tail, that it was almost impossible to tell what the whirling object was. At night he would

exhibit another cat-like habit, for he would stretch himself out at full length before the fire on the rug, seeming to enjoy this luxurious way of warming himself. This love of warmth made him sometimes a troublesome creature, for when he found the fire going out and the room becoming cold, he would creep up into his master's bed, and try to insert his little body under the clothes. He was never allowed to remain here long, but was made to decamp as soon as his presence was discovered. He then took up his refuge in the folds of his master's clothes, which were placed on a chair, and of these he was allowed to retain quiet possession till the morning. The master became so fond of his rat that he taught him, at the word of command, "Come along Ikey," to jump into his great-coat pocket in the morning, when he went out to his daily occupation of driving the "bus." He did not, however, carry him all day in his pocket, but put him in the boot of his 'bus to act as guard to his dinner. But why did not the rat eat up his master's dinner? Because, as said the man, "I always gives him his belly-full when I has my own breakfast before starting." The dinner was never touched, except when it happened to consist of plum-pudding. This Ikey could not resist; his greediness overcame his sense of right, and he invariably devoured the plums, leaving the less dainty parts of the repast for his master. The rat acted as a famous guard to the provisions, for whenever any of the idle fellows who are always seen lounging about the public houses where the omnibuses bait, attempted to commit a theft, and run off with the bundle out of the boot, Ikey would fly out at them from under the straw, and effectually put to flight the robbers. At night he was taken home in his master's pocket, and partook of the family supper; but if any strangers happened to be present, he was taken with a shy fit, and in spite of his hunger, secreted himself till they had gone. His teeth, after a time, became bad and worn out, and the children finding this out, delighted to give him a sort of hard cake made of treacle, called, in infant parlance, jumbles or brandy-snacks. Of these, Ikey in his younger days was very fond; but now, on the contrary, they gave him much trouble to masticate, and his perseverance and rage when attacking the said brandy-snacks caused the young folks many a hearty laugh. This rat is, I believe, still alive, and enjoys a good health, though the weight of age pressing on his hoary head, he requires many little attentions from his kind and tender-hearted protectors.—*Buckland's Curiosities of Natural History.*

TO MAKE HARD CANDLES OF SOFT TALLOW.—I noticed a request a short time since in the *Country Gentleman*, for a receipt to make soft tallow hard. I send you one I know by experience to be good. To twelve pounds of tallow take half a gallon of water, to which add three table-spoons of pulverised alum, and two of saltpetre, which heat and dissolve; then add your tallow and one pound of beeswax; boil hard all together, until the water evaporates, and skim well while boiling. It should not be put in your moulds hotter than you can bear your hand in. The candles look much nicer when the wicks are not tied at the bottom. It is not only a disagreeable task to cut the wick off, but it injures the moulds. Never heat your moulds to draw your candles in cold weather. Perhaps it is not generally known that tallow from beees fed on corn or grain, is much softer than when fed on grass or clover.—Therefore the tallow from grass-fed cattle should always be hard with the addition of very little alum and beeswax. In very cold weather much less alum must be used, or they will crack so as to fall to pieces sometimes; and a third more of each should be used in very warm weather if the tallow is very soft. With little management you can always have hard tallow for summer use where you make all your own candles.—*Country Gentleman.*

BLESSEDNESS IN SORROW.—There are times when some great sorrow has torn the mind away from its familiar supports and laid level those defences which in prosperity seemed so stable—when the most rooted convictions of the reason seem rottenness, and the blossom of our heavenward imagination goes up before that blast as dust—when our works, and joys, and hopes, with all their multitude, and pomp, and glory, seem to go down together into the pit, and the soul is left as a garden that hath no water, and as a wandering bird cast out of the nest—in that day of trouble, and of treading down, and perplexity, the noise of voices, the mirth of the taboret, and the joy of the harp, are silent in the grave. Blessed is the man who, when cast into this utter wretchedness, far away from all creatures and from all comfort, can yet be willing, amid all his tears and his anguish, there to remain as long as God shall please.—*British Quarterly.*

A PET MOLE.—Being very desirous of watching the mole in its living state, I directed a professional catcher to procure one alive, if possible; and after awhile the animal was produced. At first there was some difficulty in finding a proper place in which to keep a creature so fond of digging; but the difficulty was surmounted by procuring a tub, and filling it half full of earth. In this tub the mole was placed, and instantly sank below the surface of the earth. It was fed by placing large quantities of earth-worms or grubs in the cask; and the number of worms that this single mole devoured was quite surprising. As far as regards actual inspection, this arrangement was useless; for the mole never would show itself, and when it was wanted for observation it had to be dug up. But many opportunities for investigating its manners were afforded by taking it from its tub, and letting it run on a hard surface, such as gravel-walk. There it used to run with some speed, continually grubbing with its long and powerful snout, trying to discover a spot sufficiently soft for a tunnel. More than once it did succeed in partially burying itself, and had to be dragged out again, at the risk of personal damage. At last it contrived to slip over the side of the gravel walk, and finding a patch of soft mould, sank with a rapidity that seemed the effect of magic.—Spades were put in requisition; but a mole is more than a match for a spade, and the pet mole was never seen more. I was no by means pleased by the escape of my prisoner; but there was one person more displeased than myself, namely, the gardener; for he, seeing in the far perspective of the future a mole running wild in the garden, disfiguring his lawn and destroying his seed-beds, was extremely exasperated, and could by no blandishments be pacified. However, his fears and anxieties were in vain, as is often the case with such matters, and a mole-heap was never seen in the garden. We therefore concluded that the creature must have borrowed under the garden wall, and so have got away.—*Common Objects of the Country by the Rev. J. G. Wood.*

PURITY OF CHARACTER.—Over the beauty of the plum and the apricot, there grows a bloom and beauty more exquisite than the fruit itself—a soft, delicate blush that overspreads its blushing cheek. Now, if you strike your hand over that, and it is once gone, it is gone forever, for it never grows but once. The flower that hangs in the morning, impearled with dew—arrayed as no queenly woman ever was arrayed with jewels—once shake it, so that the beads roll off, and you may sprinkle water over it as you please, yet it can never be made again what it was when the dew fell silently upon it from heaven! On a frosty morning, you may see the panes of glass covered with landscapes—mountains, lakes, trees, blended in a beautiful fantastic picture. Now lay your hand upon the glass, and by the scratch of your finger, or by the warmth of your palm, all the delicate tracery will be obliterated. So there is in youth a beauty and purity of character, which, when once touched and defiled, can never be restored; a fringe more delicate than frost-work, and which, when torn and broken, will never be re-embroidered. A man who has spotted and soiled his garments in youth, though he may seek to make them white again, can never wholly do it, even were he to wash them with his tears. When a young man leaves his father's house, with the blessing of his mother's tears still wet upon his forehead, if he once lose that early purity of character, it is a loss that he can never make whole again. Such is the consequence of crime. Its effects cannot be eradicated; it can only be *forgiven*—*Henry Ward Beecher.*

AGE OF ANIMALS.—A bear rarely exceeds 20 years; a dog lives 20 years; a wolf 20; a fox 14 to 16; lions are long lived—"Pompey" lived to the age of 70. The average of cats is 15 years; a squirrel and hare 7 or 8 years; rabbits 7. Elephants have been known to live to the great age of 400 years. When Alexander the Great had conquered one Phorus, King of India, he took a great elephant which had fought very valiantly for the king, named him Ajax, and dedicated him to the sun, and let him go with this inscription:—"Alexander, the son of Jupiter, hath dedicated Ajax to the sun." This elephant was found with this inscription 350 years after. Pigs have been known to live to the age of 30 years; the rhinoceros to 20. A horse has been known to live to the age of 62, but averages 25 to 30. Camels sometimes live to the age of 100. Stags are long-lived. Sheep seldom exceed the age of 10. Cows live about 15 years. Cuvier considers it probable that whales sometimes live to the age of 1,000.—The dolphin and porpoise attain the age of 30. An eagle died at Vienna at the age of 104 years. Ravens frequently reached the age of 100. Swans have been known to live 360 years. Mr. Mallerston has the skeleton of a swan that attained the age of 200 years. Pelicans are long-lived. A tortoise has been known to live to the age of 107.

HOW TO MAKE YELLOW BUTTER IN WINTER.—Dr. Dadd gives the following directions:—As butter made in winter is generally pale or white, and its richness, at the same time, inferior to that which is made during the summer months, the idea of excellence has been associated with the yellow cover. Means are therefore employed, by those who prepare and sell butter, to impart to it the yellow color, where that is naturally wanting. The substances mostly employed in England and Scotland are the root of the carrot and the flowers of the marigold. The juice of either of these is expressed and pressed through a linen cloth. A small quantity of it (and the proportion necessary is soon learned by experience) is diluted with a little cream, and this mixture is added to the rest of the cream when it enters the churn. So little of this coloring matter unites with the butter, that it never communicates to it any peculiar taste.

COMPOSITION OF MILK AT VARIOUS TIMES OF THE DAY.—Professor Boedeker has analyzed the milk of a healthy cow at various times of the day, with the view of determining the changes in the relative amount of its constituents. He found the solids of the evening's milk (13 per cent.) exceeded those of the morning's milk (10 per cent.); while the water contained in the fluid was diminished from 89 per cent. to 86 per cent. The fatty matters gradually increase as the day progresses. In the morning they amount to 2.17 per cent., at noon 2.63 per cent., and in the evening 5.42 per cent.—This fact is important in a practical point of view; for while 16 ounces of morning's milk will yield nearly half an ounce of butter, about double this quantity can be obtained from the evening's milk. The casein is also increased in the evening's milk, from 2.24 to 2.70 per cent.; but the albumen is diminished from 0.44 per cent. to 0.31 per cent. Sugar is least abundant at midnight (4.19 per cent.), and most plenty at noon (4.72 per cent.) The per centage of the salts undergoes almost no change at any time of the day.—*Edinburgh Medical Journal*.

DON'T OVERTASK THE YOUNG BRAIN.—The minds of children ought to be little if at all tasked till the brain's development is nearly completed, or until the age of six or seven years. And will those years be wasted? or will the future man be more likely to be deficient in mental power and capability, than one who is differently treated?—Those years will not be wasted. The great book of Nature is open to the infant and the child's prying investigation; and from Nature's page may be learned more useful information than is contained in all the children's books that have ever been published. But even supposing these years to have been absolutely lost, which is anything but the case, will the child be eventually a loser thereby? We contend that he will not. Task the mind during the earlier years, and you will not only expose the child to a greater risk of a disordered brain, not only, it may be, lay the foundation for a morbid excitability of brain, that may one day end in insanity, but you debilitate the bodily powers, and by so doing, to all intents and purposes the mind will eventually be a loser in its powers and capabilities.—*Dr. Robertson*.

ARAB HORSES AND STABLES.—The following description of Arab horses and stables is extracted from one of the admirable "Letters from Algiers," written over the signature of "Phantom," in the London *Field*.—

"The town of Blidah was totally destroyed by an earthquake in the year 1825, and 18,000 persons are supposed to have been buried in its ruins. The survivors retired to the distance of about a mile from the old town, with the intention of raising a new city; however, their love for their old haunts induced them to abandon the idea, and a new town rose from amidst the ruins of the old one. Blidah was surnamed the 'voluptuous' by the inhabitants of Algiers; its situation at the foot of the Atlas Mountains, and its beautiful environs with their stately orange groves, combine to render it a most attractive city. It is here that the Government have placed their establishment for improving the breed of Arab horses. A French officer was so kind as to take us over the stud.

"The civility and genuine good-heartiness of all those French gentlemen we had the happiness to become acquainted with, added greatly to the enjoyment of our visit to Algeria, and we shall always entertain a lively recollection of the hospitality and consideration shown us by our French friends.

"The stud is composed of about forty horses. There are horses from Syria, Tunis, Morocco, and Algeria. Some of them have been bought for large sums. El Maz, a white Syrian horse, of great strength, and standing about fifteen hands, has cost one thousand guineas, and was a present from the Emperor. I was also much struck with

the symmetry of a little chestnut horse, up to immense weight, called Mahaidan, which was bred near Blidah. During the Spring months, these horses make the tour of the Provinces, so that any of the Arabs may improve the breed of their animals gratis, receiving, at the same time, a certificate of the parentage of the colt. The stables are all open sheds, having straw blinds in front, which may be let down, as a protection against either wind, rain, or sun. The food of the horses consists of barley-straw, with a little barley. They are well-cared for, and treated with scrupulous kindness. Their docility is astonishing. It is a striking sight to see so many entire horses standing in long open shds. without partitions, close together, and merely fastened with the usual cord, which hobbles them all by the fore-legs.

"As I have before observed, the wind of these horses is quite astonishing. Sometimes, in expeditions against the Arabs, the French soldiers have been in the saddle from five A. M. till ten P. M., and performed a distance of eighty-five miles without giving a mouthful of food to their horses. The horses when on the march, never sleep under cover; they are always ready for work, and never ail anything. Three things are indispensable to an Arab horse—a good eye, a good foot, and a good appetite.—The price given for regimental horses varies from three hundred and fifty to four hundred francs. The Arabs illustrate their estimate of the different colors of horses by the following tale:—A chief of a tribe was once pursued by his enemies. He said to his son: 'My son, drop to the rear, and tell me the color of the horses of our foe—and may Allah burn his grandfather!' 'White,' was the answer. 'Then we will go south,' said the chief; for in the vast plains of the desert the wind of a white horse will not stand in a protracted chase.' Again the chief said, 'My son, what colored horses pursue us?' 'Black, O, my father.' 'Then we will go amongst the stones and on rocky ground, for the feet of black horses are not strong.' A third time the young Arab was sent to the rear, and reported chestnut horses. 'Then,' said the old chief, 'we are lost; who but Allah can deliver us from chestnut horses?' Dun or cream-colored horses the Arabs consider worthless, and fit only for Jews to ride. They say also that a flea-bitten horse is never a bad one."

THE DRAINAGE OF LAKE HAARLEM.—On the 7th July, 1848, the works for draining the Lake of Haarlem commenced, and on August 1, 1852, the *Stads Courant* announced that the whole of that immense lake was dry. At the commencement of the present year, 17,000 hectares (2½ acres each) of good land were under cultivation.—Farms to the number of 2,518 have been formed, and 157 dwelling-houses and 721 stables and other buildings constructed, for a population of 5,157 souls. Large depots had been formed of materials brought to the spot by the canals which run through the ground.—*Continental Paper.*

POULTRY AND EGGS.—Fowls like the warm southern aspect, where they can huddle together in the sun during the middle of the day. Provide them such a place and plenty of food, such as corn, cob-meal mixed with scalding water, or hot potatoes, with occasional feeds of the flesh of young calves, plucks of sheep, and constant access to pure water, gravel, old mortar, oyster or clam shells, and bones, all broken finely, and they will yield eggs in abundance through the cold weather.

KICKING COWS.—Cows sometimes move their feet from impatience or restlessness, and sometimes kick for the same reason. Any *invariable* and *prompt* infliction of a short, quick punishment, will soon cure them. They dislike to have their teats jerked, and if, whenever they kick or step, this infliction *always instantly follows*, they will soon cease. It is of the utmost importance that it be always uniformly severe, not irregular, and never but *once* performed for each repetition of the fault.—*Country Gentleman..*

SEED-TIME AND HARVEST.—Every man is to himself what Plato calls the Great Year. He has his sowing time, and his growing time, his weeding, his irrigating, and his harvest. The principles and ideas he puts into his mind in youth lie there, it may be for many years, apparently unprolific. But nothing dies. There is there a process going on unseen, and by the touch of circumstance the man springs forth into strength, he knows not how, as if by a miracle. But after all, he only reaps as he had sown.—*Education of the people by J. A. St. John.*

THOUGHTS.—Horace Walpole once remarked,—“This world is a comedy to those who think, and a tragedy to those who feel.”

DOMESTIC LIFE IN THE MIDDLE AGES.—Rude were the manners then; man and wife ate off the same trencher; a few wooden handled knives, with blades of rugged iron, were a luxury for the great; candles unknown. A servant girl held a torch at supper; one, or at most two, mugs of coarse brown earthenware formed all the drinking apparatus in a house. Rich gentlemen wore clothes of unlined leather—Ordinary persons scarcely ever touched flesh in eat. Noble mansions drunk little or no wine in summer—a little corn seemed wealth. Women had trivial marrage portions—even ladies dressed extremely plain. The chief part of a family's expense was what the males spent in arms and horses, none of which however, were either very good or very showy; and grandees had to lay out money on their lofty towers.—In Dante's comparatively polished times, ladies began to paint their cheeks by way of finery, going to the theatre—and to use less assiduity in spinning and plying their distaff. What is only a symptom of prosperity in large, is the sure sign of ruin in small states. So in Florence he might very well deplore what in London and Paris would be to praise or cause a smile. Wretchedly, indeed, plebeians hovelled; and if noble castles were cold, dark, and dreary every where, they were infinitely worse in Italy from the horrible modes of tortures, and characteristic cruelty, too frightful to dwell on. Few of the infamous structures built at the times treated of stand at present; yet their ruins disclose rueful corners.—*History of the Order of St. John of Jerusalem.*

It is with books as it is with women, where a certain plainness of manner and dressing is more engaging than that glare of paint and airs and apparel, which may dazzle the eye, but reaches not the affections.—*Hume.*

ALUMINA, OR CLAY.—Alumina, or clay, makes a soil tough, tenacious, and impervious to water. Strictly speaking, clay is a silicate of alumina, though in common parlance we use them as synonymous. It rarely enters into the composition of vegetables, it being rather a base for the soil than a constituent for vegetation.

MANGOLD WURZELS.—Taking into account the liability of turnips and bagas to disease and to the attacks of insects, and the comparative freedom of the mangolds from both, it has been strongly recommended in England to substitute the latter for the former, wherever the soil and situation are favorable. The mangolds are decidedly preferable as food for milch cows.

TURKEYS—Benefit of a Cross with the Wild Stock.—Mr. N. Call, of Allenstown, N. H., informs us that he has kept in his flock of turkeys a wild male, and the result is that the young ones from him are from four to five pounds heavier at five months old, than his turkeys formerly were, though kept precisely in the same way. Mr. C. could spare some of the half wild ones.—*Boston Cultivator.*

RUSTY OAT STRAW.—Rusty oat straw proves bad feed for horses. Several have died from eating it.

KNOWLEDGE.—I envy no man that knows more than myself, but pity them that know less.—*Sir T. Browne.*

FORETHOUGHT.—If a man faints away, says Hull's *Journal of Health*, instead of yelling out like a savage, or running to him to lift him up, lay him at full length on his back on the floor, loosen the clothing, push the crowd away so as to allow the air to reach him, and let him alone. Dashing water over a person in a simple fainting fit, is a barbarity. The philosophy of a fainting fit is, the heart fails to send a proper supply of blood to the brain; if the person is erected that blood has to be thrown up hill; but if lying down it has to be projected horizontally, which requires less power, as is apparent at once to every thinking mind.

If a person swallows poison deliberately or by chance, instead of breaking out into multitudinous and incoherent exclamations, dispatch some one for the doctor; meanwhile run to the kitchen, get half a glass of water in anything that is handy, put into it a teaspoonful of salt and as much ground mustard, stir it in an instant, catch a firm hold of the persons nose, the mouth will soon fly open, then down with the mixture, and in a second or two up will come the poison. This will answer better in a larger number of cases than any other. If by this time the physician has not arrived, make the patient swallow the white of an egg, followed by a cup of strong coffee, because these nullify a larger number of poisons than any other accessible articles as antidotes for any poison that remains in the stomach.

If a limb or other part of the body be severely cut, and the blood comes out by spirits or jerks be in a hurry, or the man will be dead in five minutes; there is no time to talk or send for a physician; say nothing but out with your handkerchiefs, put it round the limb, tie the two ends together, put a stick through them, twist it round, tighter and tighter, until the blood ceases to flow. But stop, it does no good. Why? Because only a severed artery throws out blood in jets, and the arteries get their blood from the heart, hence to stop the flow the remedy must be applied between the heart and the wounded spot, in other words above the wound. If a vein had been severed, the blood would have flowed in a regular stream, and, on the other hand, the tie should be applied below the wound from the heart; because the blood in the vein flows towards the heart, and there is no need of such great hurry.

The Rochester *Union* says:—One of our prominent millers informs us that a party has been purchasing flour for the Montreal market, and has taken about fifteen hundred barrels, to remain in store till the St. Lawrence opens, when it will be shipped to its destination. The same party, we are told, has gone to Ohio to make purchases on the same account.

MANURING IN THE HILL FOR CORN.—The question of applying the usual domestic or barn manures to corn, in the hill at planting, or over the whole surface before that time, is one which we have not seen particularly discussed in our agricultural journals, though often mentioned as practiced, or *vice versa* in accounts of the culture of this grain. From observation on this point, we conclude it is more common in New Hampshire than elsewhere, where indeed it was learned from the aboriginal corn-growers. We have heretofore, from results in our own experience, recommended manuring in the hill, in addition to a good dressing over the whole field, as productive of an essential improvement in the crop—giving an earlier and stronger start, which advance it keeps through the whole period of growth.

Some experiments in corn growing, comparing hill manuring with its application over the whole surface, are given by Mr. Baker of Oak Hill, in a recent *N. E. Farmer*—and thinking it will interest, we condense the same for our readers. Five plots of an acre each, were planted the last of May. On the first, twenty loads of long manure were spread and plowed under eight inches deep. On the second, ten loads of fine barn-yard manure was spread on the surface after plowing, and thoroughly harrowed before marking. The third acre was manured in the hill—two quart of very fine stable manure to each. The fourth received in the hill one quart of compost—two parts muck, two parts hog manure, and one part each of lime and ashes. The fifth acre, for the purpose of comparison, received no manure. The kind of corn planted was the yellow smut or red blaze, the kernal of which is large and flat, and the ear good size. Making no account of the soft corn, it produced as follows: No. 1, 84 bushels of ears; No. 2, 90 bushels; No. 3, 99 bushels; No. 4, 95 bushels; No. 5, 68 bushels. From these results, he concludes that for present profit, manuring in the hill is the best, and decomposed barn manure harrowed in, produce more effect than green dung plowed under—at least on the first crop.

Most commercial manures, as guano, superphosphates, poudrette, etc., have been applied in the hill exclusively, so we have no means of comparison of the effect of the same broadcast. Of fertilizers of domestic production, hen manure has more generally been applied in the hill for corn than any other material. It is plentiful of a concentrated character, and readily prepared and applied, while there can be no question as to the profit arising from its judicious use. As hirled before, this manure and others of like character, give the young shoots an early and vigorous start, and enable it the sooner to strengthen itself, by extending its roots to more distant stores of food.

The effect of manuring the hill exclusively, would seem to be less calculated to benefit the next crop than if applied over the whole ground, though the active or thoroughly decomposed character of the fertilizer thus used would leave little benefit to be expected the second year. But we leave the question with our readers, simply remarking that while we would commend plentiful broadcast manuring in all cases, we would also advise the application of some concentrated fertilizer in the hill, believing it will in all cases prove profitable by forwarding and increasing the crop. Indian corn cannot well be surpassed by high feeding—and above most grains, uses and repays a plentiful supply.—*Country Gentleman.*

The Fall wheat in the vicinity of Brantford, and in the townships of Beverly and Ancaster is said to be badly winter killed.—*Stratford Examiner.*

The present appearance of the crop is encouraging. It is both healthy and strong. The prospect is good; but whether the promise which present appearances hold out is to be realised, is a question. There is nothing to guarantee us against rust, the wheat fly and the wheat midge. But rust is known to be occasioned in part by unseasonable sowing, for which there was no excuse last Fall, and is not likely to be any this Spring. And in proportion as the quantity of Spring wheat is increased, will the danger from the fly diminish; for that insect confines its depredations chiefly to Winter wheat. This accounts for the circumstance, unprecedented in Upper Canada, of Spring wheat having averaged a greater yield than Winter wheat last year. The result has been that a very large quantity of Spring wheat will be sown this year, and to that extent at least a moderate yield of wheat may be said to be guaranteed. As to the Winter wheat what the fly may do to it, no one can predict; but with a reasonable exception from the attacks of this enemy there is every prospect that it will turn out well.—*Leader.*

Editorial Notices, &c.

TRANSACTIONS OF THE NEW YORK STATE AGRICULTURAL SOCIETY. Vol. XVII. 1857.
Albany: 1858.

We are again indebted to the courtesy of B. P. Johnson, Esq., the able and indefatigable Secretary of the New York State Agricultural Society, for a copy of the Transactions of that important organization, which stands in a similar relation to the Agricultural Societies of this continent, as that of the old Highland Society, of Scotland, to those of the British Islands and Dependencies. We always anticipate something new and substantial in the annual production of the New York State Society, and, as yet, we have never been disappointed. As the Society and Agriculture of the Empire State progress, which both have rapidly done of late years, so this annual exponent of their measure of progress keeps true to its duty, and fails not to record faithfully and suggestively, the principal elements of the onward movement. We have neither time nor space at present to enumerate even the chief papers and topics of information which this portly volume contains; such as those on the agriculture and agricultural schools of Europe, Dr. Fitch on insects infesting evergreen forest trees, and others of equally great value from the Transactions of British Societies. We shall hereafter refer more in detail to some of the subjects embraced in this valuable publication.

THIRD ANNUAL REPORT OF THE MAINE BOARD OF AGRICULTURE, FOR 1858. Augusta.
1859.

We have received from the Secretary of the Board, S. L. Goodale, Esq., the Report and Transactions of the Board for 1858, which is a very interesting document, containing several articles to which we intend hereafter more fully to refer. The volume is highly creditable to the zeal and judgment of the Secretary, who besides superintending its preparations has himself largely contributed to its pages.

AMERICAN STOCK JOURNAL.

We have received three numbers of this useful and well-conducted periodical. It is the only American journal, we believe, exclusively devoted to the breeding and management of Live Stock, and judging from the numbers which have reached us, we anticipate for it a successful career. Such a work was much wanted. It is published monthly by D. C. Linsley, Editor and Proprietor, 140 Fulton Street, New York, at the low price of \$1 per annum, in advance, and will form, at the end of the year, a handsome royal octavo volume, well-printed and illustrated, of about 400 pages.