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RURAL NOTES.

An Iowa farmer gives his experience of feeding oats to cows last winter. The flow of milk was as flush as in June, and the butter was, if possible better than when the cows were fed on corn.

There is one thing of greater value to the breeder of thoroughbred cattle than a herd book, and that is a capacity to study animals themselves. The best test of an animal is not the record of its fancy blood.

By heavy manuring, deep ploughing, and the turning under of vegetable matter, we guard against the worst effects of drought. Crops on heavily manured land will thrive in times of drought when crops on adjoining plots not fertilized will die, or only make a feeble growth.

Black ants have a sweet tooth for the aphis that is so destructive to the leaves of the rosebush and other flowering shrubs and vines. For this purpose it would be useful to cultivate the friendship of black ants, instead of (as many people do) exterminating them with coal oil or boiling water.

The hay and clover crop throughout Ontario is one of the heaviest that has been grown for many years, but unless there is a change in the weather of the past month farmers will be driven to their wit's end to save it. Owing to the rankness of the clover, specially fine weather is needed for the curing of it.

A writer in one of the English agricultural journals recommends boiled water as a preventative of gapes in chickens. The young chicks should be kept in an enclosure for the first month or six weeks of their lives, and given no water to drink except such as has been boiled. He speaks from an experience of thirty years. Of course the water is allowed to cool before it is given.

Everybody should send to the farmer's paper any facts, experiments or suggestions that other people can profit by. Nor need there be any delicacy on the score of style or grammatical accuracy. The editor will see to that, and our experience is that on farm subjects no man can hit the nail on the head more forcibly, or with less waste of words than the farmer. What is wanted is the experience of practical men as it occurs.

The horse that everybody wants is the horse that suits the road, the track, the park, the family and the farm. He is the ideal horse in size, colour, beauty and disposition. He is the horse that fills all the places where horses are needed in our industrial pursuits, and domestic necessities and enjoyments. He is, in short, the horse that is good for twenty years, and to get him breeders must aim at developing the whole horse, not any special feature.

Lime applied to soils greatly aids in the decomposition of organic matter, and in converting inorganic matter into forms in which they can be taken up by plants. Upon heavy clay soils it has a fine mellowing effect, the particles losing their adhesiveness, and being readily permeable by the tender rootlets of plants. It neutralizes the organic acids contained in what are called sour soils, and is especially active in liberating potash from its combinations.

The best time for cutting grass intended for fodder is doubtless the time of flowering. The saccharine juices that go to develop the seed are then in the stalk and leaves, and the grass mown in this stage is necessarily succulent and palatable. Whether it is cut high or low depends on the nature of the ground. As a rule, timothy should not be cut lower than three inches; if shaved close it is likely to be burnt up, and the roots destroyed by exposure to the sun.

In these days of the free us of Paris Green and other poisonous substances for the destruction of insect pests, care needs to be taken that wells or springs are not contaminated. A heavy rain shower following the application of these poisons may wash them into the water supply of the farm and result in the loss of human or animal life. There is the same risk in the use of commercial fertilizers, and one of our exchanges gives an account of the death of a young man from this cause.

A large business is done by farmers in the neighbourhood of Port Hope in growing peas for seed. That locality has been for several years the favoured one of seedsmen, and great care is taken to prepare the ground and cultivate the crop. But this year it is feared that the labour has been spent for naught. The heavy rains of June have done great injury, and it is doubtful if a quarter crop will be reaped. We hear of one farmer who has seventy acres under peas for seed, and it is almost completely ruined by the rains.

A careful study of the ensilge question shows that the earth pit is the poorest of all silos. The reason is, first, that fermentation is promoted by the air percolating through the earth and acting upon the fodder, and secondly, that the earth absorbes a considerable portion of its liquid substance. A silo constructed of planks is one of the best as well as the cheapest, especially if care be taken to protect the ensilage from frost. The only advantage of the stone silo is, that it is more likely than any other to be frost-proof.

A well known peach-grower in Michigan cuts off one-third of the new wood at the pruning season, and thins out nine-tenths of the young fruit. As a result, his crop is uniformely fine and his peaches are in demand at the highest price in the market. The most successful grape-growers are not less attentive to the thinning out process. One cluster on a shoot is the most they allow, and the best results are frequently obtained by thinning out the one cluster. Fruits and flowers are almost everywhere seen too crowded to thrive, or to fill themselves with flavour and fragrance.

Equal parts of June grass and red top will produce a very fine lawn, if the ground is in fit condition and suitable care is taken of the grass afterwards. The seed may be sown in April or the latter part of September, and that the roots may be properly strengthened the crop should not be cut oftener than twice the first year. The ground should be well trenched, enriched and graded before the seed is sown; if well watered and rolled and mowed, a good velvety sod is almost sure to form. But this requires time. To produce the beautiful lawns of England has been the work of generations.

The *Orillia Packet* says: Mr. Cuppage has given us a new experience, by presenting some specimens of apples whose period naturally ended with the termination of last year, or even sooner. The autumn apples are as good as they were six months ago, and Northern Spys are, now in June, perfect in appearance and flavour. They were pitted under ground and preserved or protected by a dead air chamber surmounting a layer of dead leaves. Piling in heaps and storing beets in the same pit, along with an immense snowdrift on the spot, caused a considerable per centage of loss, which probably might be avoided by some slight modifications and the exercise of more care.

Mr. Saunders, of London, the well-known entomologist, draws attention to the rapid increase of an insect injurious to maple trees. They prefer the soft or red maple, laying their eggs on the bark. The larvæ hatched out in a few days, penetrates the bark and feeds upon the sapwood, very much to the injury of the tree. Mr. Saunders recommends coating the trees immediately with a mixture of soap and a solution of washing soda or lye, made about the consistence of ordinary paint, and applying it with a brush from the base of the trees upwards to the first branches. The soap solution may be made either from soft or hard soap- if the latter it should be warmed so as to melt it, when it will be the more easily mixed with the solution of washing soda or lye. To prevent increase, the remedy should be applied at once.

FARM AND FIELD.

WORK FOR THE MONTH.

THE CORN CROP.

The corn crop is a very important one, in all sections of the country, and should have that careful and constant attention which its importance demands. Thorough cultivation has more to do with insuring large, paying crops of corn than any other one thing, and we know of many southern farms where the soil is anything but rich, which produce very good corn crops each year, without manuring, the secret being that the cultivators are kept running constantly the entire year, without which there would not be enough corn to pay for putting in the crop. From the time the crop is high enough to cultivate without endangering it being covered up with the soil, until it comes out in tassel, when the cultivation must be stopped until all the pollen has fallen, the soil must be constantly worked, not merely to keep down the weeds and grass, but to make the soil loose and mellow, thereby inducing a constant and vigorous growth. In the cultivation of the soil in the corn-field, the object should be to keep the surface as smooth or level as possible, and for this purpose only such cultivators as will leave the work in that shape should be used. There ar several which will do this, but we do not care, here, to name them, and, aside from this farmers have ideas of their own in regard to the desirability, gained from practical experience on their own farms, of the different makes and styles. To save time as well as worry and horse-flesh, always have the cultivator teeth sharp, and keep them so at all times, for once going over the ground with a sharp one will do more good than twice going over with a dull one. There are several kinds which can be sharpened on an ordinary gaindstone.

FODDER CORN.

While on the corn subject, it would be well to call the attention of our readers to fodder corn, and urge them to nave a good supply on hand. If the grass crop, either through having a poor season, or through having to use sod for other crops, is a short one, insufficient to carry all the stock through the winter properly, even with the supply of ordinary corn fodder made on the farm, the fodder corn comes in nicely. It is when properly cured, not merely very good for milch cows and for young cattle and for the smaller stock, but for horses, whether work or driving, it has no superior, and perhaps no equal. The majority of our southern farmers show how fully they believe this when they top and blade their corn in the field, using the blades, when properly cured for horse feed almost entirely.

It is surprizing what a large amount of fodder can be raised on a single acre, and those who do not know this would soon become converts to the system if they once tried it properly. It is utterly useless, however, to attempt to grow fodder corn on poor land. The land should not merely be very good land, but it should be heavily manured especially for the crop, stable or barnyard manure being the very best. The soil should be thoroughly plowed, and if it breaks up nicely with the plow, sow the corn immediately after, the two harrowings which the piece should have covering the corn at at about the right depth. The corn should be tarred and rolled in fine dry plaster to dry it, before sowing to prevent loss from birds, poultry, etc. Before the corn commences to shoot into top or tassel, it should be cut and thoroughly cured, when it should be stored in an airy barn or shed there to remain until wanted for feeding It is usually tied into convenient bundles for handling.

FALL POTATOES.

It is rather risky to plant potatoes after the latter part of June, yet we have seen, in favoured localities and when the season was a good one, very good crops of potatoes which had been planted as late as the beginning (the first week or ten days) of July. At all events, those who have not set out any late potatoes, for their own use, had better risk the chances, and at once set out a good-sized patch, doing it in the best possible manner so as to insure a rapid growth, which will go far towards insuring a good crop even when planted so late. No farm house is complete without a generous supply of white potatoes for winter use, and it will pay to take the risk of getting a good crop even when planted so late in the season as the early part of the month (July). There are several very fine late varieties, but as some are better suited to certain localities than are other sorts it the same list, we cannot say which would prove to be the best for each particular locality or soil. We would advise using from medium to large sized seed and cutting to two eyes, as we have, invariably, secured better results from such than from small or inferior sized seed.

CATERPILLARS.

From this time on until fall, when the trees have shed all their leaves, the caterpillars will be in "full bloom," and it is always advisable to "nip them in the bud," else they will destroy many trees, either partially or wholly, while they materially influence the fruit crop, frequently so entirely defoliating the trees as to effectually prevent the fruit from either growing or ripening. The very first bunch of "nests" which is seen must be destroyed at once, and so on to the end of the chapter. Where it can readily be done, and without endangering the shape of the tree, cut off the branch on which the caterpillers have spun their nests and burn the whole thing, insects and all. If this cannot be done, saturate a bunch of rags with coal oil (kerosene) tie to the end of a stick of suitable length, ignite the rags and apply the flame to the "nests," and those insects which are not burned to death will soon die from the serious effects of the singeing they are sure to get, as the "nests" as well as their (the caterpiller) hairy covevering are inflammable. A whole orchard can soon be gone over in that way and a vast amount of good done, in preventing the ravages as well at the increase of the troublesome insects which are now so common in nearly every orchard.

IMPLEMENTS.

Sometimes a cheap implement is found to be a very dear one, in the long run, and we have made it a rule never to buy any machine of implement merely because it was cheap in price. There is a large demand for cheap implements, and to supply this demand, manufacturers have used inferior material and inferior workmanship to accomplish it. As a natural consequence, the breakage soon makes such an implement much more costly and of decidedly less real, working value, than such implements which are made as good as they can be made and which naturally command higher prices

If more care was taken with implements and machines in generally, both in and out of use, they would do far better work while they were in use. Such small "leaks" as this, on the farm, are, however, but slightly regarded by farmers who do not realize what heavy aggregate losses are thus sustained. — *Western Ploughman.*

Grapes in plenty should be found on every farm Barn, sheds and other buildings will afford support for the vines. Plant some good sorts wherever there is a place.

THE SOIL AND FERTILITY.

The soil is not a sieve through which soluble matter may freely run. It has a great power of retaining substances that would otherwise run out and be lost. There is a great difference in soils in this respect, the retentive power depending upon a number of things. The action is probably largely a surface one, and, therefore, we should expect a fine soil would retain solutions much better than coarse soils. Thus a fine clay the particles of which are very minute has the ability to hold salts of nitrogen, etc., with much greater success than a sandy soil, where the particles are much larger. The clay soil is called *heavy*, and the sandy one *light*, when, in fact, a cubic foot of sand weighs many pounds more than an equal bulk of the clay. The terms, light and heavy, are used to denote the degree of adhesiveness and not of weight.

The power of a soil to retain moisture, etc., is in direct ratio to the quantity of organic matter present, as well as the fineness of the soil particles.

Stiff clays, that take up the greatest quantity of water when poured upon them, are not the ones that absorb the most moisture from the atmosphere in dry weather, because they cake and become as one piece and even crack into large blocks.

The best soil for a drouth is one that has such a mixture of clay and sand with a good supply of vegetable matter that it remains loose and freely admits the air. This helps to explain how it benefits hoed crops to stir the soil during a dry time. The crust is broken and the particles are loosened up, and the atmosphere which is more or less moisture ladened is given a free access to the soil. Carbonate of lime helps in giving an absorbing power to a soil and a tenacity at the same time.

An English writer says that the materials which are most influential in soils may be arranged in the following order of their importance in relation to moisture—organic matter, marls, clays, loams and sand.

The temperature of the soil is an important item, and depends largely upon the amount of moisture present. A wet soil is a cold soil, and is often spoken of as such. Dry land absorbs heat more rapidly and looses it more slowly than that which is wet. Draining is one of the most effectual means of raising the temperature of a soil. Experiments show that the average temperature of a drained soil is three degrees higher than that of the same quality of soil undrained. The importance of a warm soil is of the greatest importance in the spring, when seeds are germinating and plants are starting out for another season of growth. There are many seeds especially those of the tender vegetables that will not germinate until the temperature reaches a certain height, and with such plants the season is short, and a week or ten days delay, in late spring, may mean a loss on the crops, while if the soil had been warmed by thorough under-draining the profits might have been larger.

The temperature is influenced by the colour; thus a dark soil absorbs much more heat than a light one. This fact is of so much importance that in some of the vineyards in France charcoal is spread over the surface to absorb the heat in early spring and thus warm up the soil below and give the vines an early start.

The leading essentials of plant food have been treated so frequently in the agricultural journals that they are getting fairly familiar to the farmers. The question of fertility and the methods of exhausting and restoring it are also somewhat understood by the least informed. It is only a small part of the weight of a crop that is derived

from the soil, but that part is very essential and if the soil contains only enough potash, phosphoric acid and nitrogen for a few crops, these essentials are soon exhausted and must be supplied if the fertility is to be kept up. Fertility, in brief, is plant food, so conditioned that it can be taken up and used to good advantage by a growing crop.

The methods of restoring fertility to worn out soils are various, but the end is the same. If the food elements are present, but in an unavailable form, tillage may be all that is necessary. The soil is stirred and left exposed to the action of chemical forces through the year, and in this way potash, phosphoric acid and nitrogen are liberated from their insoluble compounds and become available. This is the action of summer fallow and the "watering" processes of the winter snow. Other methods are green manuring, the application of barnyard manure and commercial fertilizer. Of these something may be said at another time.

The farmer cannot become too familar with his soil. Let him know it so well that he will have no dread of the earth when his life shall end. Study the acres more than surface deep. Who shall find out how far below the sod the wise farmers gets some of his wealth?—*Farmers' Review.*

NEATNESS ON THE FARM.

Intelligent observers have generally noted the fact that in every rural neighbourhood the prosperous farmers are almost invariably those who keep their buildings painted, fences in good repair, and their fields free from stones, weeds and rubbish. Of course, it may be said that men who have plenty of money can afford to spend it for keeping up appearances. But this is evidently not the full explanation of this coincidence of facts. Men who make money, especially in farming, are least inclined to pay it out merely for show. It may be safely put down as a general rule that the work performed by most thrifty farmers is in the direction of profit; hence, as neatness commonly goes with thrift, it is quite as likely to be one of its causes as one of its effects. There are exceptions to this rule, as to all others. Some farmers accumulate money still more rapidly, not by increasing their income, but by a system of grinding parsimony, by robbing themselves and cheating their families to put dollars in their purse. These are not examples to be imitated. The aim of most reasonable men is not only to make money, but in the mean time to live in a reasonable and comfortable manner. To accomplish these objects it is not difficult to prove that neatness is essential.—*American Cultivator.*

GRAZING AND SOILING.

If cows must graze, they should have pastures on which the feed is plenty, and accessible with the least possible amount of labor. But it is not profitable to have cows subsist entirely by grazing especially where land has much value, because it requires so great an area to support them. There is no way in which ground yields so little food as in pasturing. The surface may be covered over so thickly with grass, yet produce but little food, because the growth is so frequently interrupted and put back by the injury done by the constant cropping. As much food will grow on one acre, where it is fallowed to grow without molestation, as will grow on three acres when mutilated by being bitten off every few days, the circumstances being in other respects the same. The costliness of the grazing system was well illustrated by the statement of a practical farmer recently in a farmers' club. He said when he began farming, a few years ago, on 100 acres, he cultivated forty acres, and had sixty acres in meadow and pasture, and found it difficult to keep stock equal to twelve cows. He has now adopted the plan of cultivating and gathering the food for his flock, and, as a consequence, has reduced his grass land to thirty acres, and finds no difficulty in keeping the equivalent of thirty-six cows, and has seventy acres of land to cultivate, instead of forty.—*National Live Stock Journal, Chicago.*

HAY HARVEST

Harvesting hay requires keen judgment on the part of the farmer, not that the process is a difficult one, but that the art of properly *curing* hay is not fully understood by all. It is necessary to use the air as well as the sun to cure it to perfection. The simple fact that grass is dried does not signify that it has been cured, for the quality of the hay is increased or lessened according to the method in use during mowing. How often do we notice the mower passed over the field, and the hay left where it was thrown for two or three days at a time, being "cocked" in order to avoid rain only when the matter was compulsory, and the degree of carelessness on the part of hay-makers in harvesting is carried to an extreme. To cure hay as it should be is to merely preserve the juices or nutritive properties, and it is important to dry it in the shade if it could be done, but as farmers cannot be expected to do that with their hay crops they should do the next best thing, which is to keep it well shaken as much as possible, and leave it in the field for as short a time as will be sufficient to render it fit for storage. As soon as it is finished place it in the barn without delay, for rain is very injurious to hay, whether in "cocks" or spread out in the field. If it gets wet it may be dried again, but only at a loss of quality. In curing hay, therefore, do it quickly, keep it in motion with a tedder, store it early, and do not allow it to be fed without passing through a cutter.

CURING CLOVER HAY.

There are two extremes, says the *Country Gentleman*, to be avoided—drying rapidly and too long in the sun, and attempting to cure wholly in the shade. It should be cut while dry and free from dew, and exposed to the sun long enough to dry it partly. Then place it in small "cocks," when some additional drying will take place, and it becomes fit for the barn or stack. Some experience and judgment are required to know just how dry it must be to keep without heating or moulding. If made too dry it loses part of its value. The relative amount of drying in the sun and in shade will vary with weather, ripeness, and other influences, but as an average about two-thirds of the drying should be performed in the sun, and one-third in the shade, although practical men differ on this point.

The cottagers of Europe have a rather primitive way of using the slops of their houses. If their ground slopes at all to their gardens they have a channel cut through rows of currant or gooseberry bushes and pie-plant. Into these shallow ditches they pour all their slops, and it is no great exaggeration to say that rhubarb stems are common from four to seven pounds weight without the leaves, and currants grow very large.

The *Rural Home* says that no grass alone makes the best pasture, but a combination of varieties. A greater weight of nutritious pasture can be grown on a limited area of land, by sowing several species from any single variety. It would seem as if different species, feeding on the same soil take up various ingredients in different proportions, hence it is considered expedient to sow several of the species adapted to the particular soil.

HINTS FOR THE HOUSEHOLD.

Strawberry Jam.—Cap the berries and mash them completely, weigh them and to every pound of berries take one of white sugar, mix together thoroughly, and boil for twenty or thirty minutes.

Strawberry Cream.—Cap one quart of ripe strawberries and sprinkle them with half a pound of pulverized sugar and set them aside for an hour or two, then stir them into two quarts of sweetened cream, beat all well together, put in a freezer and freeze.

Strawberry Float.—Cap and sugar one pint of berries and set them aside for one hour, then mash them through a colander; beat the whites of six eggs to a stiff froth and stir in the berries, whip all until the spoon will stand erect in them, serve with rich cream.

Buns.—Mix two quarts of water and a pint of yeast into a soft batter and let it rise near the stove; beat together two pounds of sugar, and a pound and a half of butter and add to the dough, together with six beaten eggs; stir in flour enough to stiffen the dough, and bake quickly.

Strawberry Shortcake.—One quart of sour cream, full half teaspoon of soda, flour to make a soft dough: roll it about an inch thick, bake on pie pans in a quick oven; when done split them open; butter each piece and cover with berries and sugar; they may be piled one on top the other or not, just as you like. Serve with cream.

Strawberry Jelly.—Mash the berries and extract the juice; strain through a flannel jelly bag; to each pint of juice take one pound of crushed sugar; put all in the kettle together and boil for fifteen or twenty minutes; put it in the glasses before it is cold and let it set until the next day; then cover with brandied paper and tie closely.

To Can Strawberries.—Take the largest and finest berries, cap them, and to each pound of berries take quarter pound of white sugar. Strew the sugar over the berries and let them stand for three or four hours, then put them in a preserving kettle, and just as soon as they come to a boil and are heated thoroughly, put them in the tin cans, having first heated the cans in boiling water; seal immediately. It takes two boxes of berries for one can.

Strawberry Cake.—Five eggs, three cups of sugar, one of butter, one of milk, four of flour, two teaspoonfuls of yeast powder, beat the eggs separate, cream the sugar and butter, add other ingredients, stirring in the whites of the eggs last. Bake on jelly pans as for jelly cake. Cap and split in half two boxes of large strawberries; spread each layer of cake with them and sprinkle with pulverized sugar, place them layer upon layer. Serve with or without cream.

Strawberry Preserves.—Take the finest berries, cap and weigh them, allowing one pound of white sugar to every pound of berries. Take the inferior berries, crush and squeeze them, and strain through a jelly bag, to each pint of juice allow one pound of white sugar, put all the sugar in a preserving kettle and pour the juice over it; boil and skim, then drop the berries in and boil till soft, lift them carefully out on a dish and let them cool, continue to boil the syrup for ten minutes, put the berries in again and boil until clear, take them out and boil the syrup five or ten minutes longer, then put the fruit in jars and pour the syrup over them.

GARDEN AND ORCHARD.

A GARDEN'S FRUIT.

BY ANNIE L. JACK.

It is midsummer. The early fruits have bloomed and fruited, Strawberries for one month delighted the palate and the senses, yes, and I may add the purse, for we sold a number of quarts from our small patch. Some new kinds, Cumberland Triumph, Bidwell, and Sharpless have been quite a revelation—the latter for size, the two former for quality. "Give me those that are pink all through," said a little girl in searching for the gleanings of the "Cumberlands." Now the ground has been thoroughly cleaned, and it will be a question whether we will let the runners make plants, that can be readily sold next spring, or sacrifice the plants for next year's crop of fruit. At any rate they must now be kept clean, and well fed with fertilizers if we would have them sustain their reputation.

Raspberries are in full fruiting. The "Clarke" leads the van with us. It is a favourite name, in our household at any rate, representing therein four different families who are friends of ours. But apart from this it is a fine berry. We find the "Philadelphia" small but early. "Pride of the Hudson" of little value. "Cuthbert," the largest of all, will market well; but to Herman's taste, which is epicurean in fruit, it has a sweetness that cloys and lacks the acid so necessary among the sweets. "Brinkle's Orange" is an old favourite, rather tender but well repays a little care. The raspberries we mulch with buckwheat straw, it keeps down weeds, and tends to make the ground moist.

Who likes the gooseberry? It is an uncertain fellow, and no one knows when it will go under the weather by mildew. Except the smaller Houghton we cannot be sure of gooseberries. The currant-worm is so bad and requires so much hellebore; the thorns are so sharp, making it difficult to pick the fruit till really I do not know whether the gooseberry "play is worth the candle." But it makes a nice preserve. Herman is very fond of it so we persevere, though our new kind, "Smith's Improved," has been badly winter killed.

Then as to black currants, I wish some one would invent a large "cherry" black—ours are so small. There seems to be less improvement in this than in any other fruit. Yet how grateful is the jelly in sickness, and what toothsome dumplings are made of the jam in midwinter, when nothing is left to us but the last summer fruits.

The "Seckel" is nearly yellow with its small juicy fruit, which will soon be ripe. No other pear has the same flavour. But the tree is a slow grower in this climate, and we have to wait for fruiting, long enough to try the best of patience, but it pays. And really in these days of the caterpillar, the codling moth and the canker worm, it is wonderful to see even such good results for every fruit has its own special enemies. I don't think you and I, Herman, could attend to them if the children were less vigilant. Their sharp eyes detect a beetle, a butterfly, or a moth in every stage of growth, and help us to gather, as well as to eat our garden's fruit.

CARE OF TREES IN SUMMER.

Very few of our farm orchards receive proper care through the busy summer months, and many of them no care whatever, except the picking of whatever fruit they may yield.

The first summer after setting out is fully as trying to the young trees as the first winter. In fact their preservation [illegible] depends much upon the care they have received during the summer. When every condition is favourable to rapid growth, the young tree is liable to send up a rank growth of tender shoots, which are much more likely to be killed than a hardy, natural growth. They should not be too heavily manured and cultivated the first season or two after setting out.

The inexperienced are fully as likely to overdo the matter as they are to neglect them. After the trees have sent their roots well down into the unenriched soil below, they will, themselves regulate their growth, and the grower need have no fear of overfeeding them. But while the roots are feeding upon a highly enriched surface alone, there is certainly much danger of their throwing out a growth which cannot withstand our cold winters. This is the case particularly in a moist season.

If the season be a dry one, they are very likely to suffer from the other extreme. The roots will then be slow in getting a hold, while the tops, owing to the dry, hot atmosphere, require more in the way of nourishment than the roots are able to supply. Such trees are certainly ill prepared to face a long, hard winter.

They should always be protected by generous and constant mulching. Should the first application become dried out, blown, or scratched away, it should be replaced with fresh. I have often found it necessary and profitable to protect the trunks, by winding with some coarse material, such as sacking, or even hay, if nothing better is at hand.

Another frequent cause of young trees failing to take root, is that they are wrenched about by the wind, which will keep the tiny rootlets from securing a firm hold, and the motion of the trunk in swaying back and forth forms a sort of bowl around the lower part of the stem, causing the roots to dry out more or less. For these reasons it will be found profitable to provide stakes for young trees the first year at least. There should be two for each tree—one on each side—both coming near to the trunk at the top, and a soft cord passed around them both, enclosing the tree so that it will have a little latitude but still not enough to disturb the root.

As our trees get older we are too apt to overlook the necessity of mulching, and the result is that they are either sod bound or cultivated to the detriment of the roots. We should, I think, endeavour to imitate nature in this respect. In their natural wild state we find them well mulched with leaf-mould, and flourishing best where the soil has never been stirred by the hand of man.

A tree cannot be cultivated without disturbing the roots more or less. And if these roots are disturbed to any great extent, they are going to attempt self-protection by penetrating down into the lower soil out of the reach of the plough or hoe. This cold, sour soil is late and slow to start, and gives but a sickly growth at best. Consequently the fruit from trees so treated is late and small, as we have often observed in orchards that have been cultivated.

Thorough mulching at all seasons is the most essential point in the management of orchards, either old or young.—*Farm and Garden.*

CUCUMBERS FOR PICKLING.

Pickles grow well upon almost any land that is in good heart, they like a freshly ploughed sod and land that is a little moist or damp, but not wet. Fresh horse manure suits them as well as any dressing, but it must be well mixed with the soil. The seed may be put in June 20 to July 4 in rows five or six feet apart. Those planted at the earlier date usually bear the heavier crop, but it is not always convenient to get them in early. They are frequently grown as second crop after peas or early cut grass, and are a very handy drop for breaking up ground. Flat turnips may be sown among them at the last hoeing, and make a fair crop after the frost has killed the vines.

The pickles are preserved for winter and spring sale by salting. Molasses hogsheads answer very well for one year, but the wooden hoops soon break. Linseed-oil casks are better, but more expensive, and I know one large establishment where the pickles are all salted in cisterns underground, built of brick and cement. The brine for salting pickles must be strong enough to float a potato; if a little stronger it will do no harm, but if too strong it will wilt the pickles and injure them. They must be kept carefully under the brine, and the brine should be drawn off and poured over them two or three times within the first week after they are salted, otherwise they get too fresh on top and spoil. The brine will ferment slightly, but this does no harm. Watch them often to make sure the brine covers them all, and keep a little salt on the cover for the first week. Peppers, beans, cauliflowers, etc., are salted in the same manner for mixed pickles.

When wanted for sale, the pickles are scooped out of the brine with a fisherman's common dip net placed in fresh water, which must be changed two or three times a day until the pickles are quite fresh. If a stream of water can be made to flow through them all the better. When quite fresh they are taken out of the water and placed directly in vinegar which may be spiced with pickled peppers, or with West India peppers, or allspice, or with anything else the trade demands. With vinegar at fifteen cents per gallon you ought to be able to make pickles at a profit. The white wine or whisky vinegar mostly used for the purpose costs about twenty to twenty-five cents per gallon.

It was formerly the custom to scald pickles in a copper boiler in order to give them the green colour of verdigris from the kettle. This custom has gone quite out of fashion of late, and the demand is now almost entirely for the so-called English pickles, prepared as above described, and having a dirty, yellowish-green colour. Pickles are at best rather indigestible; the copper certainly does not make them less so, though it probably does not make them poisonous—at least, I never heard of a case of copper poisoning from eating pickles, and the amount of copper absorbed is extremely small.—*Agriculturist.*

A NEW METHOD TO DESTROY INSECTS.

Prof. A. J. Cook, of the New Jersey Agricultural College, writes to the *American Agriculturist*:—"The past season I have tried a new remedy with gratifying success. This consists of a preparation of carbolic acid. The material which I used was prepared as follows:—Two quarts of common soft soap were added to one gallon of water, and all settled until it commenced to boil, when it was removed from the stove, and while yet hot one pint of crude carbolic acid was added, and all thoroughly mixed. This was then set away in a close vessel, and was ready for use as occasion might require. To repel the insects in question, one part of this mixture was added to from fifty to one hundred parts of water, and the new mixture was sprinkled on the plants as soon as they were up, and after that once every week. The same preparation will serve to repel the cabbage-fly. But for the latter my experiment goes to show that bisulphide of carbon is cheap, efficient, and does not simply drive the fly away, but destroys the maggot. As he who fights and runs away may live to fight another day, the bisulphide of carbon remedy is, I think, to be pre-

ferred to the carbolic acid mixture for use against the cabbage maggot. We sprinkled the carbolic acid preparation directly upon the radish plants without injury to the latter, and if it is found to injure the plants from too great strength, it will serve as well to turn it in a trench made close along beside the rows of plants. The peculiar odour of the acid, which repels the flies as they come to deposit their eggs, so far escapes that it is necessary to apply the liquid as often as once a week to ensure perfect success. Caution is required also that the preparation is not so strong as to injure the plants when placed immediately upon them. From one season's trial I can strongly recommend the above application."

PICKING APPLES.

The proper picking and packing of apples is of great importance. The best keeping sorts will not be preserved well unless the fruit is uninjured in gathering, and packed securely. The most approved method of picking is by hand, with ladders, the fruit being put into a grain sack. The bottom and top of the sack are brought together and tied and then hung upon the shoulder. A short stick may be used to keep the mouth of the sack open. The sack is quickly and easily emptied by lowering the mouth end and lifting upon the bottom. The sack can be lowered into the barrel and the apples will run out without being bruised as when they are poured in from a basket from the top. Many apple growers prefer to put the fruit in heaps for a few days that the skin may toughen before barrelling. In short, the aim in picking should be to not bruise the fruit, and in this way enhance its keeping quality. The fruit should not move about in the barrels during shipment, and to this end the apples must be shaken down when the barrel is half full and again when full, after which the head is put on and pressed into place with considerable force. It is much better to have the upper apples somewhat flattened than to leave the fruit so it will stir in the package. The opposite head should be marked as the one to be opened. The mistake is sometimes made of not sorting the fruit. Make at least two qualities or grades, and mark each package with its grade. This will secure uniformity in the fruit in each barrel, and a better price. There is much to be gained in the way of a reputation for careful picking, honest assorting and the proper packing of all kinds of fruit.—*American Agriculturist.*

CHERRY BLIGHT AND PEACH BORER.

Mr. Normand Smith writes from Virginia of a discouraging trial of Bigarreau and Heart cherries. "They live," he says, "from five to ten years, and then die." He remarks further: "A nurseryman tells me they were grafted on Mahaleb stock, 'a short-lived tree,' and that if grafted on cherry stock they would probably be more enduring. What is the trouble? It is a general complaint here, and an examination of the trees reveals no cause. Morello cherries we have no difficulty with, and they are grown on their own roots. Also have been experimenting with plum, and when one is found that partially resists curculio (Wild Goose), I find it grafted on peach stock, and very much infested with peach borer."

I can only say, in comment, that cherries of late do not thrive so well as years ago in many districts. A disease in the form of a blight in a few years after planting appears to attack the young tree and soon causes its death. Especially is this the case in low moist grounds or in very rich, highly cultivated locations. The Morellos as a class seem to be pretty much exempt, and can be grown when the sweet cherries prove failures. This is poor encouragement for planters, but it acts on the principle that "half a loaf is better than no bread." Some complaint has been made against the Mahaleb as a stock; but on the other hand, it does as well as the Mazzard in many localities. The peach root is always liable to attacks of the "borer," no matter whether the top is peach, plum, or apricot. Orchardists, however, who systematically examine their trees annually, have little to fear from their depredations. —*Josiah Hooper, in Tribune.*

ROOT PRUNING FOR BLOSSOMS.

Experiments in root pruning were made on the apple and pear. A vigorous apple tree, eight or ten years old, which had scarcely made any fruit buds, has done best, when about half the roots were cut in one season, and half three years later, going half way round on opposite sides in one year and finishing at the next pruning, working two feet underneath to sever downward roots. It has always answered well also to cut from such trees all the larger and longer roots about two and a half feet from the stem, leaving the smaller and weaker ones longer and going half way round, as already stated. The operation was repeated three or four years later by extending the cut circle a foot or two further away from the tree. By this operation unproductive fruit trees become thickly studded with fruit spurs and afterward bore profusely. The shortening of the roots has been continued in these experiments for twenty years with much success, the circle of the roots remaining greatly circumscribed. The best time for the work has been found to be in the latter part of August and the beginning of September, when growth has nearly ceased and while the leaves are yet on the trees.—*London Garden.*

GERANIUMS.

Geraniums will bloom well in winter under the following treatment:—About the middle of May procure young plants of the varieties you wish. Put them in four-inch pots during the four subsequent months. Use well decayed sod, adding about one-third cow manure. Mix thoroughly together, but do not make too fine, as the geranium delights in rather a coarse compost. Place the young plants in a shady situation, first putting about four inches of ashes under the pots. Their growth at this time should not be encouraged, and should any flowers appear they should be pinched off, as also the leading shoots, that the plants may be kept in proper shape. Toward the end of September, re-pot the geraniums in six-inch pots in the compost described above, and they will commence growing freely. About the middle of October they should be placed in such winter quarters as will afford abundant sun and light.

WATER TREATMENT FOR CALLA LILIES.

I have adopted water treatment of calla lilies in summer, as recommended in the *Tribune*. The easiest way is to plant the roots very shallow in a large flowerpot, or in two pots if there are several, having first stopped the drainage with a cork, and then fill up and keep full of water and exposed to the sun. There should be enough soil to hold the roots in place. Replant the 1st of September, all in one pot, in rich soil. Thus treated, mine commenced flowering in October, and have done well through the winter, giving me once three flowers at one time.

Layering consists simply in bending down a branch and keeping it in contact with or buried to a small depth in the soil, until roots are formed. The connection with the parent plant may then be severed. Many plants can be far more easily propagated thus than by cuttings.

CREAM.

He was fond of singing revival hymns, and his wife named the baby Fort, so that he would want to hold it.

In one of the labour organs a manufacturer advertises for "quick cravat hands, who can make *ten sailors' knots* an hour."

Clara asks. "What disease is most frequently transmitted by kissing?" A wise editor replies: "Palpitation of the heart, we believe."

A North Carolina trout dragged a boy under water. The man who saw the catastrophe shows the rescued boy and the water in evidence.

A young lady who attempted to read through a text-book on moral science, wrote the following on the fly-leaf:—

If there should be another flood,
For refuge hither fly;
Though all the world should be submerged,
This book would still be dry.

A Pint of whiskey put in a fruit cake will keep it for six months, and the same amount put in a man will keep him down town till two in the morning.

Isn't a woman wet enough with a cataract in her eye, a waterfall on her head, a creek in her back, forty springs in her skirt, high tied shoes and a notion in her head?

A snow-white hen in Arkansas hatched out five black chickens and killed every one of them as they left the shell. She didn't want the other hens to eye her suspiciously and talk about her. —*Duluth Tribune.*

A young lover in Iowa paid $40 for a locomotive to run him thirty-five miles to see his girl, and when he got there the family bull-dog ran him two miles and didn't charge him a cent. Corporations have no souls.

Teacher: "Why, how stupid you are to be sure! Can't multiply 88 by 24. I'm sure that Charles can do it in less than no time." Pupil: "I shouldn't be surprised. They say that fools multiply very rapidly now-a-days."

A boy was making a great racket on his drum in front of a house in Somerville. "Little boy," said a lady, "you musn't drum here; there is a lady sick in this house." "Well, I don't know where I am going to drum, then; there's one dead in our house," was the mournful reply.

A leading tobacco journal says. "If you would keep tobacco worms away raise tobacco among the cabbages." That is probably the reason the cabbage crop, for making "two for a nickle" cigars to supply the dudes, always pans out so well, and the cheap cigar crop is always good. A little tobacco is planted among the cabbages just to give it a flavour.

Mrs. Partington says she can't understand these 'ere market reports. She can understand how cheese can be lively and pork can be active and feathers drooping—that is, if it's raining; but how whiskey can be steady or hops quiet or spirits dull, she can't see; neither how lard can be firm in warm weather, nor iron unsettled, nor potatoes depressed, nor flour rising—lest there had been yeast put in it—sometimes it would not rise then.

"Father," said the young man, as he leaned on his hoe, "they say the balance of trade is agin us." "They do, eh?" "And that our bank reserves are rapidly diminishing." "Du tell!" "And that railroad extension has come to a halt." "Well, I declar'!" "And that the volume of securities is substantially without a market." "Great shakes! Well, I never. And do they say anything about a feller stopping to lean on his hoe to talk when he might just as well talk and hoe too?" Reuben resumed.

HORSES AND CATTLE.

THE HORSES MOUTH.

HOW COLTS SHOULD BE BITTED AND BROKEN—AN EVIL THAT NEEDS REMEDY.

Allow a word of caution and exhortation to the men who "break colts." It is the custom, usually, among farmers to put the colt in beside an old steady horse at the waggon or sled, and then pass him on from the waggon to the plough, then to the harrow and roller or drag, and by the time the crop is in the "colt is broken," or dragged down.

But he may get up again to good flesh, the chafing and shoulder scars may all hair over, and the colt appear all right by the next spring Yet there is one damage done to that colt from which he will never recover if he has been driven on the same side all this time with double lines

The majority of farmers and hired men put the colt on the off side and keep him there through the season or until some change occurs, when he is compelled to work elsewhere Of course the colt's mouth got sore, and, of course, it was sorest on the left side, because the direct pressure or bearing of the line was constant and heavier on that side.

The inner check had part of the force of the driver's pull taken from the horse's mouth by the ring on the inside of the hame, and the direction of pressure on the mouth was not backward so much as obliquely, or toward the ring in the other horse's hame. The wider the horses were spread apart the more unequal the pressure on the inner and outer sides of the colt's mouth. And when the stiff-tongued waggons are used, it is the style for the teamster to have horses spread as far apart as checks will allow. If one horse is headed to the north west the other is headed to the south-west, or at about such angles of divergence.

All this causes an unequal pull or wear on the sides of the horse's mouth. By the time a colt has been worked a few weeks on the off side in the waggon so rigged he is forever unfit for a single driver. His mouth will be one-sided or unevenly developed. If he be a colt of a fine, delicate touch, not a hard-mouthed lugger, all the greater damage has been done to the mouth. I have seen horses that had long been used in a double team on the same side that, when driven single, needed constant and hard pulling on one side a pull that equalled that they were accustomed to in the double team.

One side of the mouth is less sensitive in such cases, because of the unequal callousing by the bit. Of course such a horse cannot be a first-class single driver. But we farmers use for our single drivers some one of the horses from the waggon or plough. The single driving is done for pleasure—generally when we take a visit, go to church or to the village—and the horse that is of high spirit and free movement is the one to go. He is also the one that in the double team has to be held back a little stronger than his more sluggish mate, and, as a consequence, his mouth is more unevenly developed. He was generally used on the off side, too, and when driving singly the driver must pull hard with right and easy with left line.

As long as men persist in breaking colts beside the old, slow horse in the farm waggon, with a stiff tongue, we may expect to find few good single drivers among such colts, unless they are careful to change the colt from the off to near side each week during the first spring's work, and not work him longer than one week at a time on the same side.

By this method of changing weekly or oftener we may save the mouths, or rather have them evenly balanced, because equally calloused

Much might be added in favour of milder bits and gentle handling of the lines, so as to preserve the horse's mouth from the dulling influence of heavy handling. The colt or horse that has been properly handled yields to the gentlest motion of the hand; but, alas! we find too many heavy-handed drivers that haul and pull away at the horse's mouth as heavily as if they were towing a canal boat. Such men ought to be condemned to driving mules, or, better yet, to towing rafts. —*Farmer B., in Breeders' Gazette.*

MILKING YOUNG HEIFERS.

HOW "KICKERS" ARE DEVELOPED.

I wonder how many farmers and dairymen properly appreciate the importance of training young heifers to stand quietly while being milked. A great many milkers approach a young heifer that is to be milked for the first time just as they would approach an old one. The heifer has never been milked, knows nothing about it, is sick and weak, and perhaps frightened, with teats that lack the toughness of the teats of old cows, and, as far as the heifer herself is concerned, needs but slight assistance to become a kicker. A hired man who has judgment enough to milk a heifer the first week, in the condition that young heifers are in during this time, and learn her to stand quietly and give down her milk freely, is a jewel indeed. A great many milkers depend too much upon intimidating cows. If a cow does not stand quietly, she is to be whipped; if she kicks she is to be kicked in return; if she switches the milker across the face the milker in many cases must needs lose his temper, and at the same time his common sense, and punish the cow with the milk stool. Heifers, while being learned to milk, have frequently acquired serious vices of temper that have detracted greatly from their value for dairy purposes. Habits of restlessness, of switching not alone confined to fly-time, of moving from side to side or away from the milker, and even confirmed habits of kicking—nearly all these habits of cows are due directly to the education of the heifer. A soothing touch and tone of voice and the confidence of the animal will go a great way in milking a heifer the first time. Great patience is also required, even if it takes two or three times as long to milk the heifer as it might to milk a cow. If the teats are inclined to be sore or too sensitive, it is well to wet them with some of the last milk drawn; such treatment will cause them to keep soft and pliable, and to heal rapidly. But we have cows that have already learned to kick, and some that seem to kick without having learned it. Some cattle are often so vicious that it is quite dangerous to milk them without assistance. In an ordinary case it will suffice to have some one card or brush the cow while being milked. Again, when all other resorts fail, and not until then, there are ways of compelling the cow to stand while being milked. All of these methods compel submission through pain and by means of restraining the cow so that she is deprived in a measure of her liberty. It is unadvisable to attempt any of these methods while any other source promises success, for then it becomes a fight between the cow and the man, which should be avoided. I have in some cases found it a good plan to tie a rope quite tight around the cow's body just in front of her udder. Whenever this plan works satisfactorily, it is probably due to the fact that the cow cannot make the exertion necessary to kicking without tightening the rope. This is a method that is painful to the cow, and restrains a kicker without effecting a cure. Other methods of dealing with kickers consist in tying up a fore leg or tying together the two hind legs. All these methods of tying are effective in restraining for the time being, and often of doubtful utility in effecting any permanent cure. No other work upon the farm requires the same judgment and good sense as does the task of dealing with kicking milch cows.—*F. K. Moreland, in Breeders' Gazette.*

THE CARE OF THE STABLE.

1. Let your stable be well drained and sufficiently lighted. The vapours from a damp, putrid floor, and the sudden change from darkness to light will almost certainly cause blindess.

2. Let the floor of the stalls be quite flat and level. Standing on a sloping place is very painful, and causes lameness by straining the ligaments and membranes. It also produces grease and sore heels.

3 Every stall should be at least six feet wide and nine feet long. This would enable the horse to turn around without bruising himself, and to lie down and stretch himself with comfort.

4. Let the stalls be separated by partitions, not by bars. They prevent the horses from fighting and kicking each other.

5 Let proper openings be made just under the ceiling to permit the hot, foul air to escape, and proper openings at the bottom of the wall to admit fresh air. Impure and confined air will cause broken wind.

6. The fresh air should enter through a number of small holes, rather than a large hole, such as an open window. That prevents draught, which gives chills and cough.

7. The temperature of a stable should be that of a sitting-room or a parlour; not over seventy degrees in summer, not under forty-five in winter. Hot, close, or foul stables will bring on glanders or inflammation, while a very cold or damp one may cause an incurable cough or disease of the lungs.

8. Do not keep the hay over the manger. The steam and breath of the animal make it both unpleasant and unwholesome. If the hay must be kept over the horse the ceiling should be of plaster. This will prevent the vapours from passing up to the food.

9. Have no opening into the manger from the hay-loft. Dust is very often thrown into the horse's eyes when fed in this way, and thus blindness is begun. The breath ascends directly to the food through the opening, which at the same time pours a continual draught down on the horse s head, thus causing chills as well as bad food.—"*Stable Hints.*"

STARTING A PURE-BRED HERD OR FLOCK.

As we have often stated, the cheapest and quickest way in which a farmer of limited means can secure a supply of improved stock is to persistently use well-bred males on the best females of common cross-bred stock he can afford to purchase. The cost of a herd or flock of the more popular breeds is so much that the average farmer cannot afford to purchase such. It is fortunate that high grades—animals of seven-eighths or more "blood"—are often nearly or quite as good for all practical purposes as those technically pure bred. This being true, there is little room for arguing that a farmer may not secure good stock. The use of well-bred males for a few years will give him good judgment in selection and give his stock good care.

But a herd or flock of pure-bred animals may be built up much sooner than is usually thought, given only a very small foundation. Of course there is an element of uncertainty in all breeding. A mare, cow, ewe, or sow may fail to breed, or may persistently produce male offspring; but, with the average results, the progeny of even one female will soon become a large number. Surely

there is no good reason why a farmer may not have a herd of pure-bred hogs if he wish. Let him purchase a sow in pig now, and by the autumn of 1884 he may have as many young brood sows as most farmers care for. In five years the progeny of one sow may become a good-sized flock.

With larger animals the rate of increase is slower; but from a cow in calf, purchased this spring, there may readily grow a herd of twenty females, old and young, in ten years. A good brood mare, in like time, may be the ancestor of at least all the horse stock needed on the average-sized farm.

This is not "mere theory." There are now large herds of fine stock entirely descended from one, two, or three cows purchased not many years ago. Probably many readers will recall cases where a brood mare belonging to a neighbouring farmer "has made him as much money as all the rest of his farming," to quote a saying we have frequently heard.

To a young man ten or fifteen years seems a long time, and many of them neglect efforts to improve their stock because the process seems a slow one. We are labouring to hasten the time when "improved stock" shall be "common." The number of farmers who see that it pays them to use nothing but well-bred males is rapidly increasing. A large percentage of this number can well afford, and would find it to their profit, to also purchase at least a few well-bred females. —*Breeders' Gazette.*

SUGGESTIVE TO BREEDERS.

In this country the very general habit among farmers has been to so manage as to have cows drop their calves, mares their foals, and sows and sheep their young in the springtime, after the warm and bright days have brought forth the fresh and juicy grass to feed the dam, and later to tempt the young things to eat. This plan may be the best, in fact the only plan which the farmers in new districts can profitably follow. The difficulty those living in such place or condition that they cannot afford proper housing for their animals have to meet is so great that they cannot reasonably hope to profitably raise young animals born in winter.

But there are some reasons for managing so that the domestic animals may drop their young in the cold weather of autumn, winter, or early spring. If they are born in autumn their dams have the benefit of grass, free exercise, and water in the pasture; the young animal has the benefit of a free supply of milk and is tempted to eat of the grass which may still be green and succulent, and neither are annoyed by flies. With comfortable stables in which to spend the cold days and nights of winter, the young animal, supported by the milk of its dam or fed careful y and liberally, will have a ready appetite and will grow continuously. When fresh grass shall come the next spring it will be ready to eat heartily and grow rapidly, until when it shall have reached its twelfth month it will not infrequently be in every way equal to the animal of like breeding born three to five months earlier.

Animals born in mid-winter and housed comfortably may be so fed and cared for that as soon as the grass becomes advanced enough in the spring to warrant turning the stock upon it they will be ready and able to take full advantage of the new food, yet be old enough to be in a measure independent of the natural supply of food from its dam and in some degree insensible to the attacks of flies.

Born with the coming of grass in the spring the young animals have to meet at a very tender age the chilling air of spring nights, the attacks of myriads of insects, the burning heats of midsummer, and not infrequently a short supply of milk and succulent food consequent upon the drying up of the pastures. The growth is retarded at a critical period of the young animal's life and injury done from which it will require weeks or months to fully recover. Many a farmer knows from experience that animals born in winter are not infrequently in every respect as good beeves, sheep, colts, or pigs when one year old, as are those kept under like circumstances but born from three to six months earlier.—*Chicago Tribune.*

SHORT-HORN COLOURS.

So much has been said in reference to colours of this pre-eminent breed of cattle that the heading above may prevent some from reading the little I have to say upon this subject. An experience of many years in breeding justifies the opinion I hold upon this question, that the red, white, and roan are colours naturally belonging to the race, and that there is neither merit nor demerit in either, but are simply matters of taste. For my own part, I have my decided preference for the rich roan, which is not found in any other breed, but is clearly and distinctly found in the purely bred as well as in the grades of this grand race of cattle. The clamour for red short-horns has kept large numbers of bulls in the stud that should have been consigned to the shambles, while many valuable animals of light colours have been sacrificed to this craze, entertained mostly by young or very inexperienced breeders. The English breeders have not given way to this prejudice as, I regret to say, some have done in this country, but adhere to their favourite colours, largely of roan and white, judging by the exhibits last year at their three largest fairs, when seventy-six prizes were awarded in the short-horn classes, forty-six of which went to roans, ten to whites, fourteen to red-and-white, and six to reds. Would not a little more firmness on the part of short-horn breeders in standing by their colours soon overcome this prejudice and be of general benefit to the country?—*Breeder's Gazette.*

FEEDING STOCK.

The employment of cocoa meal in the rations of French cavalry horses has produced such satisfactory results that the practice will be continued permanently.

M. Goffart, the happy discoverer of conserving green fodder in trenches or *silos*, states that there is nothing in the process (*ensilage*) but can be varied, such as the form of the silo, its construction as to materials, etc., save the most rigorous attention to the close packing of the mass, so as to keep out the air—the exclusion of the latter is the secret of *ensilage*. Swiss farmers generally employed oil cake, by dissolving it, when in morsels, in hot or cold water, and then pouring the liquid over the cut roots or hay—straw and chaff are never employed, being considered unfit for milking or fattening ouds. The mixture is given as the first feed, never after drinking, as, if the turnips enter into the ration, the cattle drink too largely. The cake must not be dissolved too long in advance, as it would become sour; the vessels ought to be rinsed and dried every three or four days.

In the northwest of France, and on lands adjoinining the coast, parsnip culture is rapidly extending. All stock relish the root; it produces excellent butter, rich and well-flavoured. The renown of the Jersey and Alderney butters is said to be due to feeding the cattle extensively on parsnips. Jerusalem artichokes are being favoured for finishing off fat stock. Parsnips fetch half the price of hay.—*N. E. Farmer.*

THE "COMING COW."

The position that the "coming cow" is to be one well adapted for both beef and milk production, we believe to be correct if it be not pushed too far. There is an increasing number of dairy farmers who find it best to give almost exclusive attention to the quantity and quality of the milk given by their cows; caring little about their merits as beef makers. So there are beef-producing farmers who properly count it a disadvantage if a cow give a large flow of milk. This is true on the western plains. It is true of such farmers as J. D. Gillette, who only asks of a cow that she shall produce and feed a calf each year. Both these classes form but a minority of cattle raisers. The most successful dairymen and the producers of the very finest beef animals may be found in these classes, but the great majority of cows and of steers for beef are, and long will continue to be, raised by men who cannot afford to ignore either the milk-giving or the meat-producing quality. For such men the popular breed must be one with deserved claims to good quality in both directions. It is quite possible that several breeds may, in the future, be claimants for highest merit for this double purpose, but the course of breeding now adopted by the special friends of most leading breeds is calculated to develop one of these qualities at the expense of the other. The Shorthorn has never been surpassed, if equalled, as a "general purpose cow." Ought she to lose all reputation as a dairy cow?—*Breeders Gazette.*

"DOCTORING" FARM ANIMALS.

It is a poor practice to be continually dosing animals. When we see a farmer frequently visiting the drug store for medicine for his stock, the impression is that there is something radically wrong in his management. He is the "sick one," and needs the aid of a good physician—some one to show him that sickness rarely happens on a well-ordered farm; that clean, warm stables, and plenty of good feed, pure water in abundance, etc., are far better than their opposites, with all the physic that the largest drug store can supply. Nothing is more clearly proved than the importance of care and keeping of the right sort for the health of the farm animals and their profitable growth and increase. Sickness will sometimes come with the very best management; and when it does, it is better to employ skilled hands to cure than to "doctor" and "physic" and perhaps kill the valuable animal yourself, that under proper treatment might have been saved at a trifling expense.—*Agriculturist.*

HOW TO JUDGE A HORSE.

In judging a horse he should always be made to stand still. Defects in the limbs or feet that would be unnoticed while in motion will be plainly seen by his care to rest weak or diseased muscles when standing. If perfectly sound he will stand firmly on all his legs, the feet flat on the ground and without moving. If one heel is raised disease of the navicular bone, or at least tenderness, is probable.

REMEDY FOR HEAVES.

One of the best remedies for heaves in horses is to feed with their grain or meal once a day the following mixture: Three grains arsenious acid, one drachm bicarbonate of potasse, one-half drachm iodide of potassium and two drachms of ground ginger. The ginger alone is excellent for horses only slightly affected; but for true heaves the mixture above described is better. The oats or hay fed should be moistened, while clover hay should not be given at any time to a horse whose wind is affected.

SHEEP AND SWINE.

FEEDING AND CARE OF SWINE.

More attention is now paid to the raising of choice breeds of swine than ever before in this country. Our farmers have only of late years thought it worth while to raise pure bred swine, instead of intermixing the good and bad; and the result is better pork, and perhaps larger profits. But there are many who, while very careful in selecting good animals for breeding purposes are very lax in taking proper care of them, and the result is, as we all know, an increase of diseases among swine. While the common scrub or half wild animals, allowed to roam at will the greater part of their lives, usually escape the various swine diseases, the petted pure bred and highly fed are often seriously afflicted with fevers and various intestinal parasites. We do not believe, however, that pure bred animals are naturally any more subject to disease than the scrubs or mixed races; but in consequence of being placed under artificial conditions they often become weakened and unable to resist enemies which appear under the form of diseases. Deprived of full liberty, the animals take but little exercise, and while they may increase in bulk, they will still be becoming weaker every day, until disease steps in and takes off what the owner considers very healthy animals. Another cause of weakness and disease is the almost exclusive feeding of Indian corn, a grain which farmers tell us is the best and most natural food for swine. We admit that corn is an excellent food for swine, especially for the closing weeks of their lives, for it makes a pure, sweet pork; but it is not the best food for the young and growing animal, and while it may be employed sparingly for pigs and shoats, it should never be the only food, nor should it constitute the bulk of the food given. Where corn can be raised cheaply, as in the western States, it is handy food, and many farmers employ it more on that account than any other.

During the spring and summer months the farmer usually has all he can attend to in putting in his crops and harvesting them; and if the hogs are fed regularly, it is with the handiest kind of food, without much regard to the actual wants of the animal, all thoughts of proper diet being put off until some later day. The seeds of disease, are often sown among the swine during a few days of neglect, while an actual outbreak of disease, followed by the death of the animal, may not occur until months afterward. Swine require a variety of food, and while young and growing must have grass, clover, and similar substances in abundance. If corn is to be fed at all, it should be made soft by soaking a few hours, and then be mixed with slops from the house or milk, and in addition, hogs should always have access to pure water—not that to be found in their wallowing places, but that which is pure and wholesome. Swine should always be kept out at pasture during the summer, and never shut up in small pens during hot weather. Shelter should, of course be provided, where the animals can rest in the shade, but close quarters are unhealthy for swine, as well as other animals.

It is not necessary, nor is it advisable, to keep hogs very fat during warm weather. They should have just enough food to keep them growing rapidly and healthily, and no more; and if kept in this condition they will go into the fattening pen in the fall with sound teeth, good appetites, and healthy digestive organs. All kinds of inferior and broken grain, such as barley, rye, and wheat, may be fed with benefit to growing hogs, and toward fall the quantity may be increased with the addition of peas and various kinds of roots. We have known many good farmers who never think of feeding a pound of corn to their hogs until the close of the season, or a month or two before killing. Bran, shorts, soaked peas, and similar food are used instead, and the corn is given only to put on a little extra weight and give firmness and solidity to the pork. Our Eastern farmers can make pork cheaper on other kinds of food than corn, and we will venture to say it is as good an article, and the animals are less liable to disease than when the pork is produced exclusively from corn, as is done in many of the western States.

In keeping over store hogs or pigs, as they are usually called, the green, fibrous food should not be withheld, even in winter, and if nothing better can be had, hay, especially clover hay, should be cut up fine, soaked in hot water, and then added to the other kinds of food. Experiments in feeding have shown that a gain of from twenty to thirty per cent. may be obtained by merely adding steamed clover hay to the usual feed of corn or corn meal. If the farmer has a stock of roots, these may be cut up and mixed in instead of hay, but green food of some kind is necessary to keep the hogs in good health.

Brood sows should be in good condition, but never very fat. While suckling their young they should receive food that will increase the flow of milk, such as wheat bran, shorts, cooked barley, or wheat, with plenty of pure water in a trough by itself. Corn at such times is too heating; but a little corn meal may be added to the bran or other food when the pigs are a week or two old. Shelter from storm, pure water, clean yards, and a variety of good and easily digested food are the principal requisites in successful swine husbandry.

IMPROVING COMMON SHEEP.

In a country, feeding for various purposes, forty-five millions of sheep, improvement must start from the common stock; yet a small improvement on such a vast number, if it could be applied at once, would amount to a great sum. The best common sheep that can be had in any given locality, must form the basis for improvement. They must be the stocks on which to graft the blood of improved males, when that can be found. In the older States, this improved blood can be had by all who are now advanced enough in breeding to desire it. But if, even in these States, where the improved blood first came, every flock-owner should at once desire a better blooded ram, prices would, at one bound, mount beyond reach. It may safely be said that improved blood increases as fast as the educated desire of flock-owners to use it. But this education in the principles of breeding and feeding is likely to increase more in the next ten years than in the last fifty, and all the blood of the improved breeds may be expected to be in brisk demand.—*Rural Record.*

A WORD FOR MUTTON.

The mutton of a well-fed sheep of every breed, from the Downs and Shires down to the little-woolled Saxony, is palatable and healthful. None of the objections urged against the use of pork can be brought against that of mutton. It never has been known to impart scrofula, trichinæ, or tapeworms to its consumers. The sheep does not thrive in the mire, nor does it consume garbage or vermin, or decaying meats or vegetables. It does not wallow in the trough it feeds from; but it is a dainty and a careful feeder, and as cleanly as needs be in its habits. Mutton is more easily and cheaply produced than beef, is just as nutritious, and may be served in as great a variety of forms. As a steady food it is far superior to poultry, and costs no more. We mean good, fat, juicy mutton, not that from the half-starved, scabby, or loot-ordered specimens that have outlived their breeding age and been shorn of fleeces enough to furnish shoddy blankets for a tribe of Indians. People in cities seldom know how really good mutton tastes, and the remark may also apply to most families upon the farm. The latter too often fail to try it. We know of many well-to-do farmers, men who have well-stocked farms, who do not slaughter a sheep during a twelve-month, yet who kill a pig every month in the summer season, and in the fall "put down" pork enough to last every other month during the year. This is a nation of meat-eaters, but it confines itself too exclusively to pork and beef. It is better to sandwich in a little more mutton. A few sheep for family consumption, even when they are not kept for sale or for wool, will be found a most excellent investment on all farms.—*Thoroughbred Stock Journal.*

SQUASHES FOR HOGS.

A New York farmer has found that an acre of the Hubbard squash will fatten more hogs than any corn which could be raised on the same ground, and the squashes will keep through winter. He plants twenty feet apart each way, which is thick enough, and little cultivation is required. The crop is easily gathered, no digging being required. The plants are rampant growers, and are out of the way of the bugs in a week, early in the season. The squashes are cracked and passed through a root cutter, and the seeds are sold to dealers in Boston. From six to eight tons have been obtained from an acre, estimated by the waggon load. Where he could sell only a part he fed his cows with the rest and sold the seeds, and found this more profitable than to sell the squashes in market.—*Country Gentleman.*

THE SHEEP SCAB.

Scab in sheep is one of the most troublesome diseases with which the shepherd has to contend. The cause of the disease is a minute insect, *Acaris scabiei*, which burrows under the epidermis, producing irritation of the skin. Small watery blisters soon form, which finally becomes dry and encrusted, forming the scab proper. These being produced in various parts of the body, causes the wool to become matted, and the sheep, to relieve the itching and irritation, run against fences, posts, etc., and tear their wool into shreds, giving them a wretched appearance. The disease is rapidly spread in a flock where healthy sheep come in contact with these fences, posts, etc., for the eggs of the mite, or the mite itself, may be readily transferred from the sheep to the fence and from the fence to sheep again. Hence it will hardly be necessary to caution against allowing healthy sheep to be in the same pen or field with scabby ones. The only method of ridding the diseased sheep of the scab is to dip them into a liquid which will penetrate and soften the scabby portions, and even then it is often necessary to rub these places with something rough, to open the scabs, and let the liquid take effect. A sheep dip made of one ounce of sulphur and four of tobacco to a gallon of water, has been found very effective. In the water, which should be at the boiling point, steep tobacco stems or leaves, and add the sulphur later; then allow the liquid to cool down, when the sheep may be immersed.

The question of silk culture in Tennessee is receiving considerable attention throughout the State at present. Commissioner McWhirter has distributed 100,000 silk worm eggs gratuitously through the State, and numbers of persons are becoming interested in the business.

A PLAYFUL FAMILY—THE SOUTH AMERICAN TAPIR.

The Rural Canadian.

TORONTO, JULY, 1883.

THE WEATHER AND THE CROPS.

The wise men of our Agricultural College, in considering the effects of different influences on farm crops, give the first place to the weather. It is held to be a more potent agency than manuring, cultivation, or even the soil itself. We think there is no doubt that this is the correct view especially when account is taken of large averages. Taking a soil of fair natural fertility, almost everything depends on temperature, rainfall and sunshine. These are elements for good or ill most difficult to govern or control, and consequently farmers are never sure of a good crop, no matter how rich the soil is, or how well it is cultivated, drained, or manured. Of course the more carefully these latter conditions are attended to, the greater is the probability in their favour, and no farmer can afford to neglect them.

But how inadequate they are, after all, must be obvious to anyone who carefully observes the condition of things the present season. The winter, both in Ontario and in the Northern States was most unfavourable for the fall wheat, and it is perhaps under the mark to say that thirty five per cent. of the crop was destroyed. Nor have the spring months done much to improve the prospect. Low temperature and a heavy rainfall have had on the whole a very injurious effect, and a careful estimate places the yield for the coming harvest 130,000,000 bushels under that of the last one. Yet this gloomy prospect does not appear to have caused any strong upward tendency in prices. The reason is, that in other parts of the world the reports are much more encouraging. In Great Britain, Belgium, Germany, Hungary and Russia the wheat gives promise of a good average yield, and in India and New Zealand there is a large surplus available for export. Should, therefore, the European harvest realize present expectations, it is not improbable that in 1883 as in 1876-7, a short crop in America may have low prices for its accompaniment.

Then as to spring crops. The excess of rain has not only seriously interfered with seeding operations, but on all low-lying lands such crops as peas and barley have been badly damaged. We hear of many farmers in the western counties of the Province who, up to the middle of June, had not finished their seeding; and the corn area especially is comparatively a limited one.

But if the weather has wrought much mischief to the grain crops, it has had just the opposite effect on meadows. The yield of clover and timothy this year will be far above an average; and this seems to be the farmer's only compensation for the injurious effects of weather on his grain crops. Certainly the present outlook is not cheering.

PRIVATE DAIRY VERSUS CREAMERY.

It is not a little strange that, after all said and written on the creamery system of butter-making, farmers are so slow to adopt it. There are not at the outside more than fifteen creameries in Ontario at the present time, and the work they are doing is almost unknown. The truth is, that with this as with many other things, men are very conservative; they are slow to abandon a system hoary with age for a new-fangled notion concerning which they have not sufficient knowledge to form any positive opinions. As to the factory system in cheese-making, there are few so unacquainted with its advantages as to keep up the old private process. The farmer of to-day no more thinks of setting his wife the task of making a twenty-pound cheese on alternate days than that of driving the spinning wheel and the loom to manufacture the family clothing. The factory system is more economical, a better quality of cheese is assured, and there is a great saving of labour in the household. An immense increase has taken place in the quantity and value of the cheese product of Ontario during the past twenty-five years. Now, what reason is there to doubt that under the creamery system the same good results would be obtained in butter production? Let us suppose that there are twenty farmers in a neighbourhood, each managing a private dairy. The capital invested in utensils is a considerable sum to begin with. Two or three hours of one person's time is taken up daily in churning and preparing the butter for market, and half a day per week on the average is required for marketing. Furthermore, there are twenty different varieties of butter—the majority, quite likely, very inferior for want of proper appliances, or perhaps for want of proper information. With one creamery, all the twenty farmers might have their butter manufactured by one superintendent and three hired helps, even supposing each farmer had an average of thirty cows. The capital required to establish it would be less than one-half that required for the twenty private dairies. The butter would be of uniform quality, and equal, it is but reasonable to assume, to the best product of the private dairies. It would be marketed economically and command the highest prices, and so each of the twenty farmers would be an individual gainer, to say nothing of the relief from labour and vexation that must come to each of the twenty farmers' wives.

FARMERS' BOOK-KEEPING.

MR. EDITOR,—In reading an interesting number of your valuable magazine a few days ago I noticed an article from one of your correspondents that drew my attention particularly. It was a description of farmers' book-keeping. Ever since I commenced to farm I have been trying to find out a convenient mode of keeping a daybook and diary together, but have never seen a more convenient way published than the one I have referred to as published in the RURAL CANADIAN. It is just a little different from my own method, which I will briefly give you to publish if you think it worth while. I take a large-sized daybook and keep accounts and cash transactions on the left-hand page as the book lies open and the diary on the opposite. On the page of accounts I have it as follows in different entries:—

Date.		*Running account.* $	*Pr.* $	*Rec.* $
	Cash Dr. to A. B., $10.....	.....	....	10.00
	" Cr. by $6 to E. C..... not cash	.....	6.00	
	D. F. Dr. to oats, $7.00..... pd. for	7.00		
	H. Y. to pork, $50.00..... not pd	10.00		50.00
	Bought from F. G., goods $35	$5.00		

If the above should serve as a hint for any beginner to take up and improve on, I will be very well satisfied. A person could have no trouble in finding out and noting at the bottom of the page the amount of cash on hand or amount of accounts standing, either Dr. or Cr., and so carry it along from page to page. The page on the right-hand side can be used for the diary according to the disposition or requirements of the proprietor.—Yours truly, D.

Upper Sheffield, May 23, 1883.

THE WHEAT CROP ABROAD.

Reports on the condition of the wheat crop in other countries are varying and contradictory. In Great Britain and on the continent of Europe the latest accounts are favourable for an average yield; but both in Great Britain and France the area is less than usual, and in Germany the plant was injured by winter weather. More encouraging reports are received from Hungary and the Russian Provinces on the Black Sea. The crop in India is said to be a good average, and there is a fair surplus for export. In Australia it is much below an average, one report putting the yield at 4½ bushels per acre. In New Zealand an excellent harvest has been reaped, and it is stated that the surplus for export will be fully 5,000,000 bushels.

The May report of the Department of Agriculture at Washington estimates the product of fall wheat in the United States, based on its condition on the first of the month, at 77,000,000 bushels less than last year's crop. The Ohio report makes an estimated shortage for ten of the principal fall wheat States of nearly 107,000,000. In Ohio, Indiana, Illinois, and Michigan it was badly hurt by winter weather, and extensive areas have been ploughed up or re-sown with spring grains. Later accounts indicate an improvement in the condition of the crops in these and other States of the Union; but however favourable the weather may be, there does not appear to be any reason for hope that the harvest will approach last year's in the total product.—*Bureau of Industries' Report.*

FARMERS AND DRAINAGE.

There are a few general principles that ought to be borne in mind in draining.

A ditch will drain directly fifty feet each way, and when the slope is three feet or more in a hundred feet it will indirectly drain one-third of the land beyond this fifty feet.

If the grade of a drain is doubled per 100 feet the carrying capacity is increased one-third.

For drains not more than 500 feet long a 2-inch tile will drain five acres. Lines more than 500 feet long should not be laid with a 2-inch tile. A 3-inch tile will drain five acres, and should not be of greater length than 1,000 feet.

A 4-inch tile will drain twelve acres.

A 5-inch, twenty acres.

A 6-inch, forty acres.

A 7-inch, sixty acres.

Of course, these are the *maxima*, and are supposed to be three feet in depth and on a grade of three inches to the hundred feet, which may be taken as an average.

To further assist in calculating drains it may be stated that in twenty-four hours one and a half inches of water falls, and this on an acre 70,291 gallons will fall in this time, and one-half of this amount is used by plants and carried off by evaporation, so that 20,365 gallons of unnecessary water per acre would be required to pass through at least a part of the main drain.

AGRICULTURAL AND ARTS ASSOCIATION OF ONTARIO.

The 38th Provincial Exhibition will be held at the City of Guelph, Ontario, under the management of the Council of Agriculture for Ontario, from the 24th to the 29th of September next.

Also the first Fat Stock Show, under the joint auspices of the Council of Agriculture and the Toronto Electoral Division Agricultural Society, will be held in the City of Toronto, on the 14th and 15th of December next.

HENRY WADE,
Sec, Agricultural and Arts Ass'n.

AGRICULTURAL ESSAYS.

Mr. Editor,—Allow me to state that the Board of Agriculture of Manitoba offers prizes of $50 and $25 respectively, or medals of equal value, at the option of the successful competitors, for the best and second best essays on the most judicious method of farming in Manitoba, either by rotation of crops, or otherwise, so as to produce the largest yield of crops annually from the soil.

The greatest possible conciseness compatible with explicitness is expected. Essays must be written on paper of the size of foolscap and on one side of the paper only. Each essay must be marked in the left hand upper corner of the first page with a distinctive motto. The same motto, together with the writer's name, must be enclosed in a sealed envelope and forwarded with the essay. This envelope will not be opened till after the award of prizes. Essays will be received by the undersigned until 6 p.m. on Saturday, September 29th, 1888.

Acton Burrows,
Sec.-Treas. Board of Agriculture.
Winnipeg, April 24, 1883.

HINTS FOR ANY SEASON OF THE YEAR.

The New England Farmer says: Plough deep and cultivate often. This will give a deep soil and it will insure it against drought. Manure it in the fall and early winter. The earlier we manure after vegetation has entered its winter repose, the better the crop. Do not be afraid to spread manure, even on twelve inches of snow. This part of farm labour can be done with less cost in the winter. Our time is less valuable, teams can do it easier, and the soil is less injured. Corn and potato ground should be prepared for the crop in the fall, then in the spring harrow often, even daily, morning and night, if possible; the oftener the surer the crop. If but once a day is practicable, then let it be done at night, not in the morning, and the later the better the results. Cultivation saves manure. Avoid the waste of fertility. Dew contains the most powerful fertilizing agents, and in the most available form, so we should cultivate to receive the most benefit. Never manure very heavy, but a little and often. Feed as the plant needs. Do not feed the soil this year for next year's crop. In this respect let us treat our land as we treat our animals. Every farmer should understand something of agricultural chemistry, botany and physiology. Successful farming requires that plants should be fed according to their necessity. Every species of plant contains peculiar elements in its make up, so we should supply the deficiencies of any to the soil. Quality of feed influences quality of product. Fertility removed in the crop should be returned in the fertilizer. The fertility of the soil depends both upon manure and its mechanical texture. There are three sources of fertility—soil, air and water. To know how to farm it so as to derive the greatest benefit from the atmosphere and water (by the way of rains and dews) involves a knowledge of Nature's laws above that which the average farmer possesses. Farmers educate yourselves.

A great many sheep were found at shearing time this year to be a little more than skin and bone. The fact is that they were in poor condition all the winter, and no doubt this accounts for the great loss of lamb life. An observant farmer says a sheep that is poor at the beginning of winter is fated to be poor to the end, no matter how well it is fed or cared for, and in this respect that the sheep differs from all other farm animals. The cause of thinness in the fall is said to be the long wet spell; and yet the pastures were excellent.

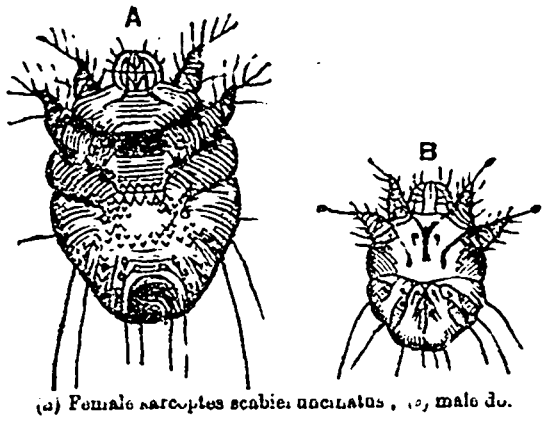
VETERINARY DEPARTMENT.

MANGE IN HORSES.

BY WILLIAM M'EACHRAN, M.D., CONSULTING VETERINARY SURGEON, WINNIPEG.

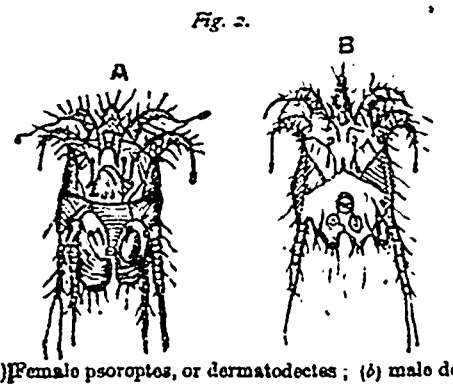
Mange or Scabies is a cutaneous, eruptive and itchy disease of the skin, and is common to a large number if not all animals, and to mankind. It is characterized by itching, more or less intense, of the skin; redness; an eruption of small vesicles or pustules; shedding of the hair at these parts and the presence of considerable uneasiness The disease is essentially parasitic being due to the presence of minute insects named Acari, of

Fig. 1



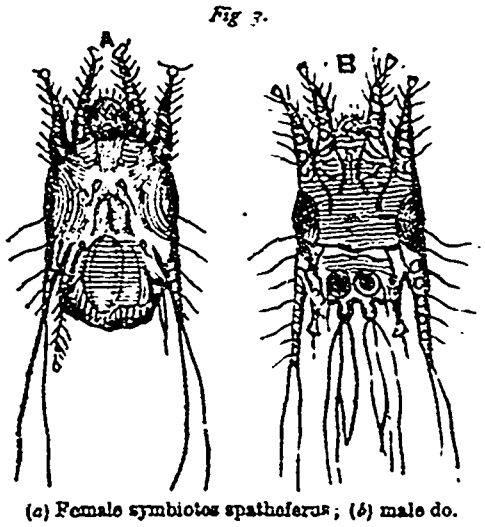
(a) Female sarcoptes scabiei hominis, (b) male do.

Fig. 2.



(a) Female psoroptes, or dermatodectes; (b) male do.

Fig 3.



(a) Female symbiotes spathiferus; (b) male do.

which there are a number of varieties. In the horse there are three varieties named the Sarcoptes (which burrow into the flesh), Psoroptes (which conceal themselves beneath the crusts or scabs); and the Symbiotes (which live in families or clusters).

The exciting cause of this affection is the Acarus. But certain pre-disposing causes appear to favour the development and increase of the parasite. All causes which produce exhaustion and loss of condition may be looked upon as favouring the invasion and extension of Mange. Young horses in many countries are found to be more liable to Mange than older. Bad care, lack of proper grooming, and keeping horses during the winter in hot damp foul stables, feeding on poor food all pre-dispose the animal to the reception of the Mange insect; young coarse bred horses of a soft temperament are most liable to this affection. The disease is most common in winter.

SYMPTOMS.

The different varieties of the Mange insect present general symptoms alike; but they attack animals in different ways. The Sarcoptes usually commence on the shoulders and extend up the neck and on to the face as well as over the body and is the most serious affection.

The Psoroptes selects the border of the neck, the forelock and the root of the tail and extend very slowly to the other parts of the body. The third variety, the Symbiotes selects the legs as the seat of operations they usually commence at the fetlock and slowly extend up the leg, seldom, however, reaching above the knee or hock. The first symptom to be observed usually is intense itching in some cases so bad that the horse is continually biting and knawing or scratching and rubbing the affected parts, rubbing against the stall, manger, or other fixture. This itchiness is always worst towards evening. The second symptom to be observed is the presence of a pimple or vesicle in passing the hand over the part which appears to be irritated and itchy, a number of small hard pimples are found which feel like small seeds at the roots of the hairs. These, on examination, are found to be little scabs to which adhere two or three hairs; this is easily removed with the nail and leaves a round red raw surface about the eighth to the fifth of an inch in diameter. At a more advanced period, large surfaces of the body become denuded of hair, owing to the constant irritation and rubbing of the animal, on these are to be observed excoriations and crusts of variable size and thickness. At a still later period the skin assumes a thickened infiltrated and wrinkled appearance not unlike the skin of the rhinoceros, which constitutes the chronic stage of the disease.

The third symptom to be looked for is the presence of the parasite which however can only be found by an expert, and requires the use of the microscope. It will therefore be out of place in a paper like this to detail the manner in which the insect is to be found.

Mange is a chronic affection and runs a slow course although the first variety runs a more rapid course than the other two, and produces more serious consequences to the animal loss of condition being in many cases rapid, the animal running down in a month almost to a skeleton, and being extremely contagious. The second variety is less so and is more easily cured. The third variety is the least serious and appears to disappear when summer approaches, to return again when the cold weather sets in.

TREATMENT.

The first thing to be done in the treatment of a horse suffering from Mange is to attend to the sanitary condition of the animal. As this is a contagious disease, an animal suffering from it should be isolated and submitted to treatment if possible by a veterinary surgeon. The condition of the surroundings should be attended to, the same precautions being taken as were recommended when speaking of Glanders in the April number of this journal.

The animal being isolated should be put upon good food, and subjected to a course of treatment; the object of which should be two-fold, viz.: the destruction of the parasite and the restoration of the condition of the animal. For the latter, a purgative followed by diuretics and tonics are indicated. In old standing and severe cases I have found bleeding from the jugular to have a beneficial effect. For the destruction of the parasite and the restoration of the skin, various remedies have been extolled; some of these however while they kill the parasite destroy the skin, and hair bulbs. Various preparations of sulphur are found to have the effect of destroying the parasite. I have found a mixture of linseed oil, sulphur and carbolic acid, or oil of tar, to be most effective. It should be applied twice a week, and washed off as often with soap and water; this not only has the effect of destroying the Acarus, but has a soothing and healing tendency on the skin besides stimulating the hair bulbs. To be effective, however, any mode of treatment will have to be supplemented by attention to sanitary measures and proper feeding and care.

BEES AND POULTRY.

THE MAKING OF HONEY.

In Great Britain bee culture is carried out on a small scale, compared with the immense "bee ranches" of some of the American States, or even of Russia, Hungary, Hesse, Cassel, Greece, Finland, Cyprus. In Siberia the exiles pasture thousands of swarms on the heaths of the Altai range, and in the Caucasus the Meretinzes and Grusinians live in plenty by the sale of the honey stored by their winged flocks. Still, even in England, the apiarian, as the bee-master likes to be styled in print, is no mean personage. There are numerous societies devoted to his interests. His wards possess an extensive literature, and one or more journals, published expressly for the dissemination of information connected with their welfare. There is even an apiarian vernacular, and the bee-keeper has his shows, dinners, and his professional quarrels.

In this country, where the Minister of Agriculture is still unknown, the dissemination of information of this sort is left to private individuals, or to societies such as the Bee-Keepers' Association. But in Germany the different Governments are so alive to the importance of this source of profit to the peasant that the children are taught the best mode of bee cultivation, and a schoolmaster does not receive his diploma until he satisfies the State Examiner that he is familiar with the science of a "bienenvater."

It is in the United States, however, that honey-making is pursued on the largest scale; the "bee ranches" are establishments as extensive in their way as the vast wheat farms about which we hear so much. In California as much as £6,000 worth of honey has been produced in one year from 2,000 stocks, and results quite as extraordinary might be sighted from other States. We learn, for example, from an American journal devoted to the "honey trade," that in 1881 the surplus comb-honey of the transatlantic bees amounted to 9,467,622 pounds. New York heads the roll of honey-producing States; then follow Pennsylvania, Canada, Ohio, Michigan, Wisconsin, Illinois and Louisiana in the order named, California, in spite of the size of its "ranches" and the boasted profusion of its flora, barely producing a fortieth part of what the Dominion does, while the average per colony is only sixty-three pounds, compared with the 159 pounds which is yielded by every colony of Dakota bees. Altogether there are in North America about 300,000 colonies of bees, which yield, it is calculated, over 100,000,000 pounds of honey, worth at least $300,000, for the figures given refer solely to the honey marketed, and even then not over a twelfth of the bee-keepers make returns of their crops.

It is estimated that one acre will support about twenty-five swarms; and such is the magnitude of the business in some parts of America, that a single firm keeps two steam saws constantly employed in cutting up the timber used in constructing the boxes for holding the comb-honey. Though most flowers yield some food for bees, yet much skill is required in the selection of a grazing district.—*London Standard.*

WHITE LEGHORNS.

White Leghorns, originally from Leghorn, are birds of the Spanish type, but white in the place of black plumage. They are abundant layers of fair-sized white eggs, the hens rarely showing any inclination to sit, but laying the whole year round except during the time of the annual moult. They are a vigorous and hardy race, range extensively for their food, and are very shy. The chickens are very hardy, active and robust from the first. Unlike those of the Spanish, they feather quickly and mature rapidly. The Leghorns are more valuable to egg farmers than to breeders of table fowls, as they are but small eaters and do not put on flesh quickly. To those, however, who depend on their poultry bringing them constant supply of eggs, they form a most valuable breed.

The Leghorn cock should be an upright and sprightly bird, standing and carrying his tail very erect. The comb is large, single, brilliantly red, firm, grown well back and evenly serrated; head short; wattles long, pendant, even and very red; ear-lobes smooth and slightly pendant; a clean, opaque, white eye; large and quick; neck, long, gracefully curved; the hackle full and flowing; back very short, the tail starting up almost at the base of the hackle; saddle rather broad; the feathers plentiful; breast full, carried well forward; wings well clipped up and not too large; tail large and plentifully adorned with side sickles; legs a brilliant yellow, rather long and slender, and perfectly free from feathering on the shanks. The hen is a deeper bird, rather square in body, with full round breast, close plumage, large and very erect tail; comb large, red, and falls over on one side; face red, ear-lobes white, smooth and free from folds; wattles rather short, round and thin; neck long; wings well tucked; legs rather long, slender and yellow.—*Exchange.*

LICE IN POULTRY.

Lice are the great pest of the poultry-raiser. Hens left to range about the farm or garden will keep clean by wallowing in the dry dust. But for a good part of the year the villagers have to keep their hens in confinement, and very soon, without constant watchfulness, lice appear; and if the poultry-house is near the barn, or within it, the vermin spread to the cow and horse stables and make trouble there. White-washing, if it were attended to every month, would be effectual, if the wash penetrated all the cracks. But this involves a great deal of labour, and it is difficult to reach all the crevices. There is the same objection to sulphur and tobacco smoke. A few of the lice are generally left for seed after every smoking. The best remedy we have ever applied is crude petroleum, or, if more convenient, the common kerosene oil used for lamps. This is always at hand, and a few minutes' labour with the oil can will rout the enemy. Generally one application is enough to destroy them. We apply it directly to the perches, pouring a continous stream from the spout. The hens get this oil upon their feet and legs, and it is rubbed all over the feathers. It is penetrating, and the odour seems to be exceedingly offensive to all insects. We have no lousy hens since the application of this remedy.—*Exchange.*

BUSINESS POULTRY.

In riding about the country one seldom sees pure blooded poultry. The fancy fowls are in nearly every instance owned by business men. Why is this? Is it because farmers are lacking in enterprise and intelligence? I think the bottom facts are that a mixed lot of poultry proves most profitable, being most hardy, and laying best. Where one breeds for the one idea of "looks, the tendency evidently is to lessen the egg production. These are my conclusions after twenty year's experience, in which time I have tested most of the new breeds as they came along. It is entirely legitimate for any one to keep fancy fowls if they have a taste in that direction, and can afford it, as others keep a fast horse or a "poodle dog, but the real business hen is not often the most noted for beauty. Many new breeds have been introduced; we have plenty of poultry magazines pressing their merits, with a host of energetic champions writing up their alleged superior excellencies, and yet both poultry and eggs bring better prices than in the years gone by. The profit from keeping poultry depends on management, feed, care, etc., of our fowls; and, as the average man only takes an interest in what costs him dear, fancy fowls, at fancy prices, have proved beneficial.—*Nelson Ritter, Onondaga Co., N.Y.*

SKIMMED MILK FOR CHICKENS.

There is nothing better for laying hens in the spring than milk, after the cream has been taken off. We have tried it several seasons with complete success. With the milk given fresh from the dairy-room every day, the fowls will need no other drink, and it will supply everything required in the way of animal food. The pullets, fed with milk and corn, and a mixture of corn-meal and milk, through the cold weather, have given an abundant supply of eggs. Wheat bran is also a good article to mix with milk. It is better to give the mixture a boiling and to feed it in a warm state, but this is not necessary. We have also found the milk one of the best kinds of diet for young chickens, soon after they come from the nest, to promote their health and rapid growth. Indian meal, ground coarse and scalded with milk, is a perfect feed for them. As they grow older, grass, cabbage or onions may be chopped fine and added to the daily rations. A portion of the milk on dairy farms usually going to the pig trough may be diverted to the chicken-coop with great advantage. Eggs are worth twenty-five cents a dozen, and poultry twenty cents a pound, when pork brings but ten cents a pound in the market.—*American Agriculturist.*

USE ONLY PURE BRED MALES.

Never use a cock that is a cross. The hen may be a cross, but the cock should be pure and without a blemish. The males exercise the stronger influence on the chicks, and if the cock is tainted with the slightest infusion of foreign blood the chicks will "throw back," and be of all sizes, colours and characteristics. What is most to be desired in breeding chickens for market is uniformity of appearance, which causes them to sell readily, and increases the price. For market chicks a good Plymouth Rock cock will impress his qualities on chicks from all kinds of hens, every one being alike in colour and nearly of a size.—*Farm and Garden.*

FRENCH POULTRY.

The census shows there are 40,000,000 hens in France not including ducks, geese, turkeys, guineas and pheasants, valued at half a dollar each, an average below sixteen and two-third cents per pound meat. One-fifth are annually marketed for the table, aggregating $4,000,000 to the producers. The annual raising of chickens is 80,000,000, which bring in the market $25,000,000, or an average of thirty-three and a third cents each. Four millions a year extra is added for ducks, geese, turkeys, capons and *poulardes.* The production of eggs is estimated at $48,000,000 a year, and the total value of eggs, hens, capons, ducks, geese, turkeys and young chickens, yearly, amounts to the astonishing sum of $80,000,000.

Glass or porcelain eggs are much better and safer for nest eggs than addled or rotten ones. If the bad eggs break, the nest is made filthy and lice invited, and unless they are marked they sometimes are mistaken for good eggs and sent to market along with the good ones, and then woe to the producer's reputation!

THE DAIRY.

SELECTING DAIRY COWS.

Mr E. W. Stewart, one of the editors of the *National Live-Stock Journal*, has lately published a large volume on "Feeding Animals," which forms a practical treatise on the laws of animal growth as specially applied to the rearing and feeding of horses, cattle, dairy cows, sheep, and swine. We reproduce Mr Stewart's views on selecting dairy cows:—

Look first to the great characteristics of a dairy cow—a large stomach, indicated by broad hips, broad and deep loin and sides, a broad or double chine—these indicate a large digestive apparatus, which is the first essential requisite to the manufacture of milk. Secondly, a good constitution, depending largely upon the lungs and heart, which should be well developed, and this is easily determined by examination; but the vigour and tone of the constitution is indicated by the lustre of the hair and brightness of the eye and horns, and the whole make-up. Thirdly, having determined her capacity for digesting surplus food for making milk, look carefully to the receptacle for the milk—the udder—and the veins leading to it. The cow may assimilate a large amount of food which goes mostly to lay on flesh and fat; but if she has a long, broad, and deep udder, with large milk veins, it is safe to conclude that her large capacity for digestion and assimilation are active in filling this receptacle. In fact, the udder is the first point to look at in a cursory examination of a cow, for Nature is not apt to create in vain. If it reaches to the back line of the thighs, well up behind, reaches well forward, is broad and moderately deep, with teats well apart, and skin soft and elastic, it may be inferred that Nature has provided means for filling it.

If the udder be a small round cylinder, hanging down in the front of the thighs like a six-quart pail, the cow cannot be a profitable milker, whatever digestive apparatus she may have.

A yellow skin and a yellow ear (inside) is almost universally regarded as present in a cow that gives rich yellow milk; but after you find the indications mentioned above, you may admire as many other points as you please, such as a first-class escutcheon, a long, slim tail, a beautifully turned dishing face, a drooping, waxy horn, a small, straight, slim leg, or any other fancy points; but do not look for these till you have found the essentials.

Again, when you have found all these essentials, if the cow is five years old and does not yield 5,000 pounds of milk per year, she is not worth possessing as a milker or breeder. Let good appearances be coupled with performance; yet if the cow be five years old, and actually yields 6,000 or more pounds of good milk, you may safely buy her without regard to her points. She must digest the food to make it, and her machinery is so far above criticism.

But the length of her period of lactation must not be forgotten; this is a quality inherited as much as her capacity for quantity. A cow that, well fed, will not milk for ten months, is not to be desired. A moderate and nearly uniform quantity continuing for ten months will produce a larger aggregate yield than heavy milking for a short period. Twenty-three pounds per day for ten months will give 7,000 pounds; while a short period of seven months would require thirty-three pounds per day. Nearly all great annual yielders of milk have long periods. This is a matter of so much consideration that a cow having a short period of lactation should be rejected as a breeder, as this would be inherited by her offspring.

Still another important consideration, even in the selection of a common-blood cow, is her pedigree. If you can find her descent from a large-milking dam, grandam, and great grandam, this will greatly increase the probability of your success in breeding her to a thoroughbred bull from deep-milking ancestors.

Now, a few cows selected with all these requisites will lay the foundation for breeding such a herd of dairy cows as will be a source of perpetual delight and profit to the owner. On the other hand, it is simple folly to rear a calf for the dairy from a poor milker. It is bad enough to keep an unprofitable cow for a season, but it is deliberately throwing away good food to breed from such a cow, with the proof before you that the heifer will never pay for her keep. Of course, no males will be kept of such crosses for breeding purposes.

A thoroughbred male must always be used to insure any proper measure of success. A large dairyman may replace his herd with cows of his own breeding on this plan, by having one-third to one-half of his cows selected for breeders. But the calves from these selected cows, sired by a thoroughbred bull, must also be selected after they have grown to sufficient age to determine their qualifications. This process of selection should be also rigidly enforced in thoroughbred breeding. Had this been done rigorously with all our pure dairy breeds, it would now be simply necessary to purchase a Jersey, an Ayrshire, or a Holstein to possess a good cow of either particular breed; but they have been bred so indiscriminately and all their progeny kept till a thorough weeding-out is necessary.

Let no dairyman be content to purchase the first male or female he may find of either of these breeds, but in all cases learn the actual performance of the animal and its ancestors. A poor Jersey or Ayrshire is no better than any other poor cow; and if it be a male, he is likely to do great harm by distributing his worthless blood, and thus bringing disappointment to the purchaser and discouragement to the extension of the breed. The male in a system of improved breeding is chosen for his prepotency; and it is not sufficient that his blood is of the breed desired, but he must bring with him the blood of a long line of ancestors, proved, by actual performance, to possess the qualities desired. The only pedigree of real value represents performance in the ancestors of the animal. It is necessary to make this point strongly, because breeding, for the last twenty years, has had little reference to anything save purity of blood and sundry fancy points. We have entered upon a realistic period, which demands real merit first, leaving fancy where it belongs—in the rear. Witness the tests of butter cows for the last few years; the great prices brought by those having the great butter yielders in their line of ancestors.

FEED FOR MILK.

The following are the conclusions reached at the Iowa Agricultural College:—

The supply of milk depends essentially upon the rapid growth of new cells in the milk glands. These cells consist largely of proteine. The casein and fat (cheese and butter elements) are formed from the proteine; hence profitable dairying must depend largely on the amount of proteine contained in the food and made on cheap food. Where rations rich in proteine are fed, such as clover and oil meal, the following results may be noticed:—

1st. A decided increase in the quantity of milk and very little shrinkage for a long time.

2d. Considerable gain in the solid matter of the milk, as shown by chemical tests, or by the increased butter and cheese production.

3d. Again in the quality of the milk, where fodders rich in carbonhydrates and fats are given. The slight increase in quantity and richness of the milk is not due to any direct action these have, but to the assistance they afford the proteine in preventing its oxydation. Animals fed mainly on sugar beets, potatoes, or corn will give considerable milk; but it is done at the expense of the proteine of the body, and after a while the animal will suddenly waste away.

In view of these well-established facts, what shall be the economical milk ration for farmers?

Calculated upon the basis of the amount of proteine contained in each, and taking corn as the unit of value, when corn is worth fifty cents per hundred pounds, the following articles will approximately be worth per hundred.

Corn	$ 50
Oats	60
Barley	55
Wheat	65
Wheat bran	70
Oil meal	1 45
Clover hay	80
Timothy	50
Potatoes	10

This is not absolutely correct, because the carbonhydrates and fats in some of these would materially aid the proteine, and hence would be worth relatively more than above represented.

It is, however, sufficiently correct to show that the cheap foods for milk in Iowa are well-cured clover hay, wheat bran with a little corn meal and oil meal added.

DEVELOPMENT OF MILKING CAPACITY.

Farmers often hesitate whether to have their heifers come in a two or three years old. The purpose held in view in raising them may decide this question. If the object is to make the best possible milking animals, it will be better to have them come in at two years old. If the purpose is to make beef animals as well as milkers, then it would be preferable to have them come in at three years old, or even later. The development of deep milking capacity is an artificial acquirement, so to speak. It is the result largely of training. It is also aided by feed and breeding. Manipulations of the udder, as in hand-milking, are the *foundation or starting-point for the very wonderful milking capacity of the domestic cow.*

In a wild state, the cow, like the buffalo, gives only milk enough to sustain her young, and that only for a few months. No extraordinary productions of milk ever occur in wild animals, though they are as well fed and as healthful and vigorous as in a domestic state. The cattle which have been turned out on the plains of Texas, where they have an abundance of food the year round, have their milking qualities run down to a low standard in a few generations, showing that hand-milking is as necessary to sustaining an abnormal secretion of milk as it is in developing it in the first place.

Cows derive their milk from the food they consume, and large quantities of milk can only result from high feeding; but such feeding must be done understandingly and at the proper time, or it may have an effect quite the reverse of what is aimed at and desired. To feed a cow high when she is not in milk—that is, to give her more food than would be necessary to maintain a healthy and vigorous condition—a quantity which would produce fattening or an extraordinary development of flesh—tends to check rather than to develop milk secretion.

The rage for Jersey cattle continues unabated among many American farmers. The *Country Gentleman* is keeping up the boom with zeal, and each successive issue of that journal teems with articles on Jersey stock. One thing is certain, the absurdly high prices now being paid for fancy animals cannot long be maintained.

HOME CIRCLE.

ANECDOTES OF JEFFERSON.

My recollection of Mr. Jefferson, says an old gentleman of Virginia, is very vivid, as I knew him well, and often visited at Monticello. He was the handsomest man I ever saw, as straight as an arrow, very dignified and courteous in his manners to all. A superb rider, he exercised himself on horseback till the last year of his life. The University of Virginia was his pet scheme, and he was very proud of it as being his own achievement. At its first session I entered as a student, and Mr. Jefferson was always pleased to have us students at his table. Upon these occasions we were generally seated around the table, when Mr. Jefferson would enter and walk straight to an adjoining side table specially prepared for him, upon which were placed two lighted candles and a small vial by his plate. He would then say: "My daughter, I perceive there are several young gentlemen at the table, but I do not see well enough to distinguish who they are, so you must tell me their names." Whereupon his daughter would lead him up to each young gentlemen, who would in turn rise, when Mr. Jefferson would shake hands and pass a pleasant word with him. At the close of the repast, as his own hand was too trembling, his daughter would pour from the little vial into a tumbler a few drops of medicine to produce slumber in case he should be wakeful, and then he would take up the tumbler and a candle, make a stately bow to the assemblage, and retire to his bedroom. He always had company at his house, and observed the French hours for meals.

A relative of Mr. Jefferson's, though very desirous of visiting him, was yet disinclined to thrust his rusticity and illiterateness on his great kinsman. Upon one occasion, however, he was prevailed upon to attend a social gathering at Monticello, when, upon being ushered into the salon, he was duly presented by Mr. Jefferson to the company. During this ceremony the awkward countryman slipped up several times on the well-waxed floor, and then, seating himself, thoroughly ill at ease, was perfectly silent. After chatting with some of his guests, Mr. Jefferson took a seat beside his relative and made an unusual effort to be agreeable, talking on all manner of topics, but without even receiving answers to his queries or making the slightest impression upon the visitor, who remained as dumb as an oyster. In despair of drawing him out, Mr. Jefferson happened to ask him if he liked "black-jack" fishing. The countryman's eyes snapped, and his mouth poured forth a garrulous budget in regard to his favourite sport, to all of which Mr. Jefferson, amused, as were the others present, listened attentively. When at last the countryman made an end, Mr. Jefferson opened up eloquently on the same subject, displaying an intimate knowledge of "black-jack," so far surpassing that of his relative that the latter was held spell-bound. When the great Signor stopped talking the countryman rushed for his hat and bolted from the mansion, nor could vociferous calls persuade him to return.

There was greater fear of, but less faith in, Jefferson than his relative exhibited, among the Northern Federalists, who firmly believed that he was little better than Antichrist. A story illustrative of this state of feeling with regard to the French Party is related of a pious old Federalist lady who lived in a town in Connecticut. It was believed in her neighbourhood that if the Federalists were overthrown, and the Jefferson Democrats came into power, the Christian religion would be put down and atheism proclaimed, and among the first persecutions would be the destruction of all the Bibles. The lady referred to was terribly wrought up at this prospect, and cast about in her mind how she should preserve the Scriptures in the general destruction. At length it occurred to her to go to Squire S——, the only Democrat of her acquaintance, and throw herself upon his mercy. She accordingly took her family Bible to him, and telling him that she had heard of the intention of the Jeffersonians, asked him to keep it for her. The Squire attempted to persuade her that her fears were groundless, but she was too panic-stricken to be convinced. At last he said,

"My good woman, if all the Bibles are to be destroyed, what is the use of your bringing yours to me? That will not save it when it is found."

"Oh yes," she pleaded, with a charming burst of trust. "You take it: it will be perfectly safe. They'll never think of looking in the house of a Democrat for a Bible."—*Editor's Drawer, in Harper's Magazine for July.*

THE OLD FARM.

Out in the meadows the farm-house lies,
Old and gray, and fronting the west,
Many a swallow thither flies,
Twittering under the evening skies,
And in the chimney builds her nest.

Ah! how the sounds make our old hearts swell.
Send them again on an eager quest;
Bid the sweet winds of heaven tell,
Those we have loved so long and well,
Come again home to the dear old nest.

When the gray evening, cool and still,
Hushes the brain and heart to rest,
Memory comes with a joyous thrill,
Brings the young children back at will,
Calls them all home to the gray old nest.

Patient we wait till the golden morn
Rises on our weariness half-confessed;
Till, with the chill and darkness gone,
Hope shall arise with another dawn,
And a new day to the sad old nest.

Soon shall we see all the eager East,
Bright with the Day-Star, at Heaven's behest,
Soon, from the bondage of clay released,
Rise to the Palace, the King's own feast,
Bird's of flight from the last year's nest.

—*Christian Union.*

YOUNG HOUSEKEEPERS.

To young housekeepers who are striving to make a home which shall be worthy of the name, one which her dear ones will "leave with regret and come back to in after life as pilgrims to a holy shrine," I would say, the first requisite is to make it so attractive that none of its inmates shall care to linger long outside its limits. All legitimate means should be employed to this end, and no effort spared that cannot contribute to the purpose. Many houses, called homes, kept with exquisite neatness by painstaking, anxious women, are so oppressive in their nicety as to exclude all home feeling from their spotless precincts. The very name of home is synonymous with personal freedom and relaxation from care. But neither of these can be felt where such a mania for external cleanliness pervades the household as to render everything subservient thereto. Many housewives, if they see speck on floor or wall, or even a scrap of paper or a bit of thread on the floor, rush at it as if it were the seed of pestilence which must be removed on the instant. Their temper depends on the maintenance of perfect purity and order. They do not see that cheerfulness is more needful at home than all the spotlessness that ever shone. Their disposition to wage war on maculateness of any sort increases, until they become slaves of the broom and dust pan.

Home is not a name, nor a form, nor a routine. It is a spirit, a presence, a principle. Material and method will not and cannot make it. It must get its light and sweetness from the sympathetic natures which, in their exercise of sympathy, can lay aside the tyranny of the broom and the awful duty of endless scrubbing.

All women should economize their strength as much as possible while they are young and healthy, and still more if they are aged and feeble. One way to do this is to rest one set of muscles while the others are in action. Begin early in the morning by sitting down to your work before becoming tired, and you will hold out better through the day.

Place a light box in a chair to make it high enough to sit at a table to work. You can iron, wash dishes, mix bread, roll out pie crust, and do many other things with far less fatigue than if standing. Women cannot keep on their feet very long at a time without injury to their health. All women who have children, whether boys or girls, should teach them early to aid in the kitchen.

The true way to educate children is to teach them the dignity of labour, either of brain or hands, or both, to direct their studies with a view to practical utility; to give a firm, broad foundation, and upon that you may rear whatever superstructure you will. Teach your daughter the mysteries of housewifery and plain sewing, give her a thorough instruction in the elementary branches, take care that she can read well, spell correctly, and speak and write her native language understandingly, and work a practical business problem for her father; then, if circumstances will permit, let her capabilities bound her acquirements. But even here the practical should not be lost sight of. A knowledge of current events is of more value than the acquisitions of a dead language, and a knowledge of the laws and customs of our own and contemporary governments is of more worth than the lore of Grecian mythology.

If the parent takes up the burthen of life's daily duties patiently, cheerfully, twining love in every changing duty, and brings the child into practical relations with the work and the spirit, thus assisting each other, the parent may find time to sympathize with the child in its studies and cares, as well as its amusements. The cords of love and sympathy thus strengthened will always remain, binding them closer with each passing year, and when the child reaches mature years and in its turn takes up the work of life, it will revert with a full, thankful heart to those early years when the useful, practical lessons of life were taught by a loving parent.—*Western Agriculturist.*

A GIRL'S EQUIPMENT FOR SELF-SUPPORT.

No one will dispute the abstract assertion that any given girl may some day have herself and perhaps her family to support; and yet our schemes of education for girls are framed precisely as if this were not and could not be true. As a rule no provision whatever is made for such a contingency in the education of girls, no recognition whatever is given to the fact that the chance exists. We shut our eyes to the danger; we hope that the ill may never come, and we put the thought of it away from us. In brief, we trust to luck, and that is a most unwise—I was about to say an idiotic—thing to do.

Each one of us has known women to whom this mischance has happened, and each one of us knows that it may happen to the daughter whom we tenderly cherish, yet we put no arms in her hands with which to fight this danger; we equip her for every need except this sorest of all needs; we leave her at the mercy of chance, knowing that the time may come when she whom we have not taught to do any bread-winning work will have need of bread, and will know no way in which to get it except through dependence, beg-

gary, or worse, She can teach? Yes, if she can find some politician to secure an appointment for her. She can prick back poverty with the point of her needle? Yes, at the rate of seventy-five cents a week, or, if she is a skilful needle-women, at twice or thrice that pittance.

Is it not beyond comprehension that intelligent and affectionate fathers, knowing the dreadful possibilities that lie before daughters whom they love with fondest indulgence, should neglect to take the simplest precaution in their behalf? We are a dull, blind, precident-loving set of animals, we human beings. We neglect this plain duty, at this terrible risk, simply because such has been the custom. Some few of us have made up our minds to set this cruel custom at defiance, and to give our girls the means of escape from this danger. It is our creed that every education is fatally defective which does not include definite skill in some art or handicraft or knowledge with which bread and shelter may be certainly won in case of need. If the necessity for putting such skill to use never arises, no harm is done, but good rather, even in that case, because the consciousness of ability to do battle with povery frees its possessor from apprehension, and adds to that confident sense of security without which contentment is impossible. All men recognize this fact in the case of boys; its recognition in the case of girls is not one whit less necessary. It seems to me at least that every girl is grievously wronged who is suffered to grow to womanhood and to enter the world without some marketable skill.—*George Cary Eggleston, in Harper's Magazine for July.*

CHARLES SUMNER, THE SCHOOL-BOY.

Of Charles Sumner, who entered the Latin school in the same year with myself, not much can be written out of any memorials of mine beyond what the world has already found recorded. He was a boy, a real boy; not affecting to be a man; without any affectations of dress or manner, or speech, or character. He played hard, and he studied hard, at least in studies that took his fancy—some studies he paid little attention to; and it is well known that some fellow-students of unknown lives and far inferior capacities stood much higher in the average of studies than he did. He had no care for "rank," the school-boy's rank; if he had had the care, he could always have stood first, as we knew that we could never measure mind and knowledge with him. He was a leader in play, whether in the open square where the statue of Franklin now stands, or in the empty halls and great stone staircases of the Courthouse, and in the cellar of the same, in which places we played "intere-mintere-cutere-corn," and chased one another in hiding-places, or went together to the wharves, when the boys went in swimming. He used to come running down the street with great splay-feet, full of eagerness and honesty.

If he had the usual faults of an over-animated boy, he had no meannesses. He had none of that haughtiness and arrogance, or exclusiveness, or other ill-temper that was charged upon him in his later days, after he had endured the blows of Brooks and suffered that serious nervous disturbance which might impair the temper and manner of any man. I think he felt himself not far from the equal of his teachers in what he knew; and I believe we boys would have trusted as much to his statement of a translation, or a point of history, or any recondite matter, as we should to theirs. And he remained a school-boy to the last of his life. He never escaped the influence which the idea of learning, prevalent in his childhood and youth, had worked upon him, not even with all his foreign travel and commerce with the great world and with various kinds of men; but, in a better sense, he was a boy to the last—in his simplicity and purity, and still more in his happy remembrance of his old school-fellows, whom I know he greeted as long as they met with the same eager cordiality and with the same happy smile that he would have met them with on the play-ground in 1821-6. Yes, and he loved them more at the last.—*Springfield (Mass.) Republican.*

THE FARMER'S WIFE.

The farmer came in from the field one day,
His languid step and his weary way,
His bended brow and sinewy hand,
All showing the work for the good of the land;
For he sows,
And he hoes,
And he mows,
All for the good of the land.

By the kitchen fire stood his patient wife,
Light of his home and joy of his life,
With face all aglow and busy hand,
Preparing the meal for the husband's hand;
For she must boil,
And she must broil,
And she must toil,
All for the sake of the home.

Sun shines bright when the farmer goes out,
Birds sing sweet songs, lambs frisk about,
The brook babbles softly in the glen,
While he works bravely for the good of men;
For he sows,
And he hoes,
And he mows,
All for the good of the land.

How briskly the wife steps about within—
The dishes to wash, and the milk to skim,
The fire goes out, flies buzz about
—For dear ones at home her heart is kept stout;
There are pies to make,
There is bread to bake,
And steps to take,
All for the sake of the home.

When the day is o'er and the evening has come,
The creatures are fed and the milking is done,
He takes his rest 'neath the old shade tree,
From the labour of the land his thoughts are free;
Though he sows,
And he hoes,
And he mows,
He rests from the work of the land.

But the faithful wife, from sun to sun,
Takes the burden up that's never done;
There is no rest, there is no pay,
For the household goods she must work away;
For to mend the frock,
And to knit the sock,
And the cradle to rock,
All for the good of the home.

When autumn is here, with the chilling blast,
The farmer gathers his crop at last,
His barns are full, his fields are bare,
For the good of the land he ne'er hath care:
While it blows,
And it snows,
Till the winter goes,
He rests from the work of the land.

But the willing wife, till life's closing day,
Is the children's, the husband's stay,
From day to day she has done her best,
Until death alone can give her rest;
For after the toil
Comes the rest,
With the best,
In the farmer's heavenly home.

STORIES ABOUT THE CZAR NICHOLAS.

In 1848, when insurrections were raging all over Europe, a riot broke out in St. Petersburgh, owing to the unpopularity of a police officer. Nicholas jumped into a one-horse sleigh, and was driven to the scene of the disturbance, and, marching alone into the mob, ordered that three ring-leaders should surrender. His terrible presence at once cowed the rioters. Three men stepped out, went by his orders to the police office and were there flogged. The Czar never showed mercy to mutineers, and no doubt the men knew quite well what punishment awaited them when they gave themselves up. A few years before this, in 1844, when Nicholas paid a visit to England, his grim looks made our court uncomfortable. Lady Lyttleton, after saying in one of her letters how grand and handsome he was, added:—"The only fault in his face is that he has pale eyelashes, so that his enormous and very brilliant eyes have no shade; besides which they have that awful look imparted by occasional glimpses of white above the eyeball, which gives him an expression of savage wildness. His face has an awkward character of deep gravity, almost sadness, and a strange want of smiles." The Czar's military habits also caused astonishment at Windsor. After wearing civilian clothes for a couple of days, he begged the Queen to permit that he should resume his uniform, for he found the other clothes unendurable. He slept on a leather sack stuffed with straw. The first thing his valets did on being shown his bedroom at Windsor Castle was to go to the stables for clean trusses, a proceeding which, as Baron Stockmar remarked, "was pronounced by our Englishmen to be affectation; but affectation or not, the Emperor adhered to the practice through life." The Czar's soldierly tastes explain the quality of his rule. As obedience is reckoned a virtue in a soldier, Nicholas was resolved that it should be regarded as such by his subjects; and he also had in him a strong notion of the *patria protestas* calling himself father of his people, and maintaining that his "children" ought not to feel degraded by any order he gave or any punishment which he inflicted.

One night at a court ball a young Prince Kortasow made a foolish remark, which the Czar overheard. "You'll walk up and down the ball-room all night when the guests have gone and cry out in a loud voice, 'I am a puppy,'" said his majesty, and the frightened young gentleman did as he was bidden. Horace Vernet, the French painter, who was at St. Petersburg when this happened, said that the affair "sickened him" so that he declined an invitation which had been given him to live in one of the imperial palaces for a year while he did some work for the Emperor. The Frenchman and the Russian autocrat were not likely to agree upon human dignity—a sentiment which the Czar never took into his calculations.

Nicholas disliked books and hated to hear arguments in favour of his system. He said it was a natural system that needed no argument in its favour. When told of Guizot's maxim, "The best government is an intelligent despotism," he remarked shrewdly enough that there can be no real despotism, that is mastery without intelligence.—*London Times.*

THE EMPEROR OF ALL THE RUSSIAS.

The Emperor who has just been crowned at Moscow is six feet high, and is deep-chested and broad-shouldered. His light gray eyes resemble those of his mother's relations at Hesse Darmstadt more than his father, the late Emperor, who had dark blue eyes (such as the French call blue black), which are to be seen in the pictures of Alexander I., Paul, and Peter the Great. In figure and style he is also like his uncle, the late Grand Duke of Hesse Darmstadt. The shape of his head, which is above the average size, like most of his family, is rather peculiar. His forehead is high. A small mouth, with extremely good teeth, which he only shows when he laughs, is his best feature. His hair is auburn and his complexion very fair. In St. Petersburg he is always attired in uniform, but when on a holiday he wears the black and white shepherd's plaid, such a favourite with English noblemen, a black tie, a white hat, but no gloves (though he carries them), ring, or watch. That he has been no carpet soldier is evident from the marks of frost bites on the third and fourth fingers of his left hand, and a scar on his temple, where a Turkish bullet grazed his head.

SUNDAY AFTERNOON.

OLYMPIA MORATA.

BY AGNES M. MACHAR.

VITTORIA.—"With these ladies
Was a young girl, Olympia Morata,
Daughter of Fulvio, the learned scholar,
Famous in all the universities:
A marvellous child, who, at the spinning wheel
And in the daily round of household cares,
Has learned both Greek and Latin, and is now
A favourite of the duchess and companion
Of Princess Anne. This beautiful young Sappho
Sometimes recited to us Grecian odes
That she had written, with a voice whose sadness
Thrilled and o'ermastered me, and made me look
Into the future time, and ask myself
What destiny will be hers."

JULIA.—"A sad one surely.
Frost kills the flowers that blossom out of season;
And those precocious intellects portend
A life of sorrow, or an early death."

Longfellow, by the divine spell of his poetic genius, has made the brilliant Court of Ferrara of the sixteenth century live again before us in his last new poem, "Michael Angelo," now being published in the "Atlantic Monthly." "Renée of France, the Duchess of Ferrara," the friend of Margaret of Navarre, and, like her, the enlightened and earnest patron of literature and of those "new opinions" in religion then beginning to stir in men's minds to a mighty revolution, he places before us in the womanly charm and "grace of manner and behaviour" that "makes her beautiful beyond the reach of mere external beauty;"

"and in heart
So noble and devoted to the truth,
And so in sympathy with all who strive
After the higher life."

Then there are the "many learned men" still left, though Clement Marot has gone and "Ariosto is no more," and the "devout and honourable women," "full of noble thoughts and aspirations after noble things;" and last, not least, the "marvellous child" Olympia Morata, to whom as many descriptive lines are given as to the duchess herself. Many who read these lines without knowing the after history of this young girl will like to hear something of her remarkable career; the pure and noble, though short and clouded life, in which the sad augury put into the mouth of Julia was, too truly fulfilled.

Olympia Morata was born at Ferrara in 1526—a stormy time, when new thoughts and aspirations were waking up in revolt against the long-established powers of tyranny and superstition. Even in her childhood Olympia's life felt the unsettled character of the times. Her father, a man highly esteemed both for his learning and his integrity, and a warm adherent of the reformed faith, had come to Ferrara as tutor to the young princes of the house of Este, brothers of the reigning duke. Having published a book, in defence of the reformed doctrines, too advanced for even that liberal atmosphere, he was obliged to leave it for a time and teach at Venice, Vicenza, and other places, whence he was finally allowed to return to Ferrara when his daughter Olympia had reached her eleventh year. In the meantime, the eager and enthusiastic child, growing up in a frugal household, and, as Longfellow says, "in the daily round of household cares," with a delicate mother and four younger children at home, had made wonderful progress in the classic tongues, and had even begun the study of science and philosophy, as well as elocution. The fame of her youthful attainments soon spread in a city like Ferrara, and at twelve years of age she was chosen by the Duchess Renée as companion in study of her young daughter, the Princess Anna d'Este. The attractions of court life by no means checked Olympia's ardour for study. She attended—probably with the Princess Anna—the lectures at the university, where ladies seem to have been admitted without difficulty; those of her own father, of Celio Curione, and of the celebrated Chilianus, under whom she made rapid progress in Greek. She wrote dialogues in Greek and Latin, after Plato and Cicero, translated Boccaccio into Latin, and studied philosophy and the art of public speaking under her father's special recommendation, who declared, in a letter to her on the subject, that he would "rather hold his tongue than speak harshly, inarticulately, or unpleasantly." But she learned still more precious lessons under the guardianship of her royal friend. It was probably before her father's return to Ferrara that Calvin had for a time sought refuge there, but the influence of his teaching was still strong at court, and Olympia learned to study her Bible, and drew from it the "living water, of which if a man drink he shall never thirst again." The influence of her own and her father's friend—Celio Curione, a learned and pious refugee from Savoy—helped also to strengthen her faith in Christ and quicken her personal piety.

At the age of sixteen Olympia, from being a student, was advanced to be a lecturer in the university, an honour unparalleled even in these days of "higher education." It may reasonably be doubted whether we shall ever see a young lady of sixteen occupying a chair at Harvard or Yale, or even Cornell; yet Olympia Morata, three centuries ago, lecturing on the Paradoxes of Cicero at the world-renowned University of Ferrara, and lecturing, we may be sure, with the early matured dignity of her earnest character, seems to have excited no perceptible shock of surprise or suspicion of unfitness. In those days, we are told, "there was no notion of rivalry between the sexes, any more than between classes in the State, but all were at liberty to do their best."

For three years more Olympia continued to lead her tranquil student life, and to exert, at the court and the university, the influence of her noble and cultured womanhood. But with her nineteenth year came a change in the political atmosphere of Ferrara, brought about by the watchful jealousy of Rome. Ercole was urged to purge his court of the heretics who abounded there, and notwithstanding the strong sympathies of the duchess he yielded to the pressure. Olympia, being known to be one of the obnoxious class, was obliged to leave the court, and even in her own home, saddened by her father's failing health, was subjected to a most worrying espionage, till she was almost afraid to be seen reading her Bible. Then came the death of her father, her teacher and friend, and Olympia was left to care for her invalid mother and her little brother and sisters. But amid such altered circumstances she scarcely seemed to regret the more brilliant life she had left behind. For she writes, "God has kindled in me a desire to dwell in that heavenly home in which it is more pleasant to abide one day than a thousand years in the courts of princes."

But though Olympia's nobler resources made her independent of courtly pleasures and luxuries, they did not make her insensible to the blessings of a true-hearted love. A German student of medicine, a certain Dr. Andrea Gruuthler, who had taken his doctor's degree at Ferrara, had fallen in love with Olympia, not apparently standing in any awe of her erudition, and Olympia as warmly returned his love. They were speedily married, and the young doctor went to seek a home where his wife and he could breathe more freely; his short absence being intensely felt by the young wife. "You would not believe me," she wrote, "if I were to tell you how I long for you; nothing so hard or difficult that I would not willingly do it to give you pleasure, yet I bear anything for your sake more easily than your absence."

The young couple settled first at Augsburg, Olympia taking with her her little brother, that she might herself carry on his education. Having little congenial society at Augsburg, Olympia found solace and occupation in translating the Psalms into Greek verse. Ere long, however, they left Augsburg for her husband's native town in Franconia, bearing the uneuphoneous name of Schweinfurth. Here their domestic happiness was too soon disturbed by the ravages of war. Schweinfurth fell a prey to one of the "filibustering" expeditions of the times, and the plague came to add to the miseries of the inhabitants. Dr. Gruuthler was prostrated by this dreadful disease, probably caught in his ministrations on others, and was restored by his wife's devoted nursing, only to escape with her, for his life, from a pillaged and burning city. With torn garments and bleeding feet, they found a brief refuge at Hamelberg, where, however, the people were afraid to allow them to remain more than four days. Tossed from place to place, they at last found a settled abode at Heidelberg, where Grünthler received from the Elector Palatine an appointment in the university. Olympia, ever thoughtful for the misfortunes of others, made it her first care to seek a servant among her fellow-sufferers, the refugees from Schweinfurth. Her own heaviest loss was that of her precious library and the greater part of her manuscripts. Her literary friends sent her presents of books to replace those lost in the burnt city, and she employed her own leisure in transcribing her lost poems from memory. Here in peace and quiet and religious liberty, in the beautiful city by the Neckar, she could have lived happily enough with her beloved and devoted husband. But the shocks she had undergone had undermined her constitution, and consumption had set its insidious touch on her frame. So long as her failing strength permitted, she continued to write loving letters of Christian cheer and encouragement to the Ferrara friends still suffering for their faith. To her old friend and teacher, Celio Curione, she wrote, with a last effort, that he must not grieve when he should hear the news of her death; "for I know that my life itself will only begin after death, and I wish to be dissolved and be with Christ."

Her husband, left so desolate by her death, describes it with a tender eloquence which shows a soul worthy of the wife he had won. "When she was almost dying, waking a little out of sleep, I saw her look pleased and smile softly. 'I saw just now,' she said, 'a quiet place filled with the fairest and clearest light.' When she could speak no more, through weakness, 'Courage,' I said 'dear wife; in that fair light you will dwell.' Again she smiled and nodded her head. A little while afterward she said: 'I am quite happy.' When next she spoke, her eyes were already dim. 'I can scarcely see you any longer,' she said, 'but everything seems to me full of the most beautiful flowers.' They were her last words. Soon after, as if overcome by sweet sleep, she breathed forth her soul."

So passed away, in her twenty-ninth year, a woman quite as remarkable in her day and generation as Margaret Fuller was in hers, and as truly a martyr to her zeal for truth as many who suffered a shorter, sharper doom. In enlightened tolerance she was far before many of her contemporaries, whom in simple, earnest piety and love of Christ, she was in no way behind. Here is a passage from the remains of her writings collected by her friend Celio Curione, which would do no discredit to the most enlightened writer in The Christian Union to-day. "About the sacraments I know there is amongst Christians a great controversy, which would easily have been settled long ago if men had taken as their counsellor, not their own vanity, but Christ's glory and the good of His Church, which is advanced by concord."

In the quiet old University Church of Heidelberg—a fitting resting-place for her mortal dust—the traveller can still find a plain gray stone, on which, aided perhaps by some wandering ray of sunlight falling amidst the still mediæval repose and "dim religious light," he can trace for himself the inscription that records the name, the learning, and the virtues, of the truly noble lady, Olympia Morata.

LONDON SUBURBS.

The suburbs of the metropolis, all of them full of historical and interesting associations, and most of them within the memory of living men full of historical mansions, are fast losing, with their fields and woods, the old and distinctive flavour. Kensington has long since been built over; there are no longer fields at Notting Hill; Shepherd's Bush, in whose thickets the footpads used to lie in wait for those who had escaped the highwaymen of Hounslow Heath, is a labyrinth of mean streets and "jerry-built" houses. On the south side London has spread itself out for fifteen miles across the Surrey hills: There is little left of the sweet rusticity of Dulwich; Clapham and Wimbledon have their commons still, but they are now great towns; Forest Hill has lost its forest, and Penge its hanging woods. On the west there are houses as far as Brentford, Kew, and Richmond; on the east the old village of Stratford-on-the-Bow has become a great town of sixty thousand inhabitants, and the leafy little secluded villages which stand upon the southern edge of Epping Forest are united by rows of mean, hideous, monotonous terraces and villas.

The way in which new suburbs spring up is like the dreams of a Western speculator whose imagination is let loose upon a plotting paper, and month after month the green fields and still villages become more distant from St. Paul's. The tavern which to-day stands in its own grounds, wrapped up in ivy and masses of flowers, where we may escape the noise of the city in rural privacy, may soon be transformed into a vulgar "public," serving pots of washy ale over the counter, and the bowers around it be swept away to make room for shops and cottages.

At one outpost of London is an Elizabethan mansion—real Elizabethan and real mansion—which has a dignity and genuineness about its grandeur not common in these days of veneer and affectation in buildings and nomenclature. It has been the manor for generations, and up to last year it held a position of lofty isolation in its park, where the hawthorns and limes almost hid it from the outside world. But in twelve months it has become an anomaly. New homes, new shops, and a railway have surrounded it. What was country a year ago is now an integral part of the city, and the old manor-house, with its glory unimpared, has suddenly become an anachronism.—*W. H. Sideing, in Harper's Magazine for July.*

A SWEDISH SERVANT.

We found her at an employment office, just arrived from Sweden. As I noticed her sunny hair and blue eyes and strong, free step, I thought of what some one said of Jenny Lind: that she ought to have been called the Swedish Lioness, rather than the Swedish Nightingale, from the freedom and strength of her bearing. Not able to speak a word of English, she sat looking at me with such confident blue eyes that no one could feel otherwise than kindly towards her, when the world seemed to her such a fair, honest place.

She held out a little book, printed in Swedish and English, by which we were to converse together. I looked it over, and saw that it contained directions, given to servants in their own country, by which they were to conduct themselves. Among other things, they were told to "step softly, move lightly, and *desire nothing*."

After I came to know more of her intensly social nature, I often wondered how she survived the first few weeks, when we never attempted anything more in the way of conversation than "cup," "plate," etc. At length, in an outburst of desperation, she exclaimed, "I want to talk!" So did we, but the difficulty was how to begin. She solved it herself by asking if we knew George Washington and Benjamin Franklin. We, in return, asked if she knew Linnæus and Swedenborg, to both of which questions she replied in the affirmative, and also recognized, with delight, a picture of Luther. After this, conversation became easy; she was so very apt and eager. She was soon able to give a little account of her voyage: telling us how she, with a hundred other girls, came as steerage passengers, on a great steamer; and how, in leaving, they sang together the Fatherland song; and how the passengers on the upper deck all clapped their hands, as well they might if the other voices were like hers. They had great luncheon baskets; but she lost hers overboard, in a storm, and also her hat. "Now I must every day say to some one, 'Please give me a little bread.'" In the storm she thought, "By and by I dead." It is wonderful, the courage of these girls, starting alone for an unknown world. Some of her friends in Sweden, she said, thought that to come to America they would have to travel through the earth. But she had been taught otherwise at school; taught also to knit, embroider, crochet, and make baskets. The dress she had on she had not only fitted for herself, but had made the woollen cloth for it, and had woven her plaid shawl. She wore generally, on her head a little black shawl. One day she said to me, touching it, "Every woman in Sweden all the same."

She readily understood that we enjoyed hearing about her country, as she took so much interest herself in learning everything possible. She soon began to tell us about the Lapps, as the most curious little people in the world; very short, but wearing tall, pointed hoods, made of reindeer skin. She always talked with great enthusiasm about the "rein," as she called the reindeer; said that if a man had a thousand rein he was rich; that the Lapps travelled about all the time, only lassoing some rein and travelling on to find moss for them, the rein furnishing them with all their food. When they went to church they left their babies outside in little holes in the snow, sewed up in skins. They themselves wore one garment of skin. Swedish babies had a little knit garment, that covered them all over, arms, legs, and feet. Lapp babies were always cold, and the Lapps were very, very poor. I asked, "Why not come to Boston?" She answered, "Oh, Lapp say Lapland *good*." She mocked their funny ways of talking, in monosyllables. They could not open their mouths, she said; it was so cold. She used to mock, too, the peasants' walk,—stiff, ungainly strides; crouching as they went along, because it was so cold. It was very different from reading these things in the geography to hear them from one who had actually seen them, and touched the little cold Lapp babies.—*Caroline E. Leighton, in July Atlantic.*

GERMANY has twenty universities, with a total of 25,520 students.

IT is not difficult to get away into retirement, and there live upon your own convictions, nor is it difficult to mix with men, and follow their convictions; but to enter into the world, and there live firmly and fearlessly according to your own conscience—that is Christian greatness.

REFORMS UNDER ALEXANDER II.

The reaction which had set in since the withdrawal of the restrictions imposed by Nicholas was complete. Not only was the censorship no longer exercised with anything approaching rigour—a negative change which had the effect of calling into existence journals innumerable, nearly all of an extreme liberal tendency—but police supervision was now so inadequately performed that secret printing-presses, all used for revolutionary purposes, could be established in the very heart of St. Petersburg. It was in 1861 and 1862 that the first numbers of the revolutionary print called *Land and Liberty*, and of another called *Great Russia*, were produced, and circulated from hand to hand, and that revolutionary proclamations were for the first time printed, and posted up at night on the walls of the public buildings. The prohibition enforced by the censorship of Nicholas's time against all foreign books of a political and philosophical character had been removed with such success that volumes which no one out of Russia would consider dangerous, but which had really the effect of exciting and inflaming the inexperienced Russian mind, were introduced in large quantities. Buckle and Mill were much read in Russian translations. *Mill on Liberty* appeared in two versions, one of which was enriched by notes from the translator, who pointed out that Mill's notions on the subject of freedom were meagre, and not sufficiently advanced. * * *

The first half-dozen years of the reign of the Emperor Alexander formed a period less of reform than of relief. It was not until February, 1861, that, after a long and painful process of elaboration, the reform known officially as the "law for the amelioration of the condition of the peasantry"—in other words, the emancipation of the serfs—was proclaimed. Meantime the precise constitution of the contemplated district and provincial assemblies for the management and regulation of local interests had not yet been decided upon, while the institution of open tribunals, with oral evidence and the jury system, existed only as a project fully entertained. But the newspaper press had already been placed in quite a new position, and the censorship was exercised with a very light hand, both in regard to publications issued in Russia and to those introduced from abroad.

The universities, too, had been thrown open to all who could or who could not afford a few shillings a term in the shape of fees; for a fund had been established by the richer students, aided by the professors, to which persons unconnected with the universities were allowed and even encouraged to contribute, in the interests of those for whom the almost nominal charges made by the university authorities were nevertheless too high. Exhibitions and scholarships were founded for their benefit; and the actors and actresses, singers and musicians, of the capital were expected, and indeed required, to give entertainments in aid of the poor students' fund, which it became so much the fashion to support that the poor student seemed at one time on the point of himself becoming fashionable.—*H. Sutherland Edwards, in Harper's Magazine for July.*

A PORTRAIT OF JOHN BROWN.

The frontispiece of the July "Century" is an engraving of a portrait of John Brown in the prime of life, and without beard, which Mr. Whittier and Mrs. Brown heartily commend as a likeness. Frank B. Sanborn, who defends Brown against the southern view of ex-Congressman Boteler's recollections—both articles being in the July number of the magazines—says of the portrait: "I knew John Brown well. He was often at my house, and at the houses of my friends, and I travelled with him for days. He was what all his speeches, letters, and actions avouch him—a simple, brave, heroic person, incapable of anything selfish or base. The higher elements of his character are well seen in the portrait which accompanies these pages. There were darker and sterner traits which fitted him for the grim work he had to do, and which are better shown in his bearded portraits, and in some which I possess, taken in the year 1857. But the face that here looks out upon us bespeaks that warm love for God's despised poor which was his deepest trait, and that noble disregard of everything but justice which distinguished his every action. But above and beyond these personal qualities he was what we may best term a *historic* character; that is, he had, like Cromwell and Spartacus, a certain predestined relation to the political crisis of his time, for which his character fitted him, and which, had he striven against it, he could not avoid. Like Cromwell and all the great Calvinists, he was an unquestioning believer in God's fore-ordination and the Divine guidance of human affairs; but he was free from the taint of guile that disfigured Cromwell's greatness. Of course, he could not rank with Cromwell or with many inferior men in leadership; but in this God-appointed, inflexible devotion to his object in life he was inferior to no man, and he rose in fame far above more gifted persons because of this very fixedness and simplicity of character."

THE PETROLEUM FIELDS OF THE WORLD.

The relative importance of the oil fields of the world are succinctly stated as follows in the July "Century," by E. V. Smalley, in his graphic and fully illustrated article on "Striking Oil": "Nearly all the petroleum that goes into the world's commerce is produced in a district of country about a hundred and fifty miles long, with a varying breadth of from one to twenty miles, lying mainly in the State of Pennsylvania, but lapping over a little on its northern edge into the State of New York. This region yielded, in 1881, 26,950,813 barrels, and in 1882, 31,398,750 barrels. A little petroleum is obtained in West Virginia, a little at various isolated points in Ohio, and a little in the Canadian Province of Ontario. There is also a small field in Germany, a larger one, scantily developed, in southern Russia, and one still larger, perhaps, in India. The total production of all the fields, outside of the region here described, is but a small fraction in the general account, however, and has scarcely an appreciable influence upon the market. Furthermore, the oil of those minor fields, whether in America or the Old World, is of an inferior quality, and so long as the great Pennsylvania reservoir holds out, can only supply a local demand in the vicinity of the wells."

THE WILD BIRD'S SONG.

WHAT is it that the wild bird says?
Come listen to his song:—
"Sweet, love is of the summer time,
And summer is not long,

"The blossom fades upon the bough
Before the month of June.
And when at last the red rose comes
She tarries but a moon.

"Come while the earth is glad and green,
We'll build our nest together;
For love is of the summer time,
And cannot bide foul weather."

O, sweetheart! listen, listen well,
Unto the wild bird's song:—
"Sweet, love is of the summer time,
And summer is not long."

The May is white upon the hedge,
Why should we longer tarry?
When hedge-rows bloom and wild birds nest,
Then is the time to marry.

E. A. M. in July Century.

SIX HUNDRED FEET UNDERNEATH NEW ORLEANS.

In his graphic account of "Flood and Plague in New Orleans," which is profusely illustrated in the July "Century," George W. Cable describes as follows the geological formations underneath the city as was ascertained in boring an artesian well. "The alluvial surface deposit is generally two or three feet thick, and rests on a substratum of uniform and tenacious blue clay. The well in Canal street found this clay fifteen feet deep. Below it lay four feet more of the same clay mixed with woody matter. Under this was a mixture of sand and clay ten feet thick, resembling the annual deposits of the river. Beneath this was found, one after another, continual, irregular alternations of these clay strata, sometimes a foot, sometimes sixty feet thick, and layers of sand and shells and of mixtures of these with clay. Sometimes a stratum of quicksand was passed. At five hundred and eighty-two feet was encountered a layer of hard pan, but throughout no masses of rock were found, only a few water-worn pebbles, and some contorted and perforated stones. No abundance of water flowed. The continual alternations of tough clay and loose sand and shells in such variable thicknesses gave a clear illustration of the conditions of delta soil that favour the undermining of the Mississippi banks and their fall into the river at low stages of water, levees being often carried with them."

ARTHUR AT CHURCH.

The following episode of President Arthur's recent trip to Florida has just come to light through the Washington "Critic." While in the quaint old town of St. Augustine, the President and Secretary Chandler arranged to attend service on Sunday morning at a coloured church. When the deacons of the church became aware that such distinguished people were to be present, the front row of seats was reserved for them, to which they were escorted with due form and ceremony. The minister threw all of his available muscular eloquence and earnestness into the prayer with which he opened the service, and then arose and announced that "dis congregashun will jine in singin' de gud ole hymn, 'Bring forth dat ryal diadem.'" The congregation arose, led by the President's party, and the gray-topped preacher, after nervously adjusting his spectacles, repeated from the hymn-book in a clear voice:

"Bring forth dat ryal diadem
And crown Him Lord of all."

Each couplet was repeated by the divine and then sung by the congregation until the entire hymn had been completed, and those who were present declared that President Arthur's voice was heard above all the congregation singing out the inspiring words of "Dat gud ole hymn."

GOOD ADVICE TO YOUNG MEN.

President Porter, of Yale, recently gave this sound and wholesome advice to the students: "Young men you are the architects of your own fortunes; rely on your own strength of body and soul. Take for your star self-reliance. Inscribe on your banner, 'Luck is a fool, Pluck is a hero.' Don't take too much advice, keep at the helm and steer your own ship, and remember that the art of commanding is to take a fair share of the work. Think well of yourself. Strike out. Assume your own position. Put potatoes in a cart, go over a rough road, and small ones go to the bottom. Rise above the envious and the jealous. Fire above the mark you intend to hit. Energy, invincible determination, with a right motive, are the levers that move the world. Don't swear. Don't deceive. Don't read novels. Don't marry until you can support a wife. Be civil. Read the papers. Advertise your business. Make money and do good with it. Love your God and fellow-men. Love truth and virtue. Love your country, and obey its laws."

THE appeal of Bontoux and Feder, officers of the Union Générale, from their sentences of two years' imprisonment has been rejected.

THE peasant who refused to betray the Pretender after Culloden, although £30,000 was offered as a reward, was hanged for stealing a cow.

RELIGION IN RUSSIA.

The Berlin correspondent of "The London Telegraph" writes: Most persons think of the Russian people as a body of some seventy millions of peasants devoted to the Czar and patiently submitting to the scourge of corrupt bureaucracy, and a million of conspirators, secretly sympathized with by every man and woman of a certain education and aspiring towards a higher culture. To close observers it is no secret that the religious sentiments of large classes of the population no longer find satisfaction in the ceremonies of the orthodox Church—that the breach between the ambitious worldly, grasping monks who monopolize all the good benefices of the Church, and the parish priests, steeped in poverty and ignorance, is greater than ever, and that the lay element is beginning to hate the bigotry of the upper hierarchy as much as it despises the ignorance and squalor of the parochial clergy. Pamphlets and articles on the subject have, however, lately appeared in Russia and Germany, among which Baron von der Bruggen's account in the Deutsche Rundschau is most likely to interest English readers, as it deals with three movements, which bear much resemblance to the means by which Protestantism has lately been propagated in Italy and Spain, and possesses many features of Methodist revivals. Of these movements one owes its origin, as far as can be made out, to an Englishman, Lord Radstock, and another to German Lutherans, while the genesis of the third can not with certainty be traced.

To begin with the last of the three, an evangelical spirit of inquiry is said to be manifesting itself in the northren districts of the Ural mountains. The peasantry is no longer disposed to content itself with the outward performances prescribed to the orthodox. It anxiously buys New Testaments, if it can read, or listen to the texts read by others, and expounded by every one according to his own lights. It leaves off attending church services and seeks edification at home.

Something more is known of a propaganda in the south, which appears to have originated with the German colonists in the Government Cherson, who were in the habit of meeting together to pray, to expound the Bible, and to sing hymns and psalms. These prayer meetings, or, "Betstunden," soon attracted the Russian peasants. They imitated their German neighbours, and so widely did this practice spread that "Stundismus" has become a denomination, and the number of "Stundisten" in the district of Kieff is alone calculated by thousands. The cause of the rapidity with which the new faith and observance have supplanted the old is not difficult to discover. It lies in the Gospel, which was a perfect novelty to the Russian peasant. Had not the larger minded Emperors Alexander I. and II. tolerated the publication and sale of Russian New Testaments, many more years might have elapsed before the lower classes in Russia could have discovered the knowledge which the Church had carefully hidden from them. The Sermon on the Mount, the whole life and image of the Saviour, came upon them in the shape of a revelation, quite as much so as it ever did to Hottentots, Esquimaux or South Sea Islanders. Von Der Bruggen relates a remarkable circumstance which he gathered from the lips of a landed proprietor. One day the latter heard from one of his men, who had ridden as fast as he could to bring the news, that a great brawl was going on in a neighbouring village. Carts full of "Stundisten" had arrived and were being attacked with cudgels and stones. The country gentleman rode up to the spot and found that these Muscovite Methodists had slowly driven up to the village and through the streets, singing psalms. These were the people whom the priests had always held up as enemies of God and the Church, and frequenters of taverns and pot-houses. Hence, the newcomers were received with scoffs and jeers, and ordered to depart. As they did not obey, the crowd proceeded to hustle them about and to throw stones at them. The converts did not defend themselves or give blow for blow. They avoided angry words and calmly continued to chant. The narrator arrived in time to prevent worse from happening and to establish order. He witnessed how more than one of the orthodox peasants was so forcibly struck by the behaviour of the Salvationists, if we may so call them, as to fall on his knees and look after them as if they had been the real saints of his own Church. Two days later the whole village had gone over to the sect of Stundists.

A similar movement has been begun in the aristocratic circles of St. Petersburg by Wassili Alexandrovich Pashkoff, a colonel in the guards and a man of birth and wealth, who was led to study the Gospel by Lord Radstock. He has left the army, and now opens his palace regularly to the rich, who hold prayer meetings in French; and to poor to whom the New Testament is read and expounded in their native tongue, in which the colonel also prays with them. The hymns sung are translated from the German, and adapted to the melodies in use among German Protestants. In one of the latest Russian publications on the subject, either by Jassoff or Prugavin, the total number of "heretics" in Russia is estimated at 12,000,000. An official account distinguishes 3,000,000 of sectarians who have priests of their own, 8,000,000 who have no priests, rather less than 1,000,000 of "spiritual Christians," and 65,000 "enthusiasts," among whom we may, I presume, reckon the Flagellais (Chlisti), the Mutilators (Skopzi), the Wanderers (Straunik), the Jumpers (Bequm), and the Living-Dead. The latter bear their strange name because they are in the habit of sleeping in coffins—a fact that reminds one of the Chinese colonist whose first day's work in the new country is invariably the construction of his own coffin. The dissimilarity among all these sects is immense. Adherents of the ancient faith are seriously at variance with the official church only in respect to the highly important question whether two fingers have to be lifted up in swearing an oath or three. Many a martyr might have avoided persecution, prison, torture, and death had he been less economical in the use of his fingers, and raised three instead of contenting himself with two. Sectarianism in Russia has until lately been as superstitious and ignorant as orthodoxy. A kind of partly evangelical, partly rationalist spiritualism seems to have entered it as a ferment, which may some day bring either destruction or reform to the Russian Church.

YOUNG CANADA.

THE MINER'S PET.

Some miners were busy in a new cross-cut in a Nevada mine, when an old gray rat came travelling along "prospecting" for food rather than silver ore.

Quick as thought a young man, new in the works, sprang forward to dispatch him. Just as quickly an old miner checked him.

"Never kill a rat in the mines; they'll bring us luck. We'll make this little fellow welcome, and fix him a box for a house, and give him our scraps to tempt him to stay."

So the rat was made at home in a way very uncommon above ground—and the superstitious miners are looking for ore very confidently after this "sign."

But the rats are sometimes of real service to these dwellers under ground, and so deserving of their warmest gratitude and kindly care. Before one of those terrible "caving-in" accidents the rats seem to feel the settling of the earth some minutes before men perceive it. They come hurrying out of their holes and scamper over the floor in a very excited way, and thus give warning, which sometimes enables the men to escape. No wonder they make pets of the sleek little fellows, which are really as friendly as kittens, when you come to know the best side of them. Often the men have individual pets among them, who come out at lunch time to be fed as orderly as if they were pampered dogs. They clear up the refuse, and leave nothing to spoil in the hot air of the mines, which owes much of its cleanliness to these useful little scavengers.

If rats can be made of use, I wonder if there is anything that cannot. A man took one out of a trap once, and fastened a little bell, of the sleigh-bell pattern, about his neck, and set him loose, You might hear that little tinkling bell up-stairs and down-stairs in the walls of the house, by night or by day, and it was very apt to frighten anyone not in the secret. It did scare away all the other rats and mice in the building, so the little bell-ringer had all the premises to himself. I am afraid he was lonesome, though, and if he went over to a neighbour's house it was just the same way. None of his friends dared stop long enough to have a chat with him. For all they knew, he might be some new-fashioned patent rat trap.

THE WREN'S REQUIEM.

It was on a morning early in spring, years ago, that we heard an unusual twittering outside our bed-room window, above which is a deep thatch. On looking up, we saw two curious festoons hanging from it, apparently in motion. It was, in fact, two half circles, composed of little wrens, clinging to each other by foot and wing, to the number of twenty or thirty. They clung together thus for the space of about two minutes. They twittered mournfully all the while, so different from their usual joyous song; when suddenly, as if by one consent, they in a moment broke loose and flew away. On descending shortly afterward we found a dead wren lying just under the window over which these festoons of wrens had been hanging a few minutes before. It looked as if these affectionate little creatures had been singing a dirge over their dead friend below; at least we could thing of no other cause for the unusual appearance. From that time the wrens deserted that spot for more than two years. On speaking of this to one who had made natural history his study, he told me that it was called "The Wren's Requiem," and was an established fact, though very rarely seen.

THE CHILD AND THE BIRD.

I watched a child one summer day,
When morning breezes stirred,
Go romping through the fields to catch
A golden-breasted bird,
Whose rich imperial plumage shone
Like rainbow in the sky—
Its wings and neck and breast were bright
With every brilliant dye.

At last it darted in among
The blossoms of a tree,
And through the quivering leaves there rang
A rapturous melody.
And as it sang from twig to twig,
Each time 'twould higher mount,
And sweet and clear the music came
Like gushings from a fount.

It sat at last in queenly joy
Upon the topmost limb,
And clapped its shining wings and sang
Its soul-entrancing hymn.
It sang until each trembling leaf
And bloom and blade of grass
Did quiver with the joyous sound,
As when the breezes pass.

It ceased, and raised its crested head,
And spread its golden plumes,
A moment poised in air above
The sweetly-scented blooms.
Then, quick as thought, it sailed away
In arrowy, even flight,
Until it seemed a fading speck
In morning's amber light.

The child stood gazing at the speck
Grow fainter in the skies,
And tears, ah! bitter tears arose
Into his lustrous eyes,
That bathed in swimming splendour beamed
So wondrous bright and blue,
They shamed the early violets
Besprent with morning dew.

BE AWAKE.

I have heard of a little maiden who said, "It was so very hard, she always had to go to bed just when she wished to stay up, and to get up just when she wished to go to bed;" and I know many children feel as she did; but if they had old heads on their young shoulders they would know that those who are growing require more sleep than those who are at their full strength; and also that if they do not go up to bed early they will not be ready to get up for the bright morning hours, which are the very best of the whole day.

It is a happy thing to be awake early, and to get into the habit of rising early. Lord Chatham said, "I should have inscribed on the curtains of your bed and on the walls of your chamber, 'If you do not rise early you can make progress in nothing.'" Therefore, that you may be early awake, and may keep awake at your lessons, or at your work, be early in bed. I sometimes wish, when I hear children grumbling about having to go too soon to their pleasant bed, so soft and sweet, that they knew what it was to be really weary. In the factories, before the law was passed which limited the hours of labour, children often fell asleep over their work, though they knew they would be speedily aroused and punished for doing so. During the battle of the Nile many ship-boys were so weary that they were seen lying asleep on the decks, awakened neither by the noise around them, nor by the fear of their officer's anger, nor by their own danger. They were so weary that they must sleep, whatever came of it. I think if some little people who make ugly faces about going to bed had more to tire them, they would not only be glad to go to bed, but would thank God they had a bed to go to, while the children of poverty have to sleep as they can—oftentimes cold and comfortless.—*Chatterbox.*

POWER OF EXAMPLE.

In a town in Bavaria there is a little tumble-down church building where the Duke, as often as he came that way, used to go in and pray. If, on coming out of the chapel, he happened to meet any of the peasants in the field, he loved to converse with them in a friendly way.

One day he met an old man, with whom he fell into conversation on various things; and, taking a liking to the man, he asked him, in parting, whether he could do anything for him.

The peasant replied: "Noble sir, you cannot do anything better for me than you have done already."

"How so?" asked he. "I do not know that I have done anything for you."

"But I know it," said the man, "for how can I ever forget that you saved my son? He travelled so long in the ways of sin that for a long time he would have nothing to do with the church or prayer, and sank every day deeper in wickedness. Some time ago he was here, and saw you, noble sir, enter the chapel. 'I should like to see what he does there,' said the young man, scornfully, to himself, and he glided in after you. But when he saw you pray so devotedly, he was so deeply impressed that he also began to pray, and from that moment he became a new man. I thank you for it. And this is why I said you can do me no greater favour than you have done me already."—*From the German.*

MR. SPURGEON AND BOB.

The Rev. Mr. Morgan, of New York, was sitting on a bench one day beside Mr. Spurgeon at the latter's orphanage in London. A little fellow not a yard high came up and said, "Mis'r Surg'n may I sit on dis seat?" "Certainly, Bob," said Mr. Spurgeon, lifting him up. He meditated a long time, and then said, "Mis'r Surg'n, s'posing there was an orflin 'sylum an' a hunnerd orflins in it, an' all the orflins had uncles and aunties to bring 'em cakes an' apples 'cept one orflin dat hadn't no one—oughtn' somebody give dat orflin sixpence?" "I think so, Bob; but why?" 'Cause I'm him?" said Bob; and he got his sixpence.

Scientific and Useful.

IF a straw hat has been wet, and the stiffness has departed, rub a little white of egg mixed with cold water over it; put it on with a flannel cloth.

To give consistency to a pie-plant pie, allow to one coffee cupful of pulp, one heaping tablespoonful of cornstarch, then mix with this the yolk of three eggs and the whites for a meringue.

Frozen oranges for dessert on a July day are delicious. Remove the peel and slice the oranges; to each pound of oranges add three quarters of a pound of sugar and one-half pint of water, and freeze.

DANDELION SALAD.—One pint of the plants carefully washed and placed in a bowl with an equal quantity of water cresses, three green onions or leeks, sliced, a teaspoonful of salt and plenty of oil or cream dressing.

STEWED liver is appetizing when one is tired of fried meat and roast. Stew it in a saucepan with a little water, in which you have put a lump of butter, an onion cut in slices, and a liberal allowance of pepper and salt.

A FANCY for children's party cake is to make plain or sponge cake, and bake in shallow tins; cut in small oblong pieces a little larger than dominoes, and then, with a brush dipped in melted chocolate, make the marks and dots.

A PRETTY way to brighten a willow chair is to tie two bows to the back of the chair, a blue one at the top and a pink or cream-colored one below it, at about the centre of the back, or have both of them of scarlet ribbon; tie them so that loops and ends are about the same length.

BEET SALAD.—A delicious salad is made by boiling new beets without scraping them. When they are tender, drop them in cold water, remove the skin, slice them, and put in a salad dish in layers, with slices of hard-boiled eggs; season with pepper and salt, a little butter, and vinegar.

PEANUT candy is made of two cups of molasses, one cup of brown sugar, one tablespoonful of butter, one of vinegar, while it is boiling remove the shells and the brown skins from the peanuts, lay them in buttered pans and when the candy is done pour it over them. While it is still warm cut it in blocks.

CORNS cause intolerable pain. Holloway's Corn Cure removes the trouble.

STRAWBERRY CRUSTS.—A box of strawberries and a dozen buns. Split and butter some small round buns; let them get hot in the oven. Bruise the strawberries slightly, so that the juice will run; strew powdered sugar on them, pour over the buns while hot and let them stand in a glass or china dish until cold, before serving.

STRAWBERRY SPONGE CAKE.—Make a custard of one quart of milk, a cup of sugar and the yolks of four eggs. Flavour when cold. Slice one stale sponge cake and cover the bottom of a glass dish with it, moisten the cake with the custard, over this spread a layer of ripe strawberries, then another layer of sponge cake, and again a layer of strawberries; sprinkle the fruit with powdered sugar, beat the whites of the eggs stiff, whip into the eggs some strawberry juice well sweetened, spread the meringue smoothly on top and ornament with bright scarlet berries.

LEADING DRUGGISTS on this continent certify to the large and constantly increasing sales of Northrop and Lyman's Vegetable Discovery and Dyspeptic Cure, and report its beneficent effects upon their customers troubled with Liver Complaint, Constipation, Dyspepsia, Impurity of the Blood, and other physical infirmities, and as a female medicine it has accomplished remarkable cures.

TOMATO SOUP.—A delicious tomato soup is made by frying some bits of beef and ham in a saucepan with a lump of butter and a small onion sliced. Take a quart can of tomatoes, or a dozen fresh ones (medium or small sized), add a coffee cup of stock and then put the meat in with it and boil; season with pepper and salt. This may be strained or not; of course it is in better taste to strain it; if the soup seems too thin after it is strained, put it back on the stove, add a tablespoonful of flour rubbed smooth in cold water, and let the soup simmer gently for half an hour. In making any kind of soup it is much better to let it simmer than to boil violently—nothing is gained, but even time, by the latter process, as anything will cook just as quickly without it. It is the degree of heat to which the soup is subjected which cooks it, and flavour suffers by rapid evaporation.

ALEXIS CYR, of Grant Isle, Aroostook Co., Maine, writes: "Having used Northrop and Lyman's valuable Emulsion of Cod Liver Oil with Hypophosphites of Lime and Soda, and derived great benefit from it, I take the liberty of asking you for quotations, and also whether you would be willing to give me the agency for this place, as I am confident there would be a large sale for it in this vicinity when its merits were made known."

THE
CATHOLICITY
OF THE
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By Rev. Professor Campbell, M.A., Presbyterian College, Montreal.

"It is well reasoned throughout, contains passages of great eloquence and proves its author to be a master in Ecclesiastical History. It is in the form of a neat little Pamphlet of thirty-two pages, being the first of a series of "Tracts on Presbyterian Topics" which the Publisher intends giving to the world, and we must say that he has made a good beginning.—CANADA PRESBYTERIAN.

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C. BLACKETT ROBINSON
Jordan Street, Toronto. *Publisher.*

SIGNIFICANT SPRING.

A Dissertation upon its advent, and its effect upon mankind.

"The green leaf of the new come *Spring*."—*Shak.*

Everybody recognizes spring, when it is once upon us, but many persons are not familiar with the exact date of its appearance. Webster, the world-renowned lexicographer, gives us a definition, which may not be inappropriate here. "Spring," says he, "is the season of the year when plants begin to vegetate and rise, the vernal season, comprehending the months of March, April and May, in the middle latitudes north of the equator."

Thomson, in his "Seasons," and Shakespeare, in many of his works, have, perhaps, no peers in describing it, and yet "etherial spring" is freighted with malaria, "that insidious foe lurking unseen in the very air we breathe." It spreads over the fairest portions of our land, bringing death and disease to thousands, cuts off scores upon scores of our children and youth, as well as those in advanced life. A pestilence is regarded with little less apprehension, and people everywhere are asking, "What is it?" "Where does it come from?" "What will cure it?"

KIDNEY-WORT AS A SPRING MEDICINE.

When you begin to lose appetite—have a headache, a pain in your side, back, and shoulders; to toss about at night in restless dreams; wake in the morning with a foul mouth and furred tongue; feel disinclined to go about your work, heavy in body and oppressed in mind; have a fit of the blues; when your urine gets scanty or high colored; to suffer with constipation, diarrhœa, or to digest; have a pasty, sallow face, dull eyes, and a blotched skin, *you may bound it these* common complaints will certainly be evidences that your liver is disordered, torpid, or perhaps diseased. A bottle of Kidney-Wort is, under such circumstances, a priceless boon to such a person.

Bare assertions of proprietors have come to possess less force than they frequently merit. The cause of this condition of popular skepticism is, in the main, to be found in the fact that charlatanism covers our broad land. Meritorious articles are too frequently found in bad company.

The proprietors of Kidney-Wort always *prove all their assertions*, touching the merits of their preparations. When we affirm, therefore, that Kidney-Wort is a specific for just such disorders as have been mentioned in this article, the proof, too, belongs to and shall follow this statement.

A PHYSICIAN'S EXPERIENCE.

Dr. R. K. Clark, a regular physician of extensive practice in Grand Isle County, and a worthy deacon of the Congregational Church, at South Hero, Vt., has used Kidney-Wort for several years in his practice, and before the present proprietors purchased an interest in it, he had given his unbiased opinion in its favour. This opinion has not changed. "*It has done better than any other remedy I have ever used*," says the Doctor, and, further on he writes: "I do not recollect an instance where the patient to whom I have given it has failed to receive benefit from its use, and in some severe cases most decidedly so." These are strong words. They are from a representative, conscientious, ever-approachable public citizen, however, and—better still—they are true.

Kidney-Wort will bear all the encomiums lavished upon it by its friends—and their name is legion. "*I will swear* by Kidney-Wort all the time," writes Mr. J. R. Kauffman, of Lancaster, Pa. We will supplement this by asserting, as a matter of fact, and one capable of demonstration, that *all honest patrons of this remedy are its friends and advocates.*