

MASTERY.
Let not ambition master thee,
But be ambition's master;
Thus will Power by servant be,
And not thy soul's disaster.
—The Criterion.

Amy's Birthday Flowers.

By ELIZABETH McCRAKEN.

Mrs. Dale's fingers trembled, and her lips trembled, too, as she stood before her mirror, tying her bonnet strings and pinning her veil. Amy had usually tied her bonnet strings and pinned her veil.

It was almost a year since she had one day folded Amy's hands and slipped into them the last flowers that they ever would hold in the world, but she had not yet grown accustomed to doing for herself all the little things those once busy hands had done for her.

During the time that was almost a year she had missed Amy with that loneliness which a mother does miss the daughter who goes away into the great, strange silence just when she is old enough to be her mother's best friend as well as her child. Mrs. Dale missed all those things that had made up Amy's life, and, perhaps most she missed the little things that Amy had done for her, and that now she did for herself.

Then, too, Amy had been her only daughter. Mrs. Dale's two sons were in college, and her husband was away from home all day. She had many interests and many duties, too, yet she was very lonely. She was much more lonely without Amy than even her husband or her sons could know.

As she stood before the mirror, tying her bonnet strings and pinning her veil, her heart was even heavier than it usually was. The next day would be Amy's birthday, and instead of preparing gifts and surprises, Mrs. Dale was about to go into the city to buy the most beautiful flowers she could find to lay on the girl's grave. Amy had loved flowers, and the next day would be her first birthday in that other world, that world in which mother's care never left her.

Mrs. Dale was thinking all this to herself as she went into the city on the trolley car. It was September, and it was afternoon. The car went past fields beginning to turn brown, and between lines of trees beginning to show among their green sometimes a red leaf, or a leaf of bright gold. The sun made the leaves all the brighter, and it gilded the brown fields too, and made the trees cast long shadows. Amy had always been so glad that her birthday had fallen on one of the mystic days that come just before September slips into October.

Her mother thought of that, too. She thought of so many things about which Amy had been glad. She was a little less sad and lonely as she remembered some of them. She thought and remembered all the time that she was in the trolley car, and even after she was in the city, and walking along the crowded street to a florist's shop in one of its corners.

When she reached the florist's shop she stopped, and stood looking at the flowers in the shop windows.

"What shall I get?" she said to herself. "Roses, white roses; Amy always loved them, or violets—it is either early for violets, though. Or lilies—I might get lilies."

For a moment she almost forgot that she was not buying them to give into Amy's eager hands. She was not very rich and she began to consider. She compared in her mind the number of roses with the number of lilies she might get. She decided upon the roses.

"They are sweeter and simpler for a young girl like Amy," she said to herself, gently.

She turned away from the windows, and was just about to open the door of the florist's shop when she saw coming up the street towards her one of Amy's girl friends. She paused and waited. She had always been very friendly with the girls, and now she felt even a greater interest in them. She had especially liked Eleanor or Greer.

The girl was coming so rapidly up the street that she would have passed the florist's shop without seeing Mrs. Dale if that lady had not spoken to her.

"My dear Eleanor, you certainly are in a hurry," she said.

Eleanor came to a sudden stop. "O Mrs. Dale, dear Mrs. Dale, I am so glad to see you!" She took Mrs. Dale's hand and held it for a moment. Eleanor had loved Amy, and she, too, had been lonely without her. She, too, remembered that the next day would have been Amy's birthday. She said not a word, but she held Mrs. Dale's hand very closely, and looked into her eyes, and Amy's mother understood the unspoken sympathy.

"How are you, my dear child?" was all that she said, for she did not yet speak very often of the daughter who had died.

"I am very well," Eleanor said, "and very busy. I read the history of music and teach children music—just as usual, dear Mrs. Dale." She smiled just a little wistfully, Mrs. Dale thought.

Prompted by the thought, she asked gently, "Are you happy, Eleanor dear?"

Eleanor hesitated for an instant, and then she smiled again and said, "Yes—usually I am. Just at present I

am sighing for the luxuries of life." Mrs. Dale was relieved. She knew that Eleanor was too sensible to sigh very long for anything. "What do you mean by the luxuries of life, dear?" she asked.

"Now really, Mrs. Dale!" Eleanor protested brightly; then, with more color in her face, she added, "Just now they are the eight concerts that the Beethoven Society is going to give."

Mrs. Dale smiled in sympathy. "They are certainly the greatest of luxuries to music lovers," she agreed.

"And to music teachers help, must spend their money for—other things," Eleanor added, with a laugh. "Please don't think I am really unhappy because I can't afford to go, Mrs. Dale. I'm not; I'm just croaking a little. It's such a help to any one to hear good music, especially to a music teacher—and such a joy! But I'm not unhappy about it; I'm glad I can do other things. I don't feel a bit like croaking any more since I've seen you!"

"You dear child!" exclaimed Mrs. Dale, warmly. She knew that most of the other things that Eleanor did were done for other persons, and done willingly and bravely. "You dear child!" she repeated.

Eleanor pressed her hand closely. I must fly to my next pupil, Mrs. Dale. May I come to see you tomorrow—perhaps late in the afternoon?" she whispered.

The quick tears came into Amy's mother's eyes. "Yes, do!" she said. "Good-by, my dear!"

Eleanor sped up the street to her next pupil, and Mrs. Dale turned to enter the florist's shop and buy the white roses.

"Eleanor is a dear, good child," she thought, "so brave and unselfish! It is a pity she can't go to those concerts. They would give her such help, and such happiness, too! I wish I could give her a ticket to them. Amy would be so pleased; she loved Eleanor. If tomorrow were not Amy's birthday, and I were not going to get the flowers for her grave, I should be able to do that for Eleanor. She would let me because I am Amy's mother. I won't."

She stood quite still. A pleasant new possibility came into her mind. She turned away from the florist's shop. In less than an hour she was going home, past the yellowing fields and sun-lighted trees. She had no flowers with her, but the look in her eyes was less sad and less lonely for Amy.

In the last few moments of daylight she wrote a little note to Eleanor. The girl wept tears, half-happy, half-sad, as she read:

MY DEAR CHILD: To-morrow, as you know, is Amy's birthday. If Amy were here I should give her something to celebrate it. Amy is not here, but you are dear, and you are a girl like Amy, and her friend. Will you not take the gift for her, and go and listen to the glorious music that you so love and can so well make helpful to your self and others? Come to see me soon, and believe me, Your warm friend,

AMY SPENCER DALE.

Slipped into the note Eleanor found a ticket to the Beethoven society concert. Amy's mother had sent it very happily, but after it had gone she sat alone in the gathering twilight, wishing that she had just one flower to take on the next day to Amy's grave. "Amy would have liked me to do that," she thought, "but still—on her first birthday—"

She did not finish the sentence, for just at that moment little Marjorie Williams, who lived next door, came running in.

"O Mrs. Dale," she cried, "I've been to the woods with father, and I've brought you some flowers!" She ran up to Mrs. Dale, and dropped into her arms a great mass of golden rod and blue autumn Jasies. Then she kissed her and danced away home.

Mrs. Dale gathered the golden rod and Jasiies in her arms, and pressed her cheek softly against them. The next morning she took them and laid them on Amy's grave. Strangely her heart felt lighter than it had felt since Amy died.

She did not know why, but when Eleanor came, later in the day, and kissed her again and again, and thanked her with wet eyes for the gift, she began to know. Never after did she cover Amy's grave with costly quick-fading flowers.

Instead, at Christmas, and at Easter and on Amy's birthday, she did some lovely kindness for some other girl for Amy's sake. Sometimes it was small, sometimes it was large; but always it was something that made the girl happier and better, and consequently more valuable to the world—Youth's Companion.

A Real Philosopher.

A Bittersea workman was once possessed of a notoriously bad tempered wife, who did not scruple, when the fit seized her, to lay violent hands upon her patient spouse. One fine day he was observed by a friend, who saw him entering a crockery shop laden with an armful of cups and saucers.

"Hello, John!" he cried. "Selling your home?"

"No," responded John, "but I really couldn't stand the expense any longer. These here ones break into little bits at once, and so I'm going to change them for thicker!"—London Answers.

The plan of destroying hail clouds by exploding bombs among them was suggested nearly 100 years ago by Prof. Parrot of Riga.

FARMERS' CORNER

Feeding Animals for Profit.

Feeding animals to keep them over winter is not profitable. Every animal should be so fed as to make a gain. It is a loss of time to feed in winter simply to hold an animal over until it can be turned on the pasture. There is no reason why the farmer should sacrifice the winter months. Warm quarters and proper food should make animals gain and pay in winter.

Feed Digestible Foods.

It is possible to give an animal an abundance of food and yet not supply it with the proper food. The digestible matter in foods that have their value. When pigs have a desire for coal, charcoal, rotten wood, etc., the indications point to a possible lack of something required, which may be the mineral elements, especially lime. The feeding of wood ashes or ground bone would no doubt satisfy the desire of the animal. The food should also be improved by the use of bran and ground oats.

Shipping Plants.

In taking slips from plants for rooting many persons take off the young branches from the sides and base of the stock, forcing it to expend all its energies in sending out new growth from the top of the plant. This is a "straw" plant. Try taking your slips from the very top of the plant, leaving all sprouts at the base and sides of the old stalk, and you will be surprised to find what nice bushy plants you will have in a short time. Geraniums, coleus, begonias and pelargoniums are benefited by such pruning. Long branches of wandering Jew may be put into a bottle of water and hung behind a picture so that the vines will twine about it, making a pretty decoration while the roots are forming and the little branches are starting out along the stem.—The Epitome.

Orchard Grass.

Those who have sown orchard grass along with clover on land adapted to its growth have usually been well satisfied with it, as the two are fit to cut about the same time, or much nearer together than either of them with timothy. They also should have the seed sown at the same time, that is, as early in the spring as the ground can be made fit. As its name indicates it grows well in the orchard or anywhere in the shade, and it likes a rich, sandy loam, deep and moist. On such soils it starts early in the spring and grows rapidly; thus it makes a good grass for a permanent pasture, but when the ground is strong enough it is more valuable for hay, as its rapid growth enables one to get two or three crops a year. It needs to be sowed thickly, say three bushels when sown alone, or two bushels with 15 pounds red clover seed per acre when they are sown together. As if sown this it makes a coarse straw, that is rather poor hay, especially if not cut quite early enough. It needs considerable curing, but if cured as we would cure clover, most of it is much relished. It makes a hay that is much relished by horses. Some sow the clover and orchard grass and add about five pounds of white clover seed to the above mixture, mix together well, and after cutting the hay one or two years make a pasture of it. This is a very good way, especially if the field is one that the blue grass and red top will come in naturally.

Winter Watering of Fruit Trees.

The winter season offers the fruit grower his opportunity for wreaking vengeance on the insect enemies which play such incalculable havoc with the fruit trees in the summer months. The insects are practically at their mercy in the dead season, for they cannot flee from the deadly poison he may wish to apply for their destruction, and if the owners of orchards care to exercise their powers of quelling infestation at the proper time and in the proper way then can largely diminish if not entirely remove the risk of harmful insect attacks. The board of agriculture has prepared and is circulating free of charge a leaflet dealing with this subject which is deserving of thoughtful attention.

As is well known the insects hibernate in the broken bark of the trees, and the course of treatment proposed is the washing of the trees with caustic alkali wash, the use of which has been found effective in removing the rough decaying bark under which the insects shelter, and at the same time in destroying the eggs of numerous insects. The directions given for the preparation of the wash are: First dissolve one pound of commercial caustic soda in water; then one pound of crude potash in water. When both have been dissolved mix the two well together; then add three-quarters pound of agricultural treacle, stir well, and add sufficient water to make up to one gallon. The best time to apply is about the middle of February, when the eggs are in a more susceptible state and the trees still safe from injury.—London Post.

Trained Buttermilk Neat.

A feature requiring more attention on the part of buttermilk makers is that of cleanliness in their creameries. As this feature is so essential to making butter of the best flavor, it would seem that it would not be necessary to even mention it, but the fact that

it is one of the things which the buttermilk maker most commonly neglects. As very few of the buttermilk makers throughout the country are graduates of our dairy schools, there are not many of them who understand the influences that affect the flavor of butter. They have learned buttermaking in a mechanical way and go through the process according to rule, but if anything should occur to interfere with the working of these general rules they find themselves at sea. There is nothing more difficult to understand than the production of flavor in butter, but in most of our dairy schools the principles of producing it are taught in such a way as to place it almost completely under the control of the buttermilk maker. The buttermilk maker finds it hard, unless he has studied his work at a school where principles are taught to adjust himself to conditions and consequently some of the bad butter which is produced is traceable to his lack of information as to the best method of treatment. We would naturally expect, from the fact that few of our buttermilk makers are graduates of dairy schools, that considerable difficulty is experienced in testing the milk. Every well equipped creamery should have a Babcock milk test, and its operation is one of the important features of the factory. If a buttermilk maker is incompetent in this direction he is sure to have lots of trouble, as it is quite common for farmers to become skeptical about their test even if it is accurate. We have had inquiries come to us along this line asking where the official test should be obtained, as the patron did not think that his factory was giving him a fair test. It may be said here that the dairy commissioner makes such tests and the creamery departments of the various experiment stations are also willing to make tests of this kind. This is work, however, which should be performed by the buttermilk maker, and the fact that there is so much trouble over it simply indicates that more of our buttermilk makers are graduates of dairy schools.—Wisconsin Farmer.

Growing Trees to Withstand Drouth.

It has long been noticed how much better deep rooted trees and growing plants stand a drouth than those which are shallow rooted. The tendency to a root in any particular way is largely an inherited characteristic in the various varieties of trees or plants, but partly a matter over which man has some control. There are conditions in which moisture is so frequently supplied by rain, or where the water from the ground that it is impossible and unnecessary to try to make the trees root deep. There are no fruit trees so far as I know, and but a few kinds of nut-bearing trees, which do well if their roots extend to a perpetual water strata. But on ordinary soils, and under usual conditions, trees may be so pruned and trained that they will send their roots deep down, and the deeper rooted the trees become the healthier, the longer lived and the more productive they will average.

The trees from the same nursery, on the same kind of soil, if planted in California, will stand a drouth which would kill its fellow planted in New Jersey, with its ordinary root system. This fact leads me to inquire if there is not some way by which trees may be induced to root more deeply.

The chief cause of the difference is that in California the soil about the orchard trees is kept well cultivated, and each wet season the ground is deeply plowed, thus all the surface roots and saplets are cut off. The moisture during the growing months is supplied by a deep furrow system of irrigation, so the water is sent well down into the ground and the roots have no need to come to the surface for water. Indeed the top soil is kept so well cultivated that there is always a dry layer of earth of several inches in thickness, which prevents the radiation of moisture.

From experiments which have been made in the east it is possible to force the roots to go deeper than were nature left alone, and always, so far as I have investigated, has the experiment been attended with satisfactory results. If the main roots of a young nursery tree are pruned square across a number of small rootlets immediately start near the point of amputation, and their growth is usually at right angles to the root from which they originate. Now if in place of a square cut, a fresh very oblique cut be made the tendency is for a single main sprout to grow, and in the same direction with the root from which it started. It is evident if this rule holds true, that a deeper rooted tree can be obtained by pruning the top root or roots in this manner. The side roots should be similarly pruned and the oblique face of the cut turned downward. Then if in addition to the proper initial root pruning, the orchard be plowed and cultivated, if not as frequently as is the custom in California, at least once in a while, so as to cut off the surface feeders, then the tree will depend more and more upon its deep roots. It would not be well to allow too long an interval to elapse between these root prunings for the removing of a considerable quantity would be a severe shock to the tree. Easter do it often.

Deep rooted trees do not respond as quickly to fertilizers, but on the other hand they do not make known a want as quickly. There are always a sufficient number of small roots to take in the food or water, and the fact that there are none of these upon which the tree largely depends will be a guarantee that year in and year out the deep root system is best. The experiment is well worth trying.—Charles E. Richards, in American Agriculturist.

HOMES OF THE BEAVERS.

FAST DISAPPEARING BEFORE THE VANQUARD OF CIVILIZATION.

How the Little Fellows Build and Live in Harmony—Chief Title to Distinction Rests on Their Ability as Engineers—They Have Exceedingly Thrifty Habits.

The beaver is another of the animals which are fast disappearing before the barbarian vanguard of civilization. From a common and widely distributed animal, he has become rare and local, and in most parts of the United States he is already but a faint memory, kept alive by such names as Beaver Falls, Beaver Dam and Beaver Brook, given to places which he formerly inhabited. His beautiful fur coat was coveted by man, and according to the universal law of nature he died because it was to the immediate interest of a more powerful animal to kill him. Perhaps he has fulfilled his mission; at any rate, few animals have done more toward forming the contour of the country. Whoever he has been he has left lasting monuments to his industry in the form of meadows, ponds and waterfalls, and his name will always be associated with peaceful, intelligent labor.

In appearance, the beaver resembles somewhat of a muskrat and somewhat of a woodchuck, though he is larger than either of them. In length he measures something over two feet from the tip of his blunt nose to the root of his tail. His body is roughly cone-shaped, being largest in the rear, and covered with the rich, shining fur, which is at once as wealth and his death warrant. This fur is of two kinds, one composed of long, coarse, glossy chestnut hair, which is short, thick, soft and silky. The second is the animal's blunt, the eyes small, and the ears short and rounded. The fore feet are short and slender, but the hind feet are large and webbed to the toe nails. The former serve the animal in place of hands, while the latter are the propellers which urge him through the water. But the most peculiar part of a beaver's anatomy is his tail. This appendage is flat and broad, and its horizontal outline is almost a perfect ellipse, about a foot long and three and a half inches wide. It is about an inch thick and covered by angular scales. It is guided by the beaver as a rudder to control him while swimming, not as a tray on which to carry building materials, nor as a trowel to plaster the walls of his dwelling, as some old writers would have us believe. The beaver also uses it to slap the water as a signal to his companions when there is danger in the wind.

The beaver's chief title to distinction rests on his ability as an engineer, which is perhaps unequalled by any other four-footed creature. When a colony of beavers take possession of a body of water, usually a small creek or brook, they first of all make a dam, which throws the water back, flooding the surrounding land and leaving a pond, the site of a future beaver city. The dam is made of mud, small stones, moss and grass, and the mud, stones, moss and grass are plastered in between the sticks, forming a strong water-tight structure. Such a dam is sometimes eight feet high and almost a quarter of a mile in length, extending far beyond the original banks of the stream. It is perhaps ten or twelve feet wide at the bottom, but much narrower at the top, as the sides slope toward each other.

In the pond thus formed the beavers make their lodges or houses, great dome-shaped structures, six or eight feet high, and some of them from twelve to twenty feet in circumference. The doorways are under the water, and in front of each the beavers scratch away the mud, forming a deeper channel that they may sink without danger of their being frozen in, and that they may pass freely in and out, even when the ice is thick upon the pond. The tops of the houses are made of branches matted together and plastered with mud and moss, and when this is all frozen together it forms an almost impregnable fortress.

Sometimes as many as ten or twelve beavers occupy a single lodge, each with a separate bed near the walls, and each sharing the laborious work which is necessary to the welfare of every beaver community. When an accident happens to a dam or to one of the houses, the little animals are quick to repair, realizing, apparently, the value of "a stitch in time." Hunters used to take advantage of their thrifty habits to work their destruction. After breaking down a portion of a dam they would sometimes hide in silence until the little citizens turned out to repair the damage, and then shoot the beautiful creatures in cold blood. At other times they would set steel traps under the water, and the swimming beavers would be caught by the leg. In the struggle for freedom which followed, the limb was frequently torn off and beavers with one or both of their front legs missing were of quite common occurrence.

The chief food of the beaver consists of the tender bark of young trees, particularly that of birches and willows, but he also eats aquatic roots and bulbs, and in captivity he has shown a liking for many of the common garden vegetables.

Yesterday I paid a visit to the beaver in the Zoological Garden at the Bronx Park, New York, where most of the animals are kept under conditions as closely resembling those of

nature as absolute safety to visitors will permit. Here these interesting animals have cut down trees, dammed the stream assigned to them, and built their lodges with as much competence as though they had been free in the wilds of Maine or Canada.

Young beavers are usually born in April or May, but sometimes as late as July. There are generally from two to five little ones in a litter, and about a month after birth they begin to follow the mother in the water. I have not yet seen very young beavers, but I am told that they are born with their eyes open.—Hartford Times.

HOT HOUSE SPRING LAMB.

Mode of Raising a Delicacy That Sells New at \$1 a Pound.

Spring lamb is for sale now at \$1 a pound or thereabouts.

"We don't sell much of it," said a butcher, "we pay wholesale from \$14 to \$20 a carcass for it, and a carcass weighs from fifteen to twenty pounds. That makes the cost to us almost \$1 a pound.

Retail dealers do not like to handle much of it because we do not have much call for it, and the wholesale price being so high we are able to make only a few cents a pound on it. If by chance anything happens to what we have on hand the loss of one carcass knocks the profit off a considerable consignment.

"All spring lamb now in the market is known as hot house lamb. In the last dozen years sheep raisers have discovered a means of forcing their products just as the vegetable, fruit and flower growers have discovered how to give us strawberries, peaches, cherries and radishes and other delicacies in the midst of winter.

"The reason for the hot house lamb is from about this time until the first of March. Before their introduction those who like good food and have the money to pay for what they want were satisfied to wait their first spring lamb about Easter time.

"How to raise hot house lambs was first discovered by raisers in New Jersey. They had a monopoly of the market for a while. Then the business was taken up by sheep raisers in Kentucky, Missouri and southern Kansas.

"Within the last two years several raisers on the eastern end of Long Island have started in, and I understand they have made money at it. But by far the greater amount of the lamb that comes into the market here comes from Kentucky.

"The natural mating time of the sheep in temperate climates is just after cold weather sets in. The lambs are then born in January and February. They are ready for market about Easter or a little before.

"But the Kentucky and Missouri raisers along in June and July pack up their breeding ewes and ship them north to Michigan and Canada to graze. The cold nights there hasten the mating, and the sheep are brought south about the first of December. Shortly after this the lambs are born.

"The sheep when they are brought south are kept in hot houses. These hot houses are usually long rambling buildings with a southern exposure having in most cases glass in the sides and roof.

"This glass permits the ewes and the lambs to get a good supply of solar heat on clear days. They are kept from the cold winds, and this helps fatten them.

"These buildings must be large, for you cannot confine sheep in a small enclosure or they will get restless. You ever notice how a flock of sheep ramble about when they are grazing? So in the hot houses the sheep must have plenty of room.

"The Kentucky raisers have also an interesting way of getting good food for the ewes. Whenever possible they have small streams on their places. These streams are banked up so that the water will overflow the grazing land.

"After the water has covered the land for a day or two it is run off, and then soon after the young grass springs up fresh, green and tender, just as in spring time. This grass is then cut and fed to the ewes. They are not permitted to graze on it or they would overeat themselves.

"This grass gives the ewes rich milk, and it hastens the growth of the lambs. The lambs are most suitable for market when they are three months old, though some raisers send them when they are a week or two younger."—New York Sun.

The South American Cowboy.

As the twilight shows them in the darkness of the hour that precedes the dawn, they are swarthy of complexion, dark-eyed, slight of figure, clean of build. They remind you of Gypsies, also of Moore, and in their veins flows the blood of the Indians who once owned the pampa and lost it to the Spaniards. There is Spanish blood in them, too. The flourish with which he touches his hat, the grace with which he waves you to a stool made of a sow skull, the grave politeness with which he hands you the teacup, the politeness with which he receives your remarks about the weather—everything about him when he is at his best has a Spanish suggestiveness. But still the gaucho is not a Spaniard. The pampa looks out of his eyes, is in his voice, his dress, his manner. He and teaches them things which make them different from other men.—William Bullfinch, in the World's Work.

It is calculated that in London alone there are discharged into the atmosphere daily 13,000 tons of unconsumed fuel.