

# OUR RURAL READERS

will be pleased with this DEPARTMENT.

Manure Values—How to Make a Gate-Dairy Notes—The Culture—Orchard and Garden—Raising Ducks for Money—A Few Household Hints.

## THE FARM.

### Value of Manure.

The Experiment Station of Cornell University has made a series of investigations on the loss in stable manure by exposure in open barnyards, the results of which are summarized in a bulletin twenty-seven of that station.

In the experiments of 1890 horse manure was saved from day to day until a pile of two tons had been accumulated.

This was done from April 18 to 25. Cut wheat straw was used plentifully as bedding, the relative amount of straw and manure being 3.310 pounds excrement and 681 pounds straw.

Chemical analysis showed that one ton of this fresh manure contained nearly two pounds of nitrogen, two pounds of phosphoric acid and eighteen pounds of potash, making its value about \$2.80, if these constituents be valued at the same rate as in commercial fertilizers.

The pile of manure thus made was put in a place thus exposed to the weather and where the drainage was so rapid that all the water not absorbed by the manure ran through and off at once. It remained exposed from April 25 to September 22, at which time it was carefully scraped up, weighed and a sample taken for analysis.

It was found that the 4,000 had shrunk to 1,730 pounds during the six months, and analysis showed that this 1,730 was less valuable, pound for pound, than the original lot of manure. It had not only lost by leaching, but by heating or "fire fanning" during periods of dry weather, and the value of the pile of 4,000 pounds had shrunk from \$5.60 to \$2.12—a loss of 62 per cent.

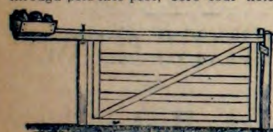
In summing up the results of this experiment, Director Roberts says: "It seems safe to say that under the ordinary conditions of piling and exposure, the loss of fertilizing materials during the course of the summer is not likely to be much below 50 per cent of the original value of the manure."

Further experiments showed that the liquid manure from a cow is worth as much per day as the solid manure, and that the combined value at the same rate as commercial fertilizers; that from a horse at 7 cents; that from a sheep at 1½ cent, and that from a hog at ½ cent for liberally fed, thrifty shots of medium size.

Director Roberts is careful to emphasize that these values will have to be modified to suit individual circumstances. What he means is that if farmers can afford to buy commercial fertilizers at current prices, then the manures of the farm are worth the price given, and it will pay to house them.

### A Handy Farm Gate.

W. G. Parke sends directions to the *Practical Farmer* for making a cheap gate as follows: For a gate that swings both ways, set posts firmly in ground, bore 1½ inch hole in top of post you want gate to swing on. Take a pole 14 feet long, bore hole about 4 feet from big end; place on top of post, put an iron pin through pole into post; bore four holes



### Home-Made Corn Shelter.

To make a corn shelter, says D. G. Thomas, in the *Practical Farmer*, take a piece of 6 by 2-inch plank or scantling 6 feet long. Beginning 6 inches from the upper end, saw grooves across the face of plank 1 inch apart and ½ inch deep, the last of these grooves to be about 1 foot from the bottom. Get oil-barrel hoops, cut them up into 4-inch pieces, insert in sawed grooves and the shelter is made. Place in a barrel, run corn down with small end of ear first. Watch closely or you will minus a thumbnail before you know it.

### The Losses in Corn Fodder.

From experiments made at the Wisconsin station to ascertain the comparative loss in corn fodder when preserved in the silo or by the ordinary method of curing in the field, the results of ten trials during a period of three years appear to be narrowed down to this: "The loss of food materials in either system is very considerable and shows that fodders cannot be preserved by any method now known without their deteriorating in value."

In the fodder-corn, as it is cut in the field, there is a certain amount of water elements that may be preserved in a succulent state in the silo or cured and fed to cattle as dry fodder. In either case an equal quantity of the food materials is destroyed on an average about one-fifth. This loss being equal in either case, the question of which method of preserving fodder-corn to adopt becomes one of convenience and economy of feed. The value of these feeding stuffs was about the same for milk and butter production, hence it is concluded that adoption or non-adoption of the silo must be decided on the score of convenience. In some localities the conditions may be more favorable to the field curing system, while in others the uncertainty of weather, the cheapness of lumber or the

severity of winter may speak strongly in favor of the system of ensiling the fodder-corn.

## THE PIGGERY.

### The Best will Degrade.

The quality of blood coursing through a pig's veins has much to do with his value as a breeder, but the finest blooded pig without proper feeding degenerates in a short time to the veriest scrub. It is boasted that the scrub must go, but he will be here till all practice better systems of feeding. The man without experience can hardly comprehend how quickly choice stock will run out under continued neglect.—*Stockman.*

### Keep the Good Sow.

The *Great Eastern* says: "While 'you can't make a silk purse out of a sow's ear,' still if you use the whole sow in a sensible manner she will fill a silk purse annually."

Nine little pigs in March grown to 250 pounds each in December, at five cents per pound, equals \$12.50 cash. A sow that will run that should have her life insured for ten years.

Never kill a good mother sow as long as she will bear.

### Individual Excellence.

Last year 20,250 Poland-China hogs were recorded in the records for that breed. How many of these were of any value for breeding purposes, or should be found in breeding herds? This is a question that should receive serious consideration. Too many are recorded that have only pedigree to recommend them, and solely on this ground does the owner expect anything of them. A little experience will convince a man that a pig must have other qualities to make it valuable, viz., a good form and constitution. Without these pedigree is naught.

## THE APIARY.

### Superstitions Queens.

It will pay you in dollars and cents to remove all poor and inferior queens as early as possible in the spring. Unless you practice this weeding out process, you will find that in 100 colonies there will be ten or fifteen that will be far below the others in profit, and sometimes they will not yield anything, whereas if you had killed the poor and inferior queens early in the season and introduced good ones in their places you would have obtained considerable more honey.

Some apiarists prefer to let the bees do their own superseding, but in my opinion it is a practice that will not pay. The way to improve it would be to supercede fifty colonies in your apiary, and leave about the same number to take care of themselves; at the end of the season I think you will find the fifty colonies that you looked over and superceeded queens where needed will have given one-tenth more honey.—*Pacific Rural Press.*

### Aroma and Color of Honey.

By the color of the honey and the aroma thereof an experienced bee-keeper can determine the source from whence it came. Thus, it is very easy to tell buckwheat honey by its very dark look, and by its strong and pungent odor. Honey-dew has the same dark look, but lacks the odor or aroma about honey. For this reason, no bee-keeper need be deceived as to the source of such odorous honey. Aroma is a term employed to designate those substances, the extreme minute particles of which are supposed to affect the organs of smell so as to produce peculiar odors.—*Rural Home.*

### Italian Bees.

It seems petty and tedious that Italian bees are best. The proof is that nearly all the people who have done with hybrids. They are too cross, and make me cross. Cyprine and Holy-Land bees promised great things, but very little is said about them now-a-days. The general reputation is a very fair finding that of the Italians.—*Stockman.*

## ORCHARD AND GARDEN.

### Old Trees Made New.

Fruit trees that have been neglected for a number of years and have become scrubby, may be grown and half dead, may often be renovated and made to bear several good crops. First, all the dead wood should be removed with the saw. Then they may be pruned out somewhat to admit of light and air. Next, the bark should be scraped and all the moss removed, and it might be well to wash the bark with some alkaline preparation, and if the bark has the appearance of being hide-bound, a few longitudinal slits on the outer bark will be of service.

Last, but by no means least, the ground should be thoroughly stirred. The best way to do this is with a pair of good horses and a good plow. If afraid if you break up some large roots, because this will only have a tendency to start the tree to grow. Tear up the sod and remove it from around the tree, and keep the land in cultivation. Put on some barn-yard manure, wood ashes or commercial fertilizer. The trees will at once start to grow, and in a year or two will have thrown out enough new wood to bear a good crop.—*Green's Fruit Grower.*

### Advice to Market Gardeners.

Prof. Bailey, in a lecture on market gardening, very tersely says: "Marketing is one-half of success; therefore study your market thoroughly; learn the conditions and demands. Failure is often brought about by ignoring such small differences as the color, size or flavor of certain varieties that please the public taste, or from some other reason, except because it is fashionable, it becomes popular. Boston wants a branched celery, while New York requires tall, straight stalks; some markets desire red onions, while others prefer white ones. Find your market before the crops are ready. Send the produce to market in the neatest and most attractive condition. Be honest. Secure the same customers each year, so as to establish a reputation. In each city have one reliable dealer to whom you can send your stock."

### Simple Weed Cutter.

To cut or pull weeds and other tough-rooted weeds, I fixed up a device as follows, says F. J. Tuttle in the *Practical Farmer*. "Took one section of an old wagon spring, and made my portable force, then bent it with a half twist at A, and again at B, giving a flat place for the foot to press upon (between A and B). At bottom I cut it out at the hole,

sharpened it, leaving a concave edge to prevent it slipping off the roots.

Next it was again heated and hardened. At top I attached a small stick for a handle, with one bolt and a nail. To cut a root with it, insert, so that concave edge presses against the root. The wedge will cut through the weed by pulling handle toward you.

## THE DAIRY.

### Salting Butter.

Do not salt butter with common hard salt. It is not pure enough, and often contains an excess of lime that is not long in making the butter of soapy texture. Salt that stands exposed to the influence of odors will absorb enough of them to convey a taste not wanted to the butter. This matter of salt is important, and for this reason. The salt does not give lasting properties to the fats in butter, but imparts a clearer cut flavor, and holds the traces of cheesy matter from rapid decomposition, but cannot hold it from forming rancidity. Cold storage is the only thing that will make butter long-keeping. Common barrel salt is in too large crystals, and does not as readily dissolve as especially prepared dairy salt; and do not use of any salt more than will all dissolve in the butter. Stop at that point.—*Practical Farmer.*

### Dairy Notes.

Don't buy a cow with under unevenly developed. We should desire neither a very hard nor a very easy milker; a medium is desirable in this respect. Withhold your judgment on the heifer's ability to give milk till after she has dropped her second calf. One dairymen says that by having comfortable stables in winter, and by using a feed cutter he is able to save one-third of the winter feed.

A cow to be a good milker and to produce good milkers in turn, should have the teats far apart and at regular distances from each other. Milking tubes do not seem to meet with much favor with dairymen, and it is probable that hand-milking will continue for a few centuries yet.

The dairymen should not be satisfied with a knowledge of results. The knowledge of causes is more certain and can be more certainly depended on. More and more farmers are turning their attention to the winter dairy. With the help that the silo brings they may yet have June butter in January.

Some men seem to be afraid of the term "scientific." They object to scientific dairymen because they imagine that it is following some plan that leads contrary to nature. "Scientifically" means doing a thing according to fact. This is the way that must be conducted in the future, or failure is nearly certain.

The dairy buildings should be made not only pleasant for the cattle but for the dairymen, who has to spend much of his time there. Happy the dairymen and his children if the time ever comes when he will lay out the grounds around his dairy buildings as carefully as a gardener or a housewife will all to be cleanly, and even flowers will bloom to adorn the place of his labor.—*Farmer's Review.*

## THE POULTRY-YARD.

### Pure Blooded Chickens.

Pure blood in chickens should be as much sought for, as in any farm animals. It is a too common thing for a farmer to think that any kind of hens will fill the bill. And so they will, if you are looking at the number, instead of results.

There can be no excuse for a farmer having a poor lot of chickens. Any one, by a little careful management, can in a very short time, and with but a few dollars' expense, get a good start in pure blooded stock. Don't try to cross with common poultry, as results will not be satisfactory. If you have any, sell them. Kill off the old stock as fast as possible.

Don't try to get pure blooded fowls by sponging off your neighbor, trading eggs and chickens. Buy them and pay your way; you will be better satisfied, won't tell so many lies about your premium chickens, and will have better luck generally.—*Western Farmer.*

### Degeneracy of Poultry.

The prodigious number of breeds of fowls is a temporary benefit, unless care is taken to breed them with purity or to cross only with design for a specified purpose, and then killing all these crosses as soon as their purpose is accomplished. A great majority of complaints that hens do not pay come from those who vary aged crosses, and have continued to breed from them. Their progeny are poor layers, subject to disease and are generally worthless. Returning to pure blooded fowls is the only resource of those whose flocks have got in this condition.

### Ducks that Pay.

One of the largest duck farms located in the New England States has been conducted in such a manner that to-day it carries in net profit to its owner over \$1,500. The sales last season have run to nearly \$7,000. The incubator is the power, with its next friend, the brooder, while the duck does her part as the egg producer, and does it well. The average number of eggs to each duck during the season is 157. This is an average number of 2,000.

## THE HOUSEHOLD.

### Taking Care of the Stoves.

As soon as the season for fires has passed, if stoves are removed they should be stored in a dry place, the pipes and elbows should be well cleaned out and cared for, otherwise holes may be rusted through them in a single season. All the sheet iron work about the stoves of any age or description should be cleaned up, and either be kept blackened and polished, or be oiled to prevent rust.

For the cheap circular heating stoves on tubular or keroline oil, it is not sufficient if stored in a dry place, but if put in a cellar, as they sometimes are, several oilings may be necessary through this season. The brick linings that have become cracked or broken can often be repaired with fire clay cement with but a little trouble, and so as to make them serviceable for a very considerable time. Much subsequent annoyance may be saved by keeping all the separate parts together when storing them away, so that none shall be mislaid or lost at the time they are wanted.

### Use of Household Hints.

In a table-spoon of kerosene is put into four quarts of tepid water, and this is used in washing windows and mirrors. Instead of pure water, there will remain upon the cleaned surface a polish of no amount of mere friction can give.

## BORROWERS OF TROUBLE.

DR. TALMAGE PREACHES FOR THEIR ESPECIAL BENEFIT.

You Cannot Expect the Lord to Give You Enough Good Things Now to Last All Your Life—Be Satisfied; the Rest Will Come.

Dr. Talmage's sermon this week is on the very common and foolish habit of borrowing money, and his text is Matthew vi, 24, "Sufficient unto the day is the evil thereof."

The life of every man, woman and child is as closely ordered the divine care as though such person was the only man, woman or child. There are no accidents. As there is a law of storms in the natural world, so there is a law of trouble, a law of disaster, a law of misfortune; but the majority of the troubles of life are imaginary and the most of them are self-created. At any rate there is no cause of complaint against God.

See how much He has done to make thee happy; His sunshine filling the earth with glory, making rainbow for the storm and halo for the mountain, greenness for the moss, saffron for the cloud and crystal for the billow, and procession of banners before the morning, chalices to sing, rivers to glitter, seas to chant, and springs to blossom, and overpowering all other sounds with its song, and overarching all other splendor with its triumph, covering up all the earth with its radiance and outflashing all other thrones with its dominion—deliverance for a lost world through the Great Redeemer.

I discourse of the sin of borrowing trouble. First, such a habit of mind and heart is wrong, because it puts one into a dejected and gloomy mood. I planted two rose bushes in my garden; the one thrived beautifully, the other perished. I found the dead one on the shady side of the house. Our dispositions, like our plants, need sunshine. Expectancy of repulse is the cause of many secular and religious failures. Fear of bankruptcy has, in many a fine business, sent the man dogging among the note shavers. Fear of slander and abuse has often invited all the long beaked vultures of scorn and backbiting. Many of the misfortunes of life, like hyenas, flee if you courageously meet them.

Be properly prepared for religious duty is a man who sits down under the gloom of expected misfortune! If he pray, he says, "I do not think I shall be answered." If he give, he says, "I expect they will steal the money." Helen Chalmers told me that her father, Thomas Chalmers, in the darkest hour of the Free Church of Scotland, and when Chalmers was on the verge of bankruptcy, let us go out and play ball or fly kite, and the only difficulty in the play was that the children could not keep up with their father. The McChreys and the Summerfields of the church who did the most good, cultivated sunlight. Away from the horror of debt, away from the dig graves, and if they could climb so high they would drown the rejoicings of Heaven with sobs and weeping.

You will have nothing but misfortune in the future if you sedulously watch it. How shall a man catch the right kind of fish if he arranges his line and hook and bait to catch ligars and fish-bait? Hunt for the morning sun and hawks, and bats and hawks you will find. Hunt for robin redbreasts and you will find robin redbreasts. One night an eagle and an owl got into fierce battle. The eagle, unused to the night, was no match for an owl, which is most at home in the darkness, and the king of the fall forests. Yet a child of light. In the night of blood you will have no chance against your enemies that flock up from beneath, but, trusting in God, and standing in the sunshine of the promises, you shall "renew your youth like the eagle."

Again, the habit of borrowing trouble is wrong, because it has a tendency to make us overlook present blessing. To slake man's thirst the rock is cleft and cool waters leap into his brimming cup. To feed his hunger the fields bow down with bending wheat, and cattle come down with full udders from the clover pastures to give him milk, and a yellow and ripe, casting their juicy fruits into his lap.

What! amid such exuberance of blessing man should growl as though he were a soldier on half rations or a sailor on short allowance; that a man should stand neck deep in harvest and give thanks to God for the abundance of the strong pulses of health marching with regular tread through all the avenues of life and yet tremble at the expected result of sickness; that a man should sit in his pleasant home, fearful that rattlesnake will some day rattle the broken wheels of his machinery, and swallow coals from the hearth, and pour hunger into the bread tray; that a man fed by Him who owns all the harvests should expect to starve; that one whom God loves and surrounds with benediction, and attends with angelic escort, should ever be looking for a heritage of tears!

Has God been hard, with thee, that thou shouldst be foreboding? Has He stunted thy board? Has He covered thee with rags? Has He spread traps for thy feet, and set snares for thy feet, and wrecked thee with storm, and thundered upon thee with a life full of calamity? If your father or brother come into your bank where gold and silver are lying about, you do not watch them, for you know they are honest; but you watch the servant who carries the safe, you keep your eye on him, for you do not know his designs. So some men treat God; not as a father, but as a stranger, and act suspiciously toward Him, as though they were afraid He would steal something.

It is high time you began to thank God for present blessing. Thank Him for your children, happy, buoyant and bounding. Praise Him for your home, with its fountain of song and laughter. Ask Him for mornings when the sun shines shadow, raise Him for fresh, cool water, bubbling from the rock, leaping in the cascade, soaring in the mist, falling in the shower, dashing against the rock and clapping its hands in the tempest. Love Him for the grass that cushions the earth, and the clouds that

curtain the sky, and the foliage that waves in the forest. Thank Him for a Bible to read, and a cross to gaze upon, and a Saviour to deliver.

Many Christians think it a bad sign to be jubilant, and their work of self-examination is a hewing down of their brighter experiences. Like a boy with a new jack-knife, hacking everything he comes across, so their self-examination is a hewing down of the greenest things they can lay their hands on. They imagine they are doing God's service when they go about borrowing trouble, and borrowing it at 30 per cent., which is always a sure precursor of bankruptcy.

Again, the habit of borrowing trouble is wrong, because the present is sufficiently taxed with trial. God sees that we all need a certain amount of trouble, and so He apportions it for all the days and years of our life. Alas for the policy of gathering it all up for one day or year! Cruel thing to put upon the back of one camel all the cargo of ten! Why halloo to disasters far distant to come and wrap our more call into the bitterness? Are we such champions that, having won the belt in former encounters, we can go forth to challenge all the future?

Here are business men just able to manage their money, and they are able to pay their rent, and meet their notes, and manage affairs, as they now are, but what if there should come a panic? Do to-morrow and write in your day book, on your ledger, on your money safe, "Sufficient unto the day is the evil thereof." Do not worry about notes that are far from due. Do not play the part of the miser and feel the financial anxiety of the next twenty years. The God who has taken care of your worldly occupation, guarding your store from the torch of the incendiary and the key of the burglar, will be as faithful in 1891 as in 1881. God's hand is mightier than the machinations of stock gamblers, or the plots of political demagogues, or the right arm of revolution, and the darkness will fly and the storm fall dead at His feet.

So there are persons in feeble health, and they are worried about the future. They make out very well now, but they are bothering themselves about future prizes, and rheumatisms, and neuralgias, and fevers. Their eyesight is feeble, and they are worried lest they entirely lose it. Their hearing is indistinct, and they are alarmed lest they become entirely deaf. They felt chilly to-day, and are expecting an attack of typhoid. They have been troubled for weeks with some perplexing malady, and do not become satisfied until they are cured.

Take care of your health now, and trust God for the future. Be not guilty of the blasphemy of asking Him to take care of you while you sleep with your windows tight down, or eat chicken salad at 11 o'clock at night, or sit down on a cake of ice to cool off. Be prudent and do not become a life-long invalid. The sickly people have been the most useful. It was so with Passon, who died deaths daily, and Robert Hall, who used to stop in the midst of his sermon, and lie down on the pulpit sofa to rest, and then go on again. Theodore Freilinghuysen had a great horror of dying till the time came to sleep with your windows tight down, and let the future look out for itself. "Sufficient unto the day is the evil thereof."

Again, the habit of borrowing trouble is wrong because it unites us for it when it actually does come. We cannot always have smooth sailing. Life's path will sometimes be rough among difficulties, and mount a steep, and be thorn pierced. Judas will kiss our cheek and then sell us for thirty pieces of silver. Human scorn will try to crucify us between two thieves. We will hear the iron gate of the sepulcher creak and grind as it shuts in our kindred. But we must get ready for these things by foreboding.

They who fight imaginary woes will come, out of breath, into conflict with the armed disasters of the future. Their ammunition will have been wasted long before they come under the guns of real misfortune. Boys in attempting to jump a fence, sometimes fall, and then order to get up that when they come up they are exhausted; and these long races in order to get spring enough to vault trouble bring us up at last to the dreadful reality of our strength gone.

Finally, the habit of borrowing trouble is wrong because it is unbefitting. God has promised to take care of us. The Bible blooms with assurances. Your hunger will be fed; your sickness alleviated; your sorrows will be healed. God will sandal your feet and smooth your path, and along by frowning crag and opening grave sound the voices of victory and good triumph.

The summer clouds that seem thunder charged really carry in their bosom harvests of wheat, and shocks of corn, and vineyards purpling for the wine press. The wrathful wave will kiss the feet of the great storm walker. Our great Joshua will command, and above your head, the sun of prosperity will stand still. Bleak and wave struck Patmos shall have apocalyptic vision, and you shall hear the cry of the elders, and the sweep of wings, and trumpets of salvation, and the voice of Hallelujah unto God forever.

Why may I wind along dangerous bridle paths, and amid wolf's howl and the scream of the vulture, but the way still winds upward till angels guard it and trees of life overarch it, and thrones line it, and crystalline fountains leap on it, and the path may be a gold, that are real, and sturdy, and are gold, and temples that are always open, and hills that quake with perpetual song, and a city mingling forever Sabbath and jubilee and triumph and coronation.

Let pleasure chant her siren song, and let the tempter's voice say, "To-morrow it will turn out very long, for this is Heaven's decree."

But there's a song the ransomed sing, "To-morrow, their jubilee, With joyful heart and tongue, Oh, that's the song for me!"

Contra my brother, The father does not give to his son at school enough money to last him several years, but as the bills for tuition and board and clothing and books come in, pays them. So God will not give you grace all at once for the future, but will meet all your exigencies as they come, in the most earnest prayer, trust Him. Put everything in God's hand and leave it there. Large interest money to pay will soon eat up a farm, a store, an estate, and the interest on borrowed troubles will swamp anybody, "sufficient unto the day is the evil thereof."

## CURIOSITY FACTS.

A PENNSYLVANIA woman counted her stitches as she knitted a quilt, and there were nearly 900,000. There are eighty-two National cemeteries in the United States, and there have 327,179 graves, about one-half of which are marked "unknown."

The recent census of Ireland shows a population of 4,706,162 males and 2,317,076 females, being a decrease of 468,674 in the total since the last census. A MAN in Wichita, Kan., is so desirous of avoiding family troubles that he never allows any of his children to visit relatives often than once a fortnight.

A LONDON tradesman recently received an order for sixty-four pairs of shoes for the daughter of the Grand Duke Paul of Russia, a child less than a year old.

A MILLION men standing close together, each not occupying more than four square feet, could be placed on a patch but little more than a third of a mile square. A square mile will accommodate 7,965,000 men. At that rate the whole population of the United States would hardly cover nine miles square, and the whole population of the world could stand on two townships.

The Milan Museum has recently come into the possession of a remarkable clock. This unique time-piece is made entirely of bread-crumbs. A poor Italian workman made it. Every day he set apart a portion of his modest meal in order to carry out his curious project. The bread-crumbs saved by him he hardened by the addition of salt, and at last his tedious task is completed.

TWO BEES were observed to issue from a hive, bearing between them the body of a comrade, with which they flew for a distance of ten yards. Then, with great care, they put it down, and selected a convenient hole at the side of the great alk, in which they tenderly committed the body, head downward, and then afterward pushed against it two little stones, doubtless in memoriam. Their task being ended, they paused about a minute, perhaps to drop over the grave of their friend a sympathizing tear, and then they flew away.

The theory that a man can feel pain in an amputated limb is still a subject of controversy. A physician who believes it says: "Many of the nerves that furnish communication between the brain are not injured in their activity by the amputation of their lower portion, and convey sensation as readily as ever. The brain fails to recognize the fact that the function of the nerve has changed, and that the part in which it formerly terminated exists no longer. Therefore, when a sensation is felt coming from a nerve that in the unamputated body led to the foot, the feeling is the same as if the foot were still in place. If certain nerves in an amputated leg be touched, the feeling is exactly the same as if the foot were touched, and the sensation of pain is felt, not where it is applied, but where the mind has been in the habit of receiving communications from the nerve in question."

A Drop of Bay Water. Let me tell you some of the wonderful things I have seen. Once I put a little bit of bay water in a glass with water, and set the glass in a warm place for a day or two. Then with a medicine dropper I put a drop of the water on a glass slip, covered it with a very thin glass wafer the size of a cent, placed it under my microscope, adjusted the focus and what a sight met my eyes! Dozens and dozens of what looked like animated drops of jelly were darting here and there, bumping against one another, or dodging one another like school-boys at recess. Perhaps among the crowd of smaller ones would dash a much bigger fellow. I fancied it might be a big brother, older than the others by some hours, and so entitled to the deference he seemed to exact. Then in another part of the drop of water the little ones formed almost a circle, and presently in the center of this came a big fellow—he must have been at least one one-hundredth part of an inch long—when began revolving slowly. "P. T. Barnum," I thought to myself. "That is exactly the way I have seen him address an audience surrounding a circus ring." But I can never know what he told the smaller ones, for not even the "little ghost of an inaudible squeak" reached my ears. Besides these little creatures I could see what looked like dark specks darting above. Determined to see the foot, I covered it with a stronger magnifying glass, and looking through it the specks proved to be other little swimmers such as I had just been examining; and the latter, of course, seemed larger. But now there were still other specks darting about, so a still stronger glass was used with the same result. Magnifying as I might I could not reach a point where there were not some moving atoms needing further magnifying. I have since learned that no glass has ever been made powerful enough to reveal the tiniest of these "infinitesimally" they are called.—*Hearth and Hall.*

Honesty in Finland. The Finns are an upright, faithful and hospitable people. A writer for the *Saturday Review* speaks of their honesty as proverbial, and proceeds to give some experience of his own as illustrative of the scrupulous and even "heroic" manner in which they tell the truth, and the whole truth, under the most difficult circumstances.

"This seems to be exactly the kind of apparatus I am looking for," I said to a merchant in Helsinki, as I looked at an article worth about 275; "I will buy it at once if, knowing what I want it for, you can honestly advise me to take it."

"No, sir," he answered, "I do not recommend you to take it, nor have I anything in stock just now that would suit you." And I left the shop and purchased what I wanted elsewhere.

"Here's your fare," I said to a peasant in the interior, who had driven for three hours through the woods. A winter day as I handed him four shillings. "No, sir, that's double my fare," he replied, returning me half the money.

And when I told him he might keep it for his honesty, he slightly nodded his thanks with the dignity of one of nature's noblemen, from which defiant pride and obtruding obsequiousness were equally absent.