

The Yale Expositor.

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YALE, - - - MICH

You cannot dream yourself into a character; you must hammer and forge yourself one.

Berlin had nearly a million visitors last year, while Vienna had only 387,000 and Hamburg 278,960.

Love is the wondrous angel of life that rolls away all the stones of sorrow and suffering from the pathway of duty.

It takes a lifetime of experience to teach us that we are our own best friend; that we are our own worst enemy we never learn.

Nothing simplifies life like obedience. We sometimes think we are beset by problems, that life is a very difficult and complicated affair. It is not really so. All life is simply doing or bearing the will of God. There is never more than one duty for one moment.

The pressure of trade competition during the last decade has prompted Great Britain to utilize an extraordinary method of impressing foreign traders with her superiority. The new scheme is to scatter broadcast over the commercial world British experts in matters of trade to lecture on British manufactures in every important commercial center of the globe.

A high official in Porto Rico says that eighteen months ago there were known to be three thousand cases of smallpox on the island; in the past eight months not a single death from the disease has been reported to the board of health. What has wrought the change? The answer may be read in the fact that the names of nearly eight hundred thousand persons are recorded on the vaccination list of the board.

According to reports of a French geological expedition in western Algeria, that country possesses a petroleum bearing basin rich in oil, and resembling in its geological structure the petroleum beds of Galicia and Baku. Our consul at Marseilles, Mr. Skinner, reports that several companies have already made application to the French government for permission to drive wells in this newly discovered petroleum district.

Not long ago an Arizona rancher posted the following notice on a cottonwood tree, not far from his place of abode. "My wife Sarah has left my ranch when I didn't do a thing to her, and I want it distinctly understood that any man as takes her in and keeps her on my account will get himself pumped up full of lead that some tenderfoot will locate him for a mineral claim. A word to the wise is sufficient and order work on fools."

The duel in Italy has been very deadly of late. It is estimated that during the past year 2,400 duels were fought in the kingdom, which yielded a crop of 450 deaths. The Chinese way of "getting even" is more civilized on the whole. The enraged inhabitant of the celestial empire is as likely as not to commit suicide on his enemy's doorstep, in order to do him as great an injury as possible. And a suicide under those circumstances in China really does throw the foe into a terrible funk, owing to the supposed bad luck such an incident brings to the householder.

According to recent experiments by Stanislas Tefard, a widely known French agriculturist, wheat and other cereals can be protected against the ravages of crows, which are particularly fond of the grain when its sprouts are just pushing above the ground, by treating the seeds before they are sown with a mixture of coal-tar, petroleum and phenic acid. This treatment, which delays the growth of the seed for a day or two, but causes no damage, imparts an odor which is insufferable to the crows, but which disappears after the sprouts have attained a larger growth, when they are no longer subject to attack.

It is known that many deep sea animals are phosphorescent in a high degree, and Mr. C. C. Nutting, discussing this phenomenon in the American Naturalist, maintains that the quantity of light emitted by such animals is so great as to supply over definite areas of the sea bottom a sufficient illumination to render visible the colors of the animals themselves. Some cephalopods are furnished with apparatus which reflects the light from their phosphorescent bodies upon the sea bottom over which they float. This reflecting apparatus is spoken of as "an efficient bull's-eye lantern for use in hunting through the abyssal darkness."

At a recent meeting of the Academy of Sciences in Paris, Mr. G. Bonnier presented a note concerning some very interesting experiments in grafting plants, the results of which contradicted the generally accepted opinion that only plants belonging to the same botanical family can be successfully grafted upon one another. Mr. Bonnier showed that recently plants of entirely different families had been grafted with success, for example, the maple upon the lilac, the kidney-bean upon the castor-oil bean, and the cabbage upon the tomato.

DAIRY AND POULTRY.

INTERESTING CHAPTERS FOR OUR RURAL READERS.

How Successful Farmers Operate This Department of the Farm—A Few Hints as to the Care of Live Stock and Poultry.

Dairy Schools of Ontario.

During the winter of 1899-1900 three dairy schools, supported by the Ontario government, were conducted in the province—at Guelph, Strathroy and Kingston—all of them being under the direction of Dr. James Mills, President of the Ontario Agricultural college. The courses of instruction were largely the same in each case, although the Central school at Guelph had the benefit of a series of lectures from members of the college staff, and also the advantage of practically judging and handling dairy cows and studying dairy breeds. The courses pursued were practically as follows:

In order to meet the growing demand for good butter makers to take charge of factories during the winter months and early spring, each dairy school was open from December 4 to 22. A practical and thorough training was given in the running of cream separators of different makes, the pasteurization of whole milk and cream, care and ripening of pasteurized and raw cream, use of the acid test for cream, running of box churns, the combined churn and worker and the Mason worker, the preparation of butter for local and export markets, and other of a practical character; also in testing the milk with the Babcock tester and lactometer, in the use of the oil test churn, in composite sampling, and in the making up of factory accounts, so that the students might have a thorough knowledge of how to run a creamery properly. There were no examinations and no certificates given in this special course.

There were two factory courses, one of three weeks and another of six weeks' duration. These courses provide theoretical and practical instruction in cheese-making and the curing of cheese, butter-making (both separator and cream gathering plans) and preparation of butter for market, milk testing with the Babcock tester and lactometer, and oil-test churn, which is so much used in cream gathering creameries; pasteurizing both whole milk and cream. They also include fermentation tests, the use of starters, dairy bacteriology, agriculture in relation to dairying, and factory accounts and records.

Discussions on practical dairy topics, led by one of the instructors, was held four afternoons in each week. These discussions lasted for one hour and were of much value to both students and instructors. Experts were brought to the schools from time to time to give lessons in the judging of cheese and butter.

Special instructions were also given on the care and running of boilers and engines by a competent instructor. There was also practice in pipe-fitting, repairing valves, etc.

While the fact is recognized that the manufacture of cheese and butter must be confined largely to the co-operative or factory system in order to attain the highest success, it is also a fact that a large quantity of butter and some cheese are made, and will continue to be made, in farm dairies. To enable the farmers to produce a finer quality of butter and cheese, and thereby receive a better price, a home dairy course was carried on in two of the schools. A competent lady instructor was secured in each case, and the methods followed, and the apparatus and utensils used were inexpensive, and such as have been found most suitable for use in farm dairies. Students for this course were allowed to enter any time after January 4 and remain as long as they wished.

Gape Disease of Young Poultry.

Prof. H. Garman, Entomologist and Botanist of the Kentucky Experiment Station, in bulletin 76 of that station, says:

Young chickens are very much troubled in Kentucky with gapes. The disease occurs throughout the state, but is not uniform in its occurrence, being destructive on one farm, while farms adjoining are free from it. On the Experiment Farm at Lexington the disease rarely makes its appearance, while on a place just across a pike the majority of the chicks hatched are some seasons destroyed by it. At my own place again, a mile away, the trouble is very annoying. It appears that once it becomes established on land it maintains itself there and thus renders it ill suited to the raising of chickens. The immediate cause of the trouble is of course the presence of the well-known gape worm (Syngamus trachealis) in the trachea or windpipe. These worms obstruct the passage of air to and from the lungs and thus occasion the characteristic gasping movements of the suffering chicks. The symptoms and general nature of the trouble are so well known that further reference to them may be dispensed with.

Common Remedies.—The commonly recommended practice of introducing into the trachea a partly stripped feather, or a bluegrass top, and by a twisting motion dislodging and removing the worms does not seem to me after considerable experience with the diseased fowls to be practicable for very young chicks. The trachea is so small and so easily injured that it is impossible to dislodge and remove all of the worms by such means. With the greatest care I have never been able to give affected chicks more than temporary relief in this way.

It has been my experience, however, that chicks generally recover without

treatment when they are attacked after they are half grown, and hence fowls that might from their size be treated successfully with a feather do not require treatment of any sort. It is the very young chicks that suffer most, and the only remedial treatment in their case that seems to me to be successful is rubbing the neck from time to time with lard or vaseline thoroughly mixed with a little turpentine (3 parts of the lard or vaseline to 1 part of turpentine). This treatment should begin before the disease makes its appearance. It will not help a chick in the last stages of the disease. Pure turpentine will very quickly kill a chick when rubbed on the neck over the trachea, a fact which I have several times demonstrated on badly affected individuals.

Since my observations on the disease were made I have read a valuable article on gapes and gape worms, written by the French naturalist Megnin. He asserts that the use of powdered garlic with the usual food has been made to completely eradicate the disease among pheasants in Europe. He recommends the use of one garlic bulb to ten pheasants each day, and the same proportion would in all probability be sufficient in the case of the common chicken. He supplements this treatment with special care in the matter of drinking water, using only pure water and changing it several times a day.

Poultry Briefs.

Without doubt food favors eggs, but the general market has never found it out. With the market a fresh egg is a fresh egg and its freshness is its only standard of relative value. Yet the egg from good wholesome food is far superior to the egg made of all kinds of swill. When the public awakes to this fact there will be an improvement in the quality of eggs, and not before that time.

The enthusiastic poultryman has it in his power to produce a strain of egg-producers in almost any breed. Some of the breeds that have the best reputation for egg production, such as the Leghorns, Hamburgs and Minorcas, have never been as popular with the great mass of farmers as have the Plymouth Rocks, Wyandottes and Brahmas. In these latter breeds are now found strains of egg producers that are almost the equals of some of the distinctively egg-producing breeds. But this has been brought about only by experimenters, and with poultry the development of strains is slow and rather difficult, owing to the fact that it is small business recording the work of each individual hen for a year or two.

A practical poultry keeper says of the Toulouse geese that they need little water except for drinking. As foragers they are excellent and make a good living in the wheat stubble. Some object to them in the pastures in early spring, as they feed very close and pull up many of the stalks of grass by the roots. This of course is detrimental to the pasture that cannot spare any stalks of grass. There is a difference of opinion as to whether or not cattle will graze in pastures that have been fed over by geese. The opinion prevails to some extent but some poultry men assert there is nothing in it, as they have grazed geese and cattle together for a dozen years. There are few farmers that keep enough geese to injure a pasture in this way even if the cattle do raise an objection. Toulouse geese will make use of swampy and waste land that is of no value for anything else.

New York Butter-Making.

A communication from the Geneva Experiment Station says:

Butter making is again coming into great prominence as an industry in the dairy sections of New York. Improved methods and increased cleanliness in milk handling, cream ripening and churning are making the product of some of our creameries of high quality and great uniformity; but we still fail to reach the standard set by Denmark. Occasional butter faults will crop out even in high grade butter factories and the product of the state as a whole is far from uniform.

One reason for this difference between New York and Denmark lies in the fact that the Danes make great use of the pasteurizer in their butter making, New York very little use. This is perhaps due to the fact that early trials of the continuous pasteurizing machines in America were not favorable to their use.

Experiments made at Geneva in 1899, however, seem to indicate that the fault did not lie in the machines, but in the low temperature used in manipulating them; for at Geneva, using temperatures of 176 degrees F. and 135 degrees F., the germ-destroying power of the machine was most excellent. The numbers of bacteria present were reduced from hundreds of thousands or even millions to two or three hundreds at most, usually to much smaller numbers. Butter made from milk heated momentarily to these high temperatures had very little cooked flavor; and it handled rightly, none at all. Further experiments in making butter from pasteurized milk are to be made.

Silver Wyandottes are the product of a number of crosses, the most important cross having been the Buff Cochins with the Silver Spangled Hamburgs. They were little known previous to 1870, and were at first called Sebright Cochins. Another cross was subsequently made of the Silver-Spangled Hamburgs with the Dark Brahmas, and the results of the two were amalgamated, having been also modified slightly by the addition of some Breda blood. It was not till 1883 that the Silver Wyandottes were officially recognized as a breed.

TALMAGE'S SERMON.

ANALYSIS OF THE CHARACTER OF THE SAVIOUR.

Christians Urged to Emulate the Qualities Which Were Conspicuous in the Earthly Life and Ministrations of Jesus.

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In this sermon, which Dr. Talmage sends from Paris, he analyzes the character of the Saviour and urges all Christians to exercise the qualities which were conspicuous in Christ's earthly life. The text is Romans viii, 9, "Now, if any man have not the spirit of Christ, he is none of his."

There is nothing more desirable than a pleasant disposition. Without it we cannot be happy. When we have lost our temper or become impatient under some light cross, we suddenly awaken to a new appreciation of proper equanimity of nature. We wish we had been born with self balance. We envy those people who bear themselves through life without any perturbation, and we flatter ourselves that however little self control we may now have, the time will come, under the process of years, when we will be mellowed and softened and the wrong things which are in us now will then be all right, forgetful of the fact that an evil habit in our nature will grow into larger proportions and that an iniquity not corrected will become the grandfather of a whole generation of iniquities. So that people without the grace of God in the struggle and amid the annoyances and exasperations of life are apt to become worse instead of better.

Now, the trouble is that we have a theory abroad in the world that a man's disposition cannot be changed. A man says, "I am irascible in temper, and I can't help it." Another man says, "I am revengeful naturally, and I can't help it." A man says, "I am impulsive, and I can't help it." And he tells the truth. No man can correct his disposition. I never knew a man by force of resolution to change his temperament, but by his grace God can take away that which is wrong and put in that which is right, and I know and you know people who since their conversion are just the opposite of what they used to be. In other words, we may by the spirit of God have the disposition of Jesus Christ implanted in our disposition, and we must have it done or we will never see heaven. "If any man has not the disposition of Jesus Christ, he is none of his."

A Spirit of Gentleness.

In the first place the spirit of Christ was a spirit of gentleness. Sometimes he made wrathful utterances against Pharisees and hypocrites, but the most of his words were kind and gentle and loving and inoffensive and attractive. When we consider the fact that he was omnipotent and could have torn to pieces his assailants, the wonder is greater. We often bear the persecution and abuse of the world because we cannot help it. Christ endured it when he could have helped it. Little children who always shy off at a rough man rushed into his presence and clambered on him until the people begged the mothers to take them away. Invalids sore with wounds that they could not bear to have any one come near them begged Christ just to put his hand upon the wound and soothe it. The mother with the sick child was willing to put the little one in Christ's arms. Self righteous people rushed into his presence with a woman of debased character and said, "Now, annihilate her, blast her, kill her." Jesus looked at her and saw she was sorry and repentant, and he looked at them, and he saw they were proud and arrogant and malignant, and he said, "Let him that is without sin cast the first stone at her." A blind man sat by the wayside making a great do about his lack of vision. They told him to hush up and not bother the Master. Christ stooped to him and said, "What wilt thou that I do unto thee?" Gentleness of voice, gentleness of manner, gentleness of life.

The Hand of Sympathy.

My sister had her arm out of joint and we were in the country, and the neighbors came in, and they were all sympathetic, and they held the arm and pulled and pulled mightily until the anguish was intolerable; but the arm did not go to its place. Then the old country doctor was sent for, and he came in and with one touch it was all right. He knew just where to put his finger, and just how to touch the bone. We go out to Christian work with too rough a hand and too unsympathetic a manner, and we fall in our work, while some Christian, in the gentleness of Christ, comes along, puts his hand of sympathy on the sore spot—the torn ligaments are healed and the disturbed bones are rejoined. Oh, for this gentleness of Christ.

The dew of one summer night will accomplish more good than fifty Caribbean whirlwinds. How important it is that in going forth to serve Christ we have something of his gentleness! Is that the way we bear ourselves when we are assaulted? The rule is an eye for an eye, a tooth for a tooth, a retort for a retort, a sarcasm for a sarcasm. Give him as much as he sends! After awhile you look up into the face of Christ, and you see his gentleness, and you say, "Well, now, I must do differently." Then your proud heart says: "Now, you have your enemy in a corner. You will never get him to a corner again. Chastise him, and then let him go." So we postpone the gentleness of Christ. Did you ever know any difficulty to be healed by

acerbity or hypercriticism? About forty-five years ago the Presbyterian church was split into the new school and the old school. The chasm got wider and wider. The most outrageous personalities were indulged in. Good men on one side anathematized good men on the other side. Wider and wider the chasm got, until after a while some good people tried another tack, and they began to explain away the difficulties, and soon all the differences were healed, and at Pittsburgh they shook hands and are now to be one forever.

How to Love the Father.

Did you ever know a drunkard reclaimed by mimicry of his staggering steps, his thick tongue or his hic-cough? No. You only madden his brain. But you go to him and let him know you appreciate what an awful struggle he has with the evil habit, and you let him know that you have been acquainted with people who were down in the same depths who by the grace of God have been rescued. He hears your voice, he responds to that sympathy, and he is saved. You cannot scold the world into anything better. You may attract it into something better. The stormiest wind comes out from its hiding place and says, "I will arouse this sea." And it blows upon the sea. Half of the sea is aroused, yet not the entire Atlantic. But after awhile the moon comes out calm and placid. It shines upon the sea, and the ocean begins to lift. It embraces all the highlands; the beach is all covered. The heart throb of one world beating against the heart throb of another world. The storm could not rouse the whole Atlantic, the moon lifted it. "And I," said Christ, "if I be lifted up will draw all men unto me."

Clothing Our Nakedness.

What is self-sacrifice? It is my walking a long journey to save you from fatigue. It is my lifting a great number of pounds to save you from the awful strain. It is a subtraction from my comfort and prosperity so that there may be an addition to your comfort and prosperity. How much of that have we? Might not I rather say, "How little have we?" Two children—brother and sister—were passing down the road. They were both very destitute. The lad had hardly any garments at all. His sister had a coat that she had outgrown. It was a very cold day. She said, "Johnny, come under this coat." "Oh, no," he said; "the coat isn't large enough." "Oh," she said, "it will stretch." He comes under the coat, but the coat would not stretch. So she took off the coat and put it on him. Self-sacrifice pure and simple. Christ taking off his robe to clothe our nakedness. Self-sacrifice, I have not any of it, nor have you compared with that. The sacrifice of the Son of God.

Christ walked to Emmaus. Christ walked from Capernaum to Bethany. Christ walked from Jerusalem to Golgotha. How far have you and I walked for Christ? His head ached, his heart ached, his back ached. How much have we ached for Christ?

The Need of Humility.

How much of that humility have we? If we get a few more dollars than other people or gain a little higher position, oh, how we strut! We go around wanting everybody to know their place, and say, "Is not this great Babylon that I have built for the honor of my kingdom and by the might of my strength?" Who has anything of the humility of Christ?

The disposition of Christ was also the spirit of prayer. Prayer on the mountains, prayer on the sea, prayer among the sick, prayer everywhere. Prayer for little children: "Father, I thank thee that thou hast hidden these things from the wise and prudent and revealed them unto babes." Prayer for his friends: "Father, I will that they be with me where I am." Prayer for his enemies: "Father, I forgive them; they know not what they do." Prayer for all nations: "Thy kingdom come." How little of that spirit you and I have. How soon our knees get tired. Where is the vital full of odors which are the prayers of all the saints? Which of us can keep our mind ten minutes on a prayer without wandering? Not you, not I. Oh, that we might have the spirit of prayer which was the spirit of Christ. We want more prayer in the family, more prayer in the church, more prayer in the legislative hall, more prayer among the sick, more prayer among the aged, more prayer among the young. The great advancement of the church is to be in that direction yet.

The Spirit of Hard Work.

The spirit of Christ, I remark lastly, was a spirit of hard work. Not one lazy moment in all his life. Whether he was talking to the fishermen on the beach or preaching to the sailors on the dock or administering to the rustics amid the mountains or spending an evening in Bethany, always busy for others. With hands, heart, head busy for others. Hewing in the Nazareth carpenter shop, teaching the lame how to walk without crutches, curing the child's fits, providing rations for the hungry host. Busy, busy, busy! The hardy men who pulled the net out of the sea filled with splashing treasures, the shepherds who hunted up grassy plots for their flocks to nibble at, the shipwrights pounding away in the dry-docks, the wheelmakers of Engedi dipping the juices from the vat and pouring them into the goatskins, were not more busy than Christ. Busy, busy for others. From the moment he went out of the caravansary of Bethlehem to the moment when the cross plunged into the socket on the bloody mount, busy for others. Does that remind you of yourself? Does that re-

mind you of myself? If we lift a burden, it must be light. If we do work, it must be popular. If we sit in the pew, it must be soft. If we move in a sphere of usefulness, it must be brilliant. If we have to take hold of a load, give us the light end of the log. In this way to heaven fan us, rock us, sing us to sleep. Lift us up toward heaven on the tips of your fingers under a silken sunshade. Stand out of the way, all you martyrs who breathe the fire! Stand out of the way and let this colony of tender footed modern Christians come up and get their crowns!

What has your Lord done to you, O Christian, that you should betray him? Who gave you so much riches that you can afford to despise the awards of the faithful? At this moment, when all the armies of heaven and earth and hell are plunging into the conflict, how can you desert the standard? Oh, backslidden Christian, is it not time for you to start anew for God and anew for heaven?

SAVING THE LOBSTER.

Good Work of the Newfoundland Department of Fisheries.

The Newfoundland department of marine and fisheries is now operated very much on the same lines as the Canadian, though, of course, on a much smaller scale. It was first organized as a "fisheries commission" in 1890, previous to which date there was no public department specially charged with the supervision of the fisheries. The last annual report of the department contains some information which may interest your readers. Regarding the artificial propagation of lobsters the report states that in the past from 300,000,000 to 400,000,000 lobsters were annually hatched and planted in the waters, at a yearly cost of \$1,100. If only a small percentage of these survive to reach maturity the results cannot fail to prove beneficial in sustaining the stock of lobsters in the waters, and thus counteracting the effects of such heavy drafts as are now made, year after year. I may explain that this propagation is carried on by means of floating incubators, the invention of Mr. Nielson. Two hundred and fifty of these incubators are occupied by fifty men around the shores of the great bays. There is no other country where the artificial propagation of this valuable crustacean is carried on upon such an extensive scale—not excepting the United States or Norway. It is well known that in nearly every lobster-producing country this favorite crustacean is threatened with extermination. The quantity secured each year is lessening and the price advancing. Newfoundland, I regret to say, is no exception to the decline in the lobster fishery. The export each year is lessening, though the number of hands employed in taking it has doubled. The size, too, is diminishing in most districts. The report states the export for 1898-9 was 56,156 cases; value, \$565,000. In the previous year the export was 61,951 cases; value, \$619,510. The department is using the most vigorous measures to arrest the decline; but the due enforcement of the rules in regard to the size of lobsters taken and the spaces between the traps is very difficult. The department has recently prohibited full fishing—a wise measure which already seems to be attended with good results and meets general approval both among fishermen and packers. The report states that there is "a marked improvement in the mode of packing and a much better article than formerly is produced, though there is still great room for improvement."—Montreal Gazette.

CAPE NOME'S NEWSPAPER.

Old Little Sheet Which Chronicles Town's Happenings.

One of the most interesting curiosities that has come down from the new gold fields is a copy of the Nome Daily News. This publication, which consists of four pages, with four short columns on each page, sells for 25 cents a copy. The Sunday Herald, if sold column for column at the same rate, would cost about \$9.25 a copy, instead of 5 cents. The Nome newspaper has arrangements for regular subscribers, and it is furnished to them at the rate of \$35 a year. According to this old publication, the new gold mining town of Alaska is busy itself with the small matters which usually engross young communities. The additions or alterations being made in local buildings are chronicled, and announcement is made that all of the watches, chronometers, and clocks about the town, which have been running by "sun time" taken last December, have been found to be an hour slow and have been brought up to date. All lines of industry are represented in the advertising columns of the Nome paper, but no class of business men describe their wares more prominently or attractively than the saloonkeepers. The Last Chance saloon, the Grotto, the Horseshoe, the Gold Belt, the Pioneer and the Eldorado, all use the News' advertising columns to solicit patronage. Physicians, lawyers and surveyors also make their presence known through the advertising columns of this old little daily newspaper.—New York Herald.

To Amalgamate Copper.

Copper may be amalgamated; that is, coated with mercury, by placing it when perfectly clean in metallic mercury or in a salt of the metal. Cleanse the copper by rinsing in soda lye, rinse in running water and dip in dilute hydrochloric or sulphuric acid, and then plunge into a vessel containing mercury or a solution of chloride of mercury, when the copper will be coated with the quicksilver.