

HEALTH.

New Hope for Consumptives.

It is now two years since the Koch lymph made such a stir in the world as an expected cure for consumption. It was in 1882 that Dr. Robert Koch of Berlin made his famous discovery of the bacillus of tuberculosis, a bacillus which has caused greater havoc among mankind than cholera or war; and during the ten years which have elapsed since his first announcement of the cause of consumption, he, together with a host of other bacteriologists and clinicians, had been engaged in devising some means of destroying this germ, or of rendering it innocuous after its entrance into the human body. The distinguished German pursued his investigation upon the hypothesis that the bacillus itself, produces during its development, either in its own organism or from the tissues in which it resides, a poison which ultimately destroys it. This is much after the fact that the yeast plant in a fermenting liquid creates alcohol finally in such quantity as to inhibit its growth, or that the germs of putrefaction are self-limited through the deleterious substances to which their activity gives rise.

The lymph which was manufactured and presented to the profession by Koch in the autumn of 1890 was the product of the growth and life of the bacillus of consumption, and the analyses made of it showed that it was composed of a number of organic substances, the chief of which seems to be an albuminous material, to which the name albumose is given. When the bacilli develop in the body this active principle causes a species of death of surrounding tissues known as coagulation-necrosis, and the necrotic tissue thus formed is so unfavorable for the existence of the germs that they die. After much experimentation the lymph was heralded to the world, somewhat prematurely it is true, as a specific for consumption and doctors and patients flocked to Berlin from every land, the former to secure some of the precious fluid and learn the method of its employment, the latter to grasp at the straw which might save them from an early grave.

Since the first few months of excitement awakened by the glad tidings of the discovery, and the subsequent disappointment engendered by its apparent failure to satisfy the sanguine expectations of the medical profession and of the unfortunate victims of this awful malady, the public has heard little or nothing of the vaunted cure. But in these two years physicians have not been idle, and everywhere the lymph has been tried and tested over and over again in every species of disease of the human organism to which the tubercular microbe gives rise, in lungs, larynx, brain, bones, joints, skin, and alimentary canal, and an enormous number of patients have been submitted to the influence of lymph injections; in the cases of a majority without much success, but in a few with undoubted advantage.

Yet certain modifications were made not long ago in the original lymph which seem to have improved its remedial power while lessening its occasionally deleterious effects upon the organism. As will be remembered, the original lymph when injected into the body of a tubercular patient caused malaise and fever. An English physician named Hunter and a German pathologist named Klebs have each independently analyzed the Koch lymph and eliminated from it substances which seemed to be foreign to the true remedial principle, and have for some time been using in hospitals and in their practice the active ingredient of the lymph, to which Klebs has given the name tuberculin. It was the foreign and unnecessary elements of the lymph which gave origin to the fever and other disagreeable symptoms. Tuberculin is an albumose which Hunter thinks is derived from the plasma of the bacilli themselves. Klebs also considers it a secretion of the germs. In experiments upon animals, fully developed tubercles were found to be entirely reduced by tuberculin in, while in man over 18 per cent. of seventy cases of marked pulmonary tuberculosis treated by Klebs were cured. The purified lymph causes no fever, and treatment with it does not interfere with the daily occupation of the patient. Tuberculin has been for some time in the hands of the medical profession, and is therefore within the reach of every one who applies to his family physician for treatment with it, although none of the usual precautions as regards diet, change of climate, hydrotherapy, and the employment of our drugs found to be valuable in consumption are neglected by him.

Thus it seems that considerable progress has been made in the lines laid down by Robert Koch in his original announcement, and the great German bacteriologist will deserve the blessings of all mankind, even should his discovery result only in the amelioration of some cases and a small percentage of cures in others. It was a splendid and beneficent gift to humanity, of which the end is not yet, for undoubtedly there will be still greater perfection in the mode of treatment of tuberculosis by the purified lymph. At the same time it must not be forgotten that while the cure of a disease is a triumph for the medical profession, there are limitations that never can be overcome and the prevention of disease is of far greater importance to humanity than the mere repair of an injured organism. It is to be hoped, therefore, that the public will become thoroughly educated in all the arts of prevention, and that particularly as regards tuberculosis all will be cautious in their selection of milk, careful in the disinfection or destruction of the excretions of consumptive patients, wise in the bringing up of weak-lunged children, and, indeed, observant of all regulations which the family medical autocrat may prescribe for the government of his patrons.

The Eyes.

The keenness of the sailor's organs of sight is almost proverbial. This effect has two causes. The cold spray dashing into the seaman's eyes strengthens and hardens them. Also, the mariner's practice of constantly piercing the atmosphere to see something, often absolutely indiscernible, greatly trains the organs in clever acuteness. A thought is immediately suggested. Would it not be beneficial to teach the children to test their ability to see distant objects? The hands of the court-house clock, an incoming vessel, a faintly appearing train, the rapidly fading forms of birds in flight, and many other objects that the little ones would be eager to notice if so directed, would aid to expand and perfect the various delicate and minutely beautiful parts which compose the eye.

Infants are frequently born with eyes so weak that they "water" upon exposure to wind or light, even when judiciously advanced to these. This weakness may be cured by frequent bathing with water of the saltness and temperature of tears, or, as in my experience has been of more value, dashing cold water over the eyes each time before being taken out, and never bathing the baby's face, especially about the eyes with warm water. Cold tea is also recommended, and may do the work for some and fail in other cases.

Best and Disease.

"How do you feel after that bad illness of yours?" "Better than I have done for years; it cleared it out of me." Some such conversation takes place between acquaintances every day. It might be difficult for either to say what the "it" was that the illness in question cleared out; but the general meaning is clear—that the ex-invalid is better after his illness than he was before. Formerly he felt fatigue, lassitude, headaches, dizziness; now he is free from all these symptoms, he is fresh, active, buoyant, and he gives all the credit to the illness—the fever or pleurisy, the rheumatism or ague, which confined him to his bed for weeks. To say how organic disease can make any one more healthy would certainly pass the wit of man, but if one must explain phenomena most people will prefer to take the next preceding circumstance as the cause rather than go back to a further incident which carries with it an undeniable reproach. For, in truth, nature has been saying to our ex-invalid friend, "You are using yourself up too fast; I can't keep pace with you. I cannot supply tissue, blood, brain, as fast as you use them; do stop and let me make up on you." The man has answered—in deed if not in word—"I can't stop; I want to marry, and have not a sufficient income; I want to set up a carriage; I want to provide for my children; I love the excitement of work and money-making, and I won't stop." Then it comes to duel between man and nature, and nature wins. Man has only his will—a powerful weapon enough, but not omnipotent; nature has the support of every muscle, nerve, and cell in the body. Nature, Dame Nature, conquers, as women do, by sheer inertia, by refusing to comply with the impossible requirements of masculine will, by sitting down and weeping. Nature's tears are—disease.

In the old legend, Death gave the farmer three warnings of his coming—deafness, blindness and lameness. The farmer had not understood him, but that was his own fault; Death refused to grant him a longer delay because of his stupidity. Disease acts in much the same way as his sterner brother, with this difference, that if we take heed of its warnings, we may escape a more prolonged visitation. When the motions of fatigue, headache, dyspepsia, sleeplessness, or whatever form of warning Nature may send are heeded—when sufficient rest, suitable food, pure air, and an absence of excitement are granted to the starved and overworked organism that craves for them, disease in its acuter forms passes by the door; when these warnings are neglected, it comes in and compels the rest the patient would fain refuse to take. You may "work off" a headache for the time, but you cannot work off a fever; you must lie down and let it take its course. When after six weeks or so you return to work, feeling as if a burden had been lifted from you, you give the fever the credit. "It cleared 'it' out of me," you declare—whatever the mystic "it" may be. Say rather the fever forced you to rest, and gave nature time to put "it"—arrests of energy—into you. Disease is not in itself a good, but it may be an opportunity for good to be done. This is the lesson of disease; happy are they who profit by it! Few of us, unfortunately, are wise enough to take the milder warning.

Germ Diseases.

Of all the agencies in the spread of what are called "germ diseases," dust is, perhaps the most potent. The peculiar dangers of the month of March are due not merely to the high winds then prevalent, but to the dust with which the wind pollutes the air at that season. Inorganic dust—that is, dust composed of nothing but pulverized earth—is not of itself very harmful. Thus coal miners are not especially prone to lung diseases, though working in coal dust constantly. Dust, however, as found in the streets of our cities and towns, is largely made up of organic matter. Such dust, if not of itself largely composed of germs, still furnishes an excellent lurking place for them. Not all germs are harmful or generative of inflammation; but, on the other hand, some of the germs most harmful to human life are constantly to be found where street dust is abundant. When we inhale dust, therefore, we undoubtedly inhale many germs, or bacteria, which may or may not find a lodging place within us. It is almost needless to say that the mucous membrane of the nose is a much safer place for the reception of dust than that of the lungs, and we should therefore keep the mouth closed when we are forced to inhale dust.

Long dresses that sweep the street in walking are fearful agents in the acquisition of disease, and it would not be a great stretch of authority for our Boards of Health to forbid their use as endangering the public health.

MAN AND WIFE MURDERED.

A Mysterious Tragedy Which is Agitating the Neighborhood of Marietta, Ohio.

A Marietta, O., despatch says:—Last night Michael Haas and wife were murdered near this city. Haas last fall married Mrs. Langfitt, who had two sons aged 27 and 29 years. Continued quarrels occurred between the sons and Haas and his wife. Haas and his wife went to the country on Sunday afternoon to sign some papers on property which Haas owned. Mrs. Haas had \$1,000 on her person. The Langfitt boys each hired a team of a liveryman here. Haas was shot and Mrs. Haas was stabbed several times. No clue to the murderer or murderers has been obtained.

A Preliminary to Charity.

"Mamma" said little Willie, "I cannot tell a lie. I took that pie to feed a poor, little, starving boy." "My darling child," said his mother, "and did the poor little fellow eat it?" "No'm. You see, I couldn't find any starving boy to give it to, so I had to eat it myself."

AGRICULTURAL.

Matters in General.

Plowing for potatoes should be as deep as the soil, with a jointer attached, as early as the ground will crumble in the spring, followed by rolling and stirring well with a spring-toothed harrow, then crossing with a pulverizing harrow, leaving the soil mellow to the depth of four inches, ready for planting, which should begin as early as the ground and season will admit. Early planting brings the best results, as late crops seem to take blight much more than those put in earlier. A planter does this work more perfect, in every respect, over planting by hand, and with half the cost an acre.

If the farmers throughout the country would use the mower more freely they would not have so many weeds to contend with. Weeds are one of the worst enemies we have to contend with, therefore we should try and find out the best and cheapest method to get rid of them, and we have one of the best remedies mentioned in the foregoing by the use of the mower; another way is to keep the fence corners clean.

At this time, when the agricultural situation is anything but encouraging and the strictest economy needs to be practiced to keep the expenses on the farm less than the income, it is well to look to seed-saving, no less as an agricultural necessity than as a profitable and altogether meritorious ambition. Every farmer must have an ambition to produce the best crops possible, in order to make his industry a financial success, and he should be ambitious to produce something better, which would be more profitable than he or his neighbors had previously done. There are but two methods to be employed to produce the desired result. The first is thorough, systematic cultivation of the varieties already produced, and the second is the introduction of varieties which are superior in points of excellence and productiveness than any we now have. Selection is the only agent or principle to be employed in accomplishing this purpose. There is much to be learned about farming which no man can learn by himself. Agricultural clubs and an interchange of ideas and opinions and the reading of good agricultural stations are for men who read, study and think. The study of agriculture has created a higher aim for the better intelligence in thousands where it feebly existed before. The cancer of ignorance has been driven out and the dry rot of stupid indifference banished to an extent that is encouraging. Every item of expense ought to be counted, and every drop of sweat or perspiration should be considered; the working for no profit should not be forgotten by the farmer. He should make up his mind right now to adopt the extensive plan of farming, and get ready for it by the coming spring or year.

The neglect of fences is a prolific source of waste on the farm. Space forbids anything like a full enumeration of the many unnecessary "leaks" in the agricultural craft. They are to be found on every hand—in the fields, the forest and the household.

Dairy Hints

Sweet cream needs less care in the handling of it than is necessary with that that is to be ripened.

The well-kept cow that has given milk through the winter is wonderfully stimulated in her milk flow when she comes to grass, and her milking period is prolonged. The increased flow for the year is a valuable consideration.

An exchange tells us of a butter maker who filled his tub with nice, sweet hay, poured boiling water on the hay, closed the tub tightly and let it remain so until the tub had absorbed the aroma of the hay which it imparted to the butter packed in it.

How many men are constantly asking which is the best breed or which is the best separator or churn or other things to be used in the dairy? Nature does not seem to admit of any absolutely best in this world. There are so many points to cover that no one breed, animal or machine can possibly compass them all.

Starch, sugar and fat, while essential as food, are worth nothing for manure. If we need additional fertility for our land (and who does not?) it is economy to buy it in the form of linseed or cottonseed meal. We thus kill two birds with one stone. We make our home-grown feed more valuable and more nutritious, and we greatly help the land.

No one in good health can shut himself, even in a properly ventilated and properly warmed room for a week without suffering some injury. He feels a growing lassitude and lack of vital power. He becomes more susceptible to disease and succumbs more easily. And yet many people seem to think their cows can stand tied in the stable all winter to an advantage.

When one good cow will yield as much as three poor ones it does not require much intelligence to see that the extra feed taken to support three cows instead of one is just that much feed thrown away. And when the labor of caring for the extra number of cows and the stable room they occupy is considered, the missionary work of the one good cow should terminate in a big reform in the management of that herd.

The outlay for plaster for sprinkling about the stables for the six winter months need not exceed five dollars, while the saving in nitrogen would amount to ten times that sum. Some instances are given where crops of silage corn were grown, manured in in strips. Where manure as ordinarily saved was used, and then where land plaster had been used in the stables, the crop told fully a third in favor of the latter, and this gain was made at the expense of a few cents for the plaster and the minutes labor.

There will be more or less food that will pass undigested, even with the best of cows but this is a loss that we cannot entirely prevent, though it may be, an occasional change of feed would go far towards doing it. Much depends upon the feeder; he should understand the likes and dislikes of his cows and try to so arrange their rations that he will get the greatest possible profit from them. A good feeder will get comparatively good results from cows not at all first-class.

One of my neighbors drove seven cows to the stock yards to sell them for beef; they weighed 6,000 pounds—which weight showed that they were not poor—and he was offered one cent and a half a pound for them, or an average of twelve dollars and eighty-five cents a cow (\$12.85), says a correspondent Stockman and Farmer. Won't some man come forward and give the figures that will prove that it pays to feed extra

weight of cow for the sake of the money it will bring when the cow becomes unprofitable in the dairy and is sold.

A Non-Breeding Cow.

Ten per cent. of cows are failures as breeders. Some are incorrigible, but others may be brought into condition by proper treatment. Give some cooling laxative, as epsom salts, dissolved in oatmeal infusion, or any similar liquid and repeat twice at intervals of three days. The feeding should be light and digestible, but nutritious, as bran and linseed mash but never cottonseed meal, which is often the cause of the disability. By daily meetings with the bull it is frequently successful. It is desirable to keep cows regularly bred and to have a calf once a year. The animal is naturally disposed to this, and irregularity is the most frequent cause of introducing trouble into a herd.

Spare the Woodpecker.

Dr. E. Sterling, of Cleveland, in correspondence with Insect Life, describes the attack of some insects on the elms along Euclid avenue during the summer of 1890, and says: Fearing a repetition of the trouble, numbers of us fought the cocoons in the fall and destroyed thousands, but when winter set in tens of thousands still remained on the outer branches beyond reach. About the 1st of September a pair of hairy woodpeckers made their appearance and fed daily on the grubs. In the course of that month and the next over a dozen of these birds were added to the number, and by their industry on this particular pest attracted the attention of all who passed. Suffice it to say that when March came not a cocoon was to be seen in those places where the branches were literary white with them before, and they never troubled the trees here since, I have always found the native woodpecker family the greatest destroyer of insects in every stage of their development, and these birds should be protected by the farmer, and the orchardist in particular, be it the malignant "sap-sucker" or the most conspicuous yellow-hammer. A few old ham or beef bones with a little meat on them hung up in the orchard trees in winter time will keep these birds in the neighborhood during the season if not the year round, and will pay the owner for his trouble.

Seasonable Suggestions

Mixed potato seed should not be planted as the habits of each are likely to be quite different, and disastrous results are sure to follow. It is best to plant medium-sized tubers, uniform in shape and smooth, with shallow eyes, and it is a safe plan to introduce some new variety each year from some reasonable dealer, not expecting always to find them what is desired, but hold on to those which do please. A rich, fertile soil will grow a fair crop from cutting to a single eye, but in a thin soil the size of the cutting should be much larger.

System in farming is important. He who carefully lays out his farm in proper fields, making a map of the same, devoting each field to a succession of crops, with suitable manuring, basing the rotation upon the adaptation of one crop to fit particular soils, and pursuing all his operations with a plan for doing everything just at the right time and with a determination to make experience and the lights of science as available as possible in his calling, will undoubtedly reap the most abundant reward for his labor. To complete the system he must keep a record of all his farm operations, for in no other way can he be said to have a full knowledge of his business. He should keep an account of all the expense, loss or gain; in what particular branch of his business he is most successful; what crops are most profitable for him to raise; the most profitable disposition to make of them; the best and most profitable stock to raise, and how best to dispose of it.

That farmer who has a silo is about as independent of the weather as a man can be. Aside from heavy rains, nothing interrupts this kind of harvesting. Light rains and showers, while making the work disagreeable, do not stop it, and when once properly in the silo all danger of imperfect curing is past. The early date at which the land can be cleared makes it possible to either seed down to grass or winter grain a month before corn in the stock would be dry enough to husk. Another advantage in the north is that varieties of later growth may be planted for this purpose which will not fully ripen before frost.

Farmers are too careless in regard to keeping an account of their business, consequently they often raise crops which are not profitable to raise and sell off the farm, yet the farmer can by knowing the feeding value of the manure produced from it, make a calculation of what crops can be sold off at profit, or to sell one crop and buy another. The farmer's ability to transact his business in a business-like manner is increased in proportion to the increased knowledge of his business details, and in the same proportion also are its profits increased.

How An Oyster Grows.

The oyster at the commencement of its career is so small that 2,000,000 would only occupy a square inch, says the Boston Globe. In six months each individual oyster is large enough to cover half a crown, and in twelve months a crown piece. The oyster is its own architect, and the shell grows as the fish inside grows, being never too small.

It also bears its age upon its back, and it is as easy to tell the age of an oyster by looking at its shell as it is that of horses by looking at their teeth.

Everyone who has handled an oyster shell must have noticed the successive layers overlapping each other.

These are technically termed shots and each one marks a year's growth, so that by counting them the age of the oyster can be determined.

Up to the time of its maturity—that is when 4 years of age—the shots are regular and successive, but after that time they become irregular and are piled one upon another, so that the shell becomes bulky and thickened.

Fossil oysters have been seen of which each shell was nine inches thick, whence they may be guessed to be more than 900 years old.

One to two million oysters are produced from a single parent and their scarcity is accounted for by the fact that man is not the only oyster eating animal.

The starfish loves the oyster and preys upon it unceasingly. A variety of whelk is also very fond of young oysters, to get at which it bores right through the shell and sucks the fish up through the hole thus made.

VANCOUVER TO AUSTRALIA.

Initial and Definite Step Taken Towards Cable Communication.

The initial and definite step towards the construction of the cable line which shall unite this continent with Australia has at last been taken, and a contract entered into for the laying of the first section of the wire. France has long had a penal settlement on the island of New Caledonia, situated about 900 miles west of the Queensland coast, and this settlement she has been anxious to have placed in touch with the seat of Government at home, and the outside world in general. The cause of her anxiety has been chiefly fears of an outbreak among the convicts, or any emergency that may arise in case of war, and as New Caledonia is at present completely isolated the construction of the cable will be a great boon to the French authorities. Therefore, the first link in what will ultimately be a trans-pacific telegraph line will be that uniting Queensland, Australia, with New Caledonia. Commercial relations between this settlement and the Australian commonwealth have been constantly and rapidly extending, until now the necessity of such a step as that announced has become evident to all. Negotiations have been in progress during the past year between the French Government as represented by the Societe Francaise des Telegraphes Sous-Marin, though Captain Audley Coote, of Tasmania, and the powers that be in Queensland. But so secretly have these been conducted that it is only now, through the medium of the Queensland bluebook on telegraphs, that the facts have become public. These negotiations have now been closed and the company has undertaken to establish communication between the designated points within 18 months. Confirmation of this was obtained from Paris last week, when the French Government admitted its share of the contract. A liberal guarantee has been made to the French company by the Governments of Queensland and New South Wales, to the extent of \$10,000 per annum providing France promises \$40,000, to extend over a period of 30 years. It is confidently believed that the Chamber of Deputies will endorse this guarantee and, indeed, increase it. In the agreement the company undertakes to lay, maintain and work the line, allowing the guarantors the free use of the section for official business to the extent of the guaranteed sums each year. At the same time the working expenses are not to exceed \$12,000, and the receipts over that amount shall go towards the reduction of \$50,000. Ten words will be sent for six shillings, each additional word incurring a further outlay of sixpence. Of material interest to the citizens of Vancouver are the clauses contained in the agreement, as officially stated in the report of the Queensland Government:

"The above cable to form a part of the main Pacific cable, connecting Australia with either Vancouver, in British Columbia, or San Francisco, or such other parts as may be determined. As soon as the main Pacific cable is laid, the guarantee above referred to shall be rearranged, and come into and be a part of any joint purse guarantee given by the other countries or colonies joining in a guarantee for the main Pacific cable."

Capt. Coote has further announced on behalf of his company that they are willing to proceed with the construction of the remaining links in the service as soon as it is thought practicable. Although depending upon pecuniary assistance from the home Government in this, the French company are quite prepared to go on with the work, having faith sufficient in the undertaking to believe that it will be remunerative. The announcement says:

"We are ready to begin to lay the second section, from New Caledonia to the Fiji islands, at once, if a guarantee can be arranged, and also to proceed with dispatch to join up the Hawaiian islands."

Capt. Coote has been working on this scheme for years, and some time ago obtained a concession of \$20,000 per annum from the Hawaiian Government for a cable for 15 years, work to commence before 1894. He also received from the Samoan Government the exclusive right to land and work a cable upon the shores of that kingdom for a period of 21 years. The route for this trans-pacific cable as mapped out is from Queensland to New Caledonia, thence to Fiji, Samoa, Fanning Islands, Honolulu, and thence either to Vancouver or San Francisco. The American Government has made two surveys during the past year to the Hawaiian islands from California, and the British Government one from Hawaii to a point beyond the Fiji islands. There is a company, however, known as the Pacific Telegraph Co., with a capital of \$10,000,000 at present existing in England for the ostensible purpose of laying the cable, but the capital has never been subscribed. In the United States there are two such companies, but neither have done anything as yet in this line. One was organized in 1875, with Leland Stanford at the head, and was promised heavy subsidies. The other is comprised chiefly of men interested in the C. P. R., and is known as the Hawaiian Telegraph Co. Such a cable, to connect Canada with Australia, has always been regarded by Great Britain as an absolute political necessity. Britain's present line of communication is largely through foreign countries, and this would, in time of war, be broken off. She has long wanted an alternative route to the east, as the recent experimental transfers of troops across Canada from Halifax to Vancouver would go to show, and it is more than probable that she will see to a finish of the undertaking now commenced. The announcement of this cable line will, no doubt, infuse new life into the old companies organized for the same purpose, but as England possesses the vantage ground, in the way of strategical points for the landing of the cable, it is not likely that anything will come of it unless she gives her sanction and has a controlling interest therein.

A Contrast.

"That new brood of yours, Mrs. Minkler," said her candid friend, Mrs. Speak-er, "if you don't mind my saying so, is the ugliest thing I ever saw." "I know it," replied the brave little woman, cheerfully. "I wear it because my husband gave it to me for a Christmas present."

And Mr. Minkler, listening in the room adjoining, remembered that he had given away to chronic loafers and officers bores, with slighting and contemptuous remarks, the box of cigars his wife had presented him Christmas day; and he went out to the coalshed and kicked himself.