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DISEASES OF THE EAR.

CHRONIC CATARRH OF THE MIDDLE EAR.

THIS is a very serious affection of the ear, and one to which about one-half of all cases of deafness are due. The disease is generally accompanied by slight pain, heat, and uneasiness about the ear. It is often the result of repeated attacks of acute catarrh of the middle ear. In a majority of cases it results from long continued nasal and pharyngeal catarrh. Patients frequently complain of sounds in the ear, like the crackling of air bubbles. There is generally more or less ringing in the ears and a sense of fulness. Dizziness is also a not infrequent symptom. In many cases there is a tendency to an accumulation and hardening of the ear-wax. Generally, also, a slight tenderness will be found by pressing with the finger in the hollow just below the ear, or over the front part of the ear. In some persons, however, scarcely any symptoms except those of impaired hearing are present. In not a few instances the disease progresses so insidiously that the patient is unaware of his condition until his hearing is destroyed. On the day of this present writing, we have met with two illustrations of this fact. A clergyman called at our private office, and with much concern apprised us of the fact that he had just made the discovery that the hearing of his right ear was very greatly impaired. His attention was called to the fact by incidentally placing a watch to his ear to see if it was running. On testing the ear, we found that it possessed only one-sixteenth of its natural acuteness, and upon examination of the left ear, we found, very much to the gentleman's surprise, that its hearing was also very greatly impaired, the watch which should have been heard at a distance of four feet being barely made out at a distance of a foot. Within an hour, while examining a patient from a distant State with reference to the condition of his general health, we incidentally tested his hearing, although he remarked very emphatically that his ears were perfectly sound. In this case we, found the left ear had lost fully three-fourths of its acuteness, while the hearing of the right ear was almost entirely destroyed. The gentleman was so greatly astonished at the result of the examination that he was only convinced of his real condition after the test had been repeated several times.

A curious phenomenon is sometimes observed by persons suffering with chronic catarrh of the ear. When surrounded with loud noises, as riding in a railroad car, they are able to hear as well as, or even better than, persons whose ears are perfectly healthy, although very deaf at other times. The cause of this improvement of hearing is not well understood, but it has been thought that it may be due to the fact that the powerful vibrations produced by loud noises, set in motion the membrane of the ear, which is thickened and rendered rigid by disease.

An English physician, taking a hint from this fact, has suggested the exposure of the ear to loud noises as a mode of treatment. This plan of treatment has been termed, Ear Gymnastics.

In order to ascertain whether the Eustachian canal is open and the membrane movable, it is necessary to inflate the ear. This is done by forcing air into it by means of Valsalva's method, which consists in attempting to blow the nose while the nostrils are tightly closed with the thumb and finger, or still better, by Politzer's method in which air is forced into one nostril by means of a rubber bag, Fig. 1, the patient swallowing at the same moment that the air is forced into one nostril, the other being closed. In cases in which the air cannot be made to enter the ear by either of these methods, it is necessary to use the Eustachian catheter, Fig. 2. When air enters the ear, the movement of the structures of the middle ear can be distinctly heard by means of the otoscope, or diagnostic tube, Fig. 3, one end of which is placed in the ear of the examiner, and the other in the ear of the patient undergoing examination. These instruments are also very essential in the treatment of many diseases of the ear.

Fig. 1. Politzer's Rubber Bag.

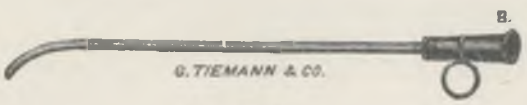

Fig. 2.

Fig. 3. Politzer's Rubber Bag.

TREATMENT.—Unfortunately, in the majority of cases of chronic catarrh of the middle ear, little can be done to improve the hearing of the patient. About the best that can be hoped for is to check the progress of the disease, and perhaps secure a little improvement. The first attention should be given to the throat, which will in nearly all cases be found to be the seat of chronic catarrh, though in many cases there is also nasal catarrh. For the relief of these difficulties, the treatment elsewhere recommended for them should be adopted and thoroughly employed, not for a few weeks only, but persistently for months and years.

Among the various measures for this purpose, are the post-nasal douche, steam inhalation, and gargles. The best remedy for the use of the gargle is chlorate of potash, a strong solution of which should be used two or three times a day. The usual method of employing the gargle is

very ineffective, as the soft palate prevents the solution from reaching the seat of the disease. In order to be of any service the gargle should be taken as follows: Take into the mouth about a tablespoonful of the solution, throw the head backward as far as possible, close the nostrils, and make the motions of swallowing without, however, allowing the liquid to pass into the stomach. By this means the solution may be made to pass up into the back part of the throat over the diseased surface.

Alternate hot and cold applications made to the throat and over the ears, are valuable means of aiding a cure. Electricity may also be applied to the ears with advantage in many cases. When the external part of the ear is dry and irritable, much relief may often be given the patient by anointing it with carbolated vaseline, ten drops to the ounce, sweet oil, or almost any other unguent. Great care should be observed to avoid taking cold. In cases in which the tonsils are enlarged, which are by no means rare, they should be removed. Attention should be given to the general health, as in many instances the hearing may be greatly benefited by improvement of the condition of the stomach.

NERVOUS DEAFNESS.

This is one of the most hopeless of all diseases of the ear. It is by no means so common, however, as formerly supposed, before diseases of the ear were as well understood as at present. Formerly all diseases of the ear which could not be traced to other causes were attributed to disease of the auditory nerve. Even at the present time many physicians who are not thoroughly posted in regard to diseases of these organs, pronounce many cases of deafness to be of nervous origin, when the difficulty is of a much more tractable character.

One of the most interesting discoveries appertaining to this class of maladies is the fact that diseases of the auditory nerve can be distinguished from diseases of other portions of the ear by means of the tuning-fork. If the tuning-fork be sounded, and the handle placed at the center of the forehead, the sound will be heard most distinctly in the affected ear if the deafness is in the middle ear, or due to hardened ear-wax. If, however, it is due to disease of the auditory nerve, it will be heard most distinctly in the unaffected ear.

TREATMENT.—Improvement of the general health, and the application of galvanic electricity to the ear, are about the only measures of advantage. When both ears are affected, the electricity may be applied by means of small sponge electrodes which should be placed at the openings of the auditory canal, or just behind the ear. When only one ear is affected, the positive pole should be placed at the back of the head and the negative at the opening of the ear or upon the prominence just behind it.

WATER-DRINKING A PREVENTIVE OF DISEASE.

THE following article, which we take from the *Boston Journal of Chemistry*, is worthy of a careful perusal: —

An old English proverb says, "Drinking water neither makes a man sick nor in debt, nor his wife a widow." It is not only a good temperance maxim, but with a slight addition it might be equally accepted as a rule in therapeutics. Drinking water neither makes a man sick, nor hurts him when he is sick, but rather helps him. It must be admitted that the doctors have often been wrong in refusing water to their thirsty patients; and it is gratifying to find that they are coming to see the mistake and to warn their professional brethren against it. Dr. J. F. Meigs, of Philadelphia, in a clinical lecture on "The Internal Use of Water for the Sick," delivered at the Pennsylvania Hospital a year ago (since published in pamphlet form by Lindsay & Blackiston), gives a painful, almost a terrible, picture of the suffering and the injury caused by the prejudice of physicians and nurses against the free use of water as a drink in certain diseased conditions. He lays

down the rule, that the sick should be allowed all the water they desire.

What, then, is to be the guide as to the quantity of water to be supplied to the sick? I answer unhesitatingly, that so long as the patient retains his natural senses, or appetites, there is no guide so sure and so safe as the thirst. When this is lost, the trained knowledge of the physician, or the common sense and experience of the nurse, must determine the quantities that should be given. What is this thirst upon which I rely so implicitly? It is the appetite implanted in the body by the Creator, for the determination of the amount of water needed. . . . . For myself, I dare not oppose this divine sense in a thirsty patient, any more than I would oppose the instinct of the infant to take from its mother's breast the material it needs for its growth.

Professor Maclean, of the Royal College at Netley, near London, who was for some time one of the deputy-inspectors of the British army in India, where he had an extensive experience in the observation of cholera, says:—

"Urgent thirst is one of the most distressing symptoms of cholera; there is incessant craving for water, doubtless instinctive, to correct the inspissated condition of the blood, due to the rapid escape of the *liquor sanguinis*. It was formerly the practice to withhold water,—a practice as cruel as it is mischievous. Water in abundance, pure and cold, should be given to the patient, and he should be encouraged to drink it, even should a large portion of it be rejected by the stomach; and when purging has ceased, some may, with much advantage, be thrown into the bowels from time to time."

Dr. Thomas K. Chambers, of London, one of the best living authorities on the stomach and on indigestion, in an article on "Dietetics," in the last edition of the *Encyclopædia Britannica*, remarks that patients with fever should take no food but liquid, and adds that "water is the most digestible of all foods."

A long and able article on "Water as a Prophylactic and a Remedy," by Dr. S. G. Webber, of this city, was printed in the *Archives of Medicine*, a few months ago, and has since been emphatically commended by the *Boston Medical and Surgical Journal*, and other leading medical magazines. The author believes that not drinking water enough is a positive cause of disease. Many people have got the notion into their heads that it is bad to drink freely at meals. Of course, one may swill down such a quantity of water that it will be hurtful, but, on the other hand, the abstinence may be carried to an injurious point. The following extracts from Dr. Webber's paper will, we are confident, be equally interesting to the professional and the general reader:—

Water taken with the food favors digestion; when taken into the stomach, a part is absorbed by the gastric vessels, carrying with it the soluble constituents of the food. So much as is not immediately absorbed assists in softening and breaking up the larger particles of food, and thus aids in the gastric digestion by facilitating the action of the gastric fluids. A portion of the water is carried off into the intestines with the semi-digested food, and acts favorably in the same way; also, the blood being well supplied with water, the fæces are not so hard and dry as would otherwise be the case, and it is easier to keep the bowels regular.

It is certainly no matter of surprise that there should be malaise and distress when the system is loaded with worn-out material, unfit for the functions of life, which the blood cannot remove for lack of menstruum. It is not surprising that the nervous system, which most requires regular nutrition, should suffer most; that muscles badly nourished should ache on motion; that kidneys called upon to secrete an abnormally concentrated urine should become diseased; that the highly acid urine should irritate the bladder.

This view may explain why herb teas, thoroughwort, camomile, sage, etc., were so popular in our grandmothers' days—indeed, are now popular. The bitter herb

is a slight gastric tonic, but the water is a better solvent. Formerly the good housewife supplied the deficiency in drink by regular doses of herb-tea; now the physician supplies it by draughts of spring water. Sometimes, in treating such patients as have been referred to, I administer a diuretic with the water, that elimination may be effected more speedily.

How much water should an adult drink in twenty-four hours? It must be taken into account that water is excreted by the lungs and skin as well as by the kidneys; also, much of the food ingested contains water as one of its constituent parts. Hence the amount of liquid required as drink must vary slightly with the activity of the skin and the character of the food. If much of the diet is made up of soft solids, fruit, and watery vegetables, less drink will be needed than if the diet is composed of dry meats and vegetables. The amount of soup ingested would also affect the amount of mere drink required. The average amount of urine passed in twenty-four hours by a healthy adult is stated by Dr. Flint to be about fifty-two ounces, the extremes being thirty-five and eighty-one ounces. The amount of drink necessary is stated by Dalton to be abont fifty-two ounces; that is, 3.38 pints. An ordinary coffee-cup holds six or seven ounces. The equivalent of eight or nine coffee-cups of drink would not, then, be an excessive amount. Repeatedly patients have told me that they drink only one or one and a half cups, morning and evening, and about the same at dinner, only occasionally taking soup, averaging less than six cups, sometimes small tea-cups, of drink. Sometimes patients say they drink generally only a little more than a pint a day.

Dr. Webber remarks incidentally that a very large proportion of those who suffer from nervous exhaustion, or "neurasthenia," as it is called, do not drink enough; and he suggests that it may be "an American peculiarity to ingest so little fluid." He has the following good hit at the use of certain "spring waters," much advertised now-a-days, which, as we have more than once had occasion to point out in the *Journal*, contains only a few grains of certain simple salts to the gallon, and owe what virtue they have merely to the fact that they are very pure waters:—

"Human nature is such that if the doctor tells a patient to drink two or three pints of Cochituate or Croton water a day, in addition to his tea or coffee, he will rebel and think it a queer prescription; but if he is told to take that amount of Poland, or Allandale, or some similar water, he forthwith has his keg of mineral water on tap, and drinks in faith that it will, in some mysterious way, relieve his gout, rheumatism, dyspepsia, or kidney disease, or will be good for his headaches and tired brain."

The moral is, Do not be afraid of drinking all the water you thirst for, provided it be pure, and *cultivate* a liking for it if, from what has been said above, you infer that you ought to do so. Water is, of course, more efficient as a *preventive* than as a *cure* of disease; or, as Dr. Webber somewhat facetiously puts it, "the time to work the greatest cures with water is before the disease has begun."

THE EFFECTS OF TOBACCO AS SHOWN BY THE MICROSCOPE.

THE following interesting article we quote from a recent issue of the *New York Times*:—

Several years ago Dr. Decaisne, one of the notabilities of the Société d'Hygiene, startled the smokers of Paris by drawing attention to the fact that the use of tobacco had a peculiar effect upon the pulse, which he styled intermittency, and by tracing the phenomenon, then for the first time accurately described, to a rhythmically intermittent action of the heart, without organic disease, and due especially to the narcotic action of the nicotine and other potent alkaloids present in the tobacco leaf. He had at that time carefully studied the cases of eighty-one

inveterate smokers, in twenty-three of whom the intermittent pulse was a confirmed trouble, not associated with any real heart disease. The intermittence vanished when the habit was abandoned even for a few weeks, and reappeared as soon as the use of the poison was resumed. In conjunction with this series of studies on adults, he investigated the influence of tobacco on the circulation of boys from nine to fifteen years of age, and discovered that not only did it produce palpitation of the heart and intermittency of pulse, but also a peculiar condition of the blood itself, allied to anæmia. Laziness, stupidity, and indisposition to apply the mind to study were traced, with probable accuracy, to the habit of smoking in many of these lads; and when formed early, he found that smoking gradually brought a predisposition to alcoholic stimulants; and that, in some instances, the starting point of a criminal career dated from the first secret indulgence of the vice, producing by slow degrees, when acting upon a constitution still extremely flexible, a complete moral and intellectual transformation, as well as physical degeneracy. M. Decaisne, according to a Paris medical journal, has just contributed to the annals of the same society a valuable appendix to his former paper, in which he takes up the effect of smoking upon women, forty-three cases of which have come under his observation since 1865, when he commenced this special series of studies. Besides disturbance of the digestive function which was common to them all, eight presented a marked intermittency of the pulse without organic disease of the heart. No medical treatment proved of the least avail to correct the distempered function, tonics and sedatives being equally powerless. At length he was compelled to insist on his patients discontinuing the use of tobacco, and in each case where smoking was actually given up—the cautious writer says *actually*, because he found women more inclined to deceive than men in this regard—the trouble was immediately relieved and ameliorated; and when the suppression of the habit was persevered in for a few weeks with steady purpose, the alarming symptom disappeared altogether.

M. Decaisne offers no rationale of the action of the narcotic, and enters into no analysis of the disease now familiar to popular parlance as smoker's heart; but here his observations are supplemented by those of a careful microscopic observer, who has discovered that all narcotics—opium and its preparations, hasheesh, etc., as well as tobacco—act in a peculiar manner upon the colored corpuscles of the blood, producing the phenomenon styled crenation; that is, the margin of the corpuscle, instead of possessing the absolute regularity of margin noticed in the condition of health, presents a series of scallops somewhat irregular in their distribution. When viewed by oblique light under the microscope, this appearance is found to be due to the conversion of the corpuscle into a minute sac, apparently containing some hundreds of spherical bodies about one four-thousandth of a millimetre in diameter. In a few hours the sac ruptures and the imprisoned germs or organisms escape into the surrounding plasma to form bacteria when the conditions are favorable. A few such crenated corpuscles, in the proportion of one to three hundred and fifty, occur in the circulation of persons in normal health, not addicted to narcotics, but in the opium and tobacco habits, when of long standing, the ratio is sometimes as high as one degenerated corpuscle to ten healthy ones, and often attains the figure of one to twenty-five or thirty. In such cases the countenance is pale and almost cyanotic; dark circles appear beneath the eyes, which lack luster and are deeply sunken, and the respiration is weak and easily disturbed; while the heart palpitates violently upon very slight muscular exertion.

An incident illustrating the sequel of this appearance of the blood occurred a few months ago in the office of a manufacturing optician of this city. As the professor of microscopy in one of our medical colleges dropped in, a gentleman of evidently large wealth and finished intellectual culture was just leaving the of-

fice with a cigar between his lips. He was a wealthy amateur, and had selected a valuable microscope, using a drop of blood from his own finger as a test object. The instrument was still adjusted and the slide still beneath the lens. The professor glanced at it; then moved the slide to and fro, so as to study one field after another; then counted a few fields, and made a rapid computation. The optician looked on in astonishment. "That gentleman is one of our best customers," he said; "buys more heavily than half a dozen professors." "And this is a drop of his blood?" inquired the man of science musingly. The purveyor of lenses assented. "Very well," replied the professor, "tell your best customer, if you can without impertinence, that unless he stops smoking at once he has not many months to live." But he did not stop. A few weeks later he went to Europe, thinking a sea voyage might recruit his wasted energies.

In a few weeks more his death was announced by telegraph from Paris, where the doctors styled his disease a general breaking up.

[Reprint from the Detroit Lancet, July, 1882.]

THE RATIONAL TREATMENT OF CONSUMPTION.

BY J. H. KELLOGG, M. D.

READ BEFORE THE CALHOUN COUNTY MEDICAL SOCIETY, MARCH 7, 1882.

But I have already prolonged this paper much beyond the limits which I set for it, and must now bring it to a close, though I have barely hinted at some of the chief features of what I consider the proper treatment of this grave malady. With reference to the practical results of treatment, I will say that although the cases which have come under my care have been chiefly persons in the middle or last stages of the disease, I have succeeded in not a few instances in materially checking the progress of the disease, as indicated by the decline of the febrile symptoms, relief of night sweats, improved appetite, and increase of flesh and strength.

In quite a number of cases, also, cures have been effected. Without wearying you with the details, I will mention a few:—

Case 1. Mr. T., a clergyman from a Western State, came under my care at the Sanitarium, February, 1877. He had been suffering with unmistakable symptoms of well established tubercular consumption for several months. The patient was a man of fair constitutional vigor naturally, but at the time I first saw him he was so reduced in strength that he was able to walk but a few rods at a time, and his breath was so short that he could speak but a few words without stopping to take breath. He was greatly emaciated, having steadily lost flesh for several months. He coughed much of the time, especially nights, and expectorated very copiously. An examination of the sputum showed it to consist largely of pus, and an abundance of yellow elastic connective tissue was always present. The pulse was never below 100, and was 120 most of the time. The morning temperature was never less than 100 degrees, and the evening temperature was seldom less than 103 degrees. A careful physical examination of the lungs showed the presence of a large cavity near the apex of the left lung with consolidation of the upper two-thirds of the upper lobe.

The case seemed so dubious that I did not deem it prudent to give the patient any encouragement, and advised him to return to his friends. He was very reluctant to do so, however, and insisted upon remaining for a few weeks, at least. I permitted him to do so under protest, determined to watch the case carefully and to insist upon his getting back to his friends at once if his symptoms should increase in severity to any extent. Greatly to my surprise, the patient soon began to show marked evidences of improvement. He increased in flesh and strength as a consequence of increased appetite and improved digestion, the morning chills disappeared, the exhausting night sweats ceased, the pulse diminished in frequency, the temperature declined both at morning and night, the cough became less troublesome, and the expectoration less. At the end of three months there had been a gain of twenty pounds in weight, the pulse was sixty, the temperature normal, the respiratory power and lung capacity greatly improved, and although there was still dullness at the apex of the left lung, and the cavity was still present, the sputum contained much less connective tissue, and the patient was recommended to spend the summer in some light, out-of-door employment. He returned to his home, and, contrary to my advice, soon resumed his pastoral duties, feeling so well that he considered himself able to do so. He did nicely, however, during the summer, but at the beginning of cold weather took a very severe cold,

which brought him back to the Sanitarium in a condition almost as bad as before. He spent the winter under treatment, made steady improvement as before, and in the spring I recommended him to move to Colorado, thinking by this means to prevent his return to his profession. He went to the southern part of the State, and continued to improve, although he soon resumed his labors as clergyman, and at the end of another year reported himself in better health than he had been for many years. He was examined by Dr. Dennison, of Denver, a few months later, who pronounced the cavity healed. When I last heard from him, a few months since, he was enjoying good health.

Case 2.—Miss S., a young lady, about 19 years of age, of a slender constitution, parents weak and sickly, though no history of tubercular disease in other members of the family. The patient was very much emaciated, and was very weak from loss of blood, having had repeated hemorrhage from the lungs within the space of a few weeks. No appetite, profuse night sweats, a feeble, rapid pulse, chill every morning, marked rise of temperature in the afternoon and evening, cough, with frothy expectoration, and great shortness of breath. A physical examination showed a tuberculous deposit in the right apex. After a few weeks treatment, recommended the patient to visit a friend in the country, giving her a prescription for diet, exercise, etc., to be strictly followed. Two years later I was accosted on the street by a lady whom I did not recognize, who introduced me to her husband, and presented a fine little boy, about a year old. She seemed to be in the enjoyment of excellent health, and had had no symptoms of the old malady for more than a year and a half. A year later, however, she took a severe cold, the disease returned and ended fatally, notwithstanding a trip to California.

Case 3.—A man about 35 years of age came under my treatment in August, 1881. The leading symptoms of his case were emaciation, loss of strength, cough, with frothy expectoration, had had two or three slight hemorrhages, had daily chills and profuse sweating at night; evening temperature, 102 to 103 degrees; very little appetite, slow digestion, and, as shown by physical examination, very marked and extensive dullness at the apex of the left lung. After two months' treatment the patient went home to make arrangements to spend the winter under treatment, but he continued to improve, and made such rapid progress that he did not find it necessary to return. At present he is enjoying excellent health. The last physical examination showed little dullness, and we have no doubt that at the present time the lung is entirely free from disease.

Case 4.—Mr. A., a clergyman from Canada, came under treatment, August, 1879. The patient presented all the symptoms of advanced phthisis. Was expectorating large quantities of pus containing much connective tissue daily. Was much emaciated, had a harrassing cough, no appetite, copious night-sweats, very great shortness of breath, great weakness, and a daily temperature at 7 P. M., of 103 to 103½ degrees. Physical examination showed a large cavity in the left lung and a considerable degree of consolidation in the right apex. Mucous and subcrepitant rales were abundant at the left apex, and crepitant rales were numerous at the right apex. I gave a very grave diagnosis, telling the patient that I could promise nothing, but as he was anxious to remain, put him under treatment, and with the gratifying result that in the course of a few weeks he was very greatly improved. I still considered his case as practically hopeless, and urged his return to his home before the advent of cold weather, thinking it impossible that he could live more than a few months at the longest. Advised him to continue, so far as possible, the same regimen he had been following, and to pay particular attention to horseback riding as a form of exercise, as he was too weak to walk but a very short distance. He was even too feeble to ride without walking his horse very slowly. He returned to his home, followed the advice given with great fidelity, and after a few months I was gratified to learn that he was able to return to his ministerial duties as pastor of a large church, and that the disease was apparently checked.

Case 5.—Judge S., of a neighboring State, came to the Sanitarium as a patient in September, 1881. Finding himself running down rapidly, losing flesh, coughing severely, and expectorating freely, with morning chills and evening fever, he left his home and went to Petoskey, hoping to find relief by change of air. He was disappointed, however, and steadily failed so rapidly that he left in despair, coming to the Sanitarium in a condition so low that it was necessary to carry him upon a stretcher. Physical examination showed distinct dullness over a greater portion of the lower lobe of the right lung, with mucous and subcrepitant rales, and bronchial breathing. The cough was so troublesome as to deprive him almost wholly of sleep. Expectoration was very free, and con-

tained a large proportion of pus. The temperature was 102 to 103 degrees at night, and was usually two or three degrees above normal in the morning. I did not dare offer encouragement of cure, and advised the patient to resign his position as judge of an important court, and make up his mind to devote two or three years to his health as the only possible means of averting a fatal issue. He soon began to improve under treatment, however, and in two months his worst symptoms were greatly mitigated. In three months, though against my earnest protest, he returned to his home and resumed his professional labors, and continued to improve. At the present time he reports himself as in the enjoyment of good health.

I have now under observation several cases of phthisis and various other forms of pulmonary disease, and the results of the plan of treatment marked out in this paper are certainly very promising, even in cases which have been but a short time under treatment. In one case of advanced pulmonary tuberculosis, the lung capacity has been increased from 150 cubic inches to 200 cubic inches in three weeks' time, the morning chill and the night sweats have been checked, and there has been marked improvement in every particular. In a case of chronic bronchitis, the lung capacity has been increased from 75 cubic inches to 130 cubic inches after six weeks' treatment. Others are doing equally well, but not all, of course, as many are not benefited by any mode of treatment except by way of mitigation of their most distressing symptoms.

I might cite a much larger number of cases, did space permit, but these will be sufficient to show that a combination of the various means of treatment named is capable of securing good results even in cases of the most discouraging character. I believe most firmly that consumption is much more amenable to treatment than is generally believed, but consider that it is necessary to have the patient under such complete control that all his habits of life may be most carefully regulated. This cannot always be done at home, and hence this class of patients are best treated in a well regulated hospital where all necessary appliances for treatment are afforded, together with means for careful regulation of the dietary, exercise, etc., which can seldom be secured elsewhere.

—Sleep may "knit up the raveled sleeve of care," but it won't darn the torn stocking of poverty worth a cent.

OCCUPATION FOR WOMEN.

BY ANNA H. STEWART, M. D.

SAYING nothing of what woman is best fitted to do, in view of that which she will be most likely to do, of that which her surroundings most demand of her, a few words may be said.

The larger proportion of women serve, at some period of their lives, as nurse, as well as cook and housewife. In many households, one of these employments is no light duty, and when little preparation or none at all has been made to develop the physical frame to bear the burden, or to skill the hand to do it, the work must be doubly hard and the results imperfect and unsatisfactory.

How few women are capable of making a patient comfortable without any instruction, and how very few with the most minute directions, the family doctor can testify to, no doubt. That fully as little is known as to what the patient should eat or the manner in which food should be prepared, is also evident to the physician who perhaps has repeatedly visited the kitchen to superintend the preparation of gruel or broth or the cooking of an egg for a delicate stomach.

It is evident that few mothers are particular to instruct their daughters even the little that they themselves know, and equally evident that most daughters seldom or never give a thought to the subject of nursing, much less that they are under any obligation to do so, and yet there is sickness in every family at some time, through accident or otherwise. Often, perhaps oftener that any one would dare to say, a precious life is lost through inefficient nursing. The doctor is heard to say, "If I could only have a nurse that I could depend upon." Mothers may be willing that the knowledge of these things rest with the doctor, but the doctor is not willing for it to be so. True, many doctors have a good nurse at command and sometimes many of them. There are more who want a good nurse in every family. Many noble women make nursing their life-work; many more are learning the profession.

The doors of our hospitals are wide open to those who are in earnest, and there is always room for careful, thoughtful workers among the poor.

A good nurse must understand cooking for the sick. For this knowledge, opportunity is afforded at the establishments in some of our large cities called "tea kitchens." Outside of these advantages is the doctor, who is ever ready to impart instruction to the willing worker.

Whoever has a common school education, has access to the best hygienic literature of the day, and can be capable, with a few hours reading, to keep her patient's room in a sanitary condition.

Mothers with the interest of their own families and of humanity at heart, should not remain passive on this subject. Teachers who give careful study to the future of the girls under their charge, can hardly fail to instruct them in the matter of sanitary science.

To be a good housewife includes the knowledge of good cookery. To be a scientific cook necessitates the study of healthful cookery in connection with what foods are most easily assimilated in the body and are the least harmful. How many such cooks there are in our land, let a nation of dyspeptics proclaim.

A good housewife also includes a wise mother, who will start her sons and daughters on the road to health, giving a stock of such knowledge as will develop them as men and women of strength, not only to gain their daily bread, but to grapple and overthrow temptations of the day, which at times come upon the youth so unawares that only a giant in morals could resist were he not forewarned.

The prime requisite for a good cook, nurse, housewife, or mother, and especially for all of these combined, is a good constitution. Women thus endowed are in the minority. In many thus blessed, the foundations of disease are laid long before puberty, through improper dress or indiscreet diet, perhaps even in infancy, or through sedentary habits, dissipation, careless exposure, and the like, after that period. Those who have not a good physical frame should acquire all the strength and symmetry possible through physical culture; while through the same means those more fortunate must preserve theirs.

Children are too much in seclusion. There is no reason why, as a rule, their sports should not be in the open air; even upon rainy days they can play under a canopy with the air free to enter at all sides, while in cold weather they may be clothed so as to enjoy out-of-door exercise even when the thermometer is below zero. When thorough ventilation is so widely understood among the boards of health, there is no excuse for children studying or playing in illy-ventilated rooms.

Before the ages of twelve, thirteen, fourteen, and fifteen, girls feel free to romp and play almost as much as boys; after that age they are at a loss to know what to do to preserve their dignity and at the same time to enjoy themselves.

Among the children of the industrious poor and the well-to-do, there is no lack of healthy employment, the only danger being in too steady work and not enough recreation for the tired muscles.

The daughters of the rich have aids in the various schools for muscular training, as the riding schools and the gymnasiums. But these are unsatisfactory because they are not constant. To keep up muscular health the exercise should be taken daily. Better to put less time on the embroidery and more to the duties of charity; less time on the light reading and more to the observance of nature.

The duty of directing girls and young women in the ways of usefulness and physical culture rests largely with the mothers and teachers. Who but physicians can be depended upon to inspire mothers and teachers with a proper sense of their duty?

MENTAL EQUALITY OF MEN AND WOMEN.

Bastian, in the exhaustive work to which a free reference was made in Good Health for October, gives the weight of the brain in a large number of distinguished men, among others those of Tiedmann, the celebrated anatomist, and Hausemann, the eminent mineralogist;

the brain of the former weighing 44.2 ounces, barely above that of the average woman, and that of the latter 43.2 ounces, considerably below the weight of the average female brain. Speaking of the relation of brain weight to intelligence, Bastain says, "It seems perfectly plain from the facts recorded that there is no necessary or invariable relation between the degree of intelligence of human beings and the mere size or weight of their brains. Looking, in fact, to the mere size and weight of a brain, it must never be forgotten . . . that an organ of large size or weight may yet be a more or less inferior perceptive or thinking instrument by reason of its inner and finer developments being defective and badly attuned for harmonious action. Or again, it may be a defective instrument by reason of some still more subtle and mere molecular peculiarities of the nerve elements of which it is composed, whereby these are perhaps both less receptive and less 'retentive' of those sensorial impressions which constitute the raw material of intelligence, and also less capable than they might be of taking part in higher mental operations. There is, therefore, no invariable or necessary relation between the mere brain-weights of individuals and their degrees of intelligence."

Bastian also mentions the fact that "the male brain actually attains 5–6ths, and the female brain 10–11ths, of its total ultimate weight by the end of the seventh year, although at this time, the inner and finer structural development of the organ is, in all its higher tracts, still in a comparatively embryonic condition." This eminent author draws from this fact the following conclusion :—

"Even such data might, therefore, be considered to show, in the strongest manner, how comparatively unimportant is mere bulk or weight of brain in reference to the degree of intelligence of its owner, when considered, as it often is, apart from the much more important question of the relative amount of its grey matter, as well as of the amount and perfection of the minute internal development of the organ either actual or possible."

It thus appears that no less eminent authority than Dr. Bastian recognizes the fact that the quality of brain structure is of far greater importance than quantity, while he, as well as all other investigators in this line, holds to the position that average brain size is, all other things being taken into consideration, a fair measure of the average intelligence of a race or class of people. It is reasonable to suppose that more extended investigations and deeper research into the finer elements of the brain structure may only establish the fact that differences in mental capacity observed in different races and classes result as much from differences in the quality of the structure as in the quantity of the brain matter.

Use has also been made of the fact that the lower limit of brain power in woman, that is, the point at which human intelligence vanishes, is below that of males. Broca, as quoted by Bastian, places the lowest limit at which ordinary intelligence may be manifested in females at 32 ounces, and in males at 37 ounces. A recent writer* in a popular magazine concludes from this fact that the male brain is superior to that of the female; although to persons of "ordinary intelligence" it would seem to be apparent that the female brain-matter must be superior to the cerebral tissue of males since a smaller amount of it is capable of manifesting intelligence. But we consider it doubtful whether any correct conclusion can be drawn from such data as this, owing to the fact to which we previously called attention, that in these investigations no account was taken of the proportionate weight of the brain as compared with the rest of the body, which seems to us too important a matter to be ignored. We are by no means prepared to accept the arguments offered by the writer above mentioned, who says, "It is most probable that we may at some time establish an exact correspondence be-

*Miss Emma Hardaker, *Popular Science Monthly* March, 1882.

tween brain substance and intelligence, as the size and condition of the lungs yield an exact measure of the breathing power, and as the contractible muscle of the heart measures the amount of blood ejected at each pulsation." This is but a partial view of the case. Breathing power, as we have often demonstrated, depends as much upon the quality of the respiratory apparatus as upon its size. We have frequently met cases of very great lung capacity in persons very much below the average stature. The same is true of the working power of the heart. The amount of blood which the heart can eject depends as much upon the quality of the muscle and its nervous connections as upon the size of the heart. The same is true of the stomach and other organs. The amount of food which the individual can digest depends not alone upon the size of the stomach, but upon the quality of the stomach and the digestive juices secreted by it. While it may be true, as the writer referred to states, that the average man eats and assimilates one-fifth more food than the average woman, there is no good ground for the conclusion that because a man eats more he thinks more. Again, it is undoubtedly true that a larger amount of muscle enables him to make a greater expenditure of force, but this can readily be accounted for by the greater amount of muscular activity in man as compared with woman. The author reasons on the supposition that "the brain of man has the same proportion to the weight of his body that the brain of woman has to the weight of her body," which we have previously shown to be incorrect, the average female brain being greater in proportion to the weight of the body than the average male brain. It thus appears that while the brain of woman might not be equal in absolute size, it might still receive as large an amount of blood and utilize as great an amount of force on account of its greater proportionate size. J. H. K.

(To be Continued.)

STATE BOARD OF HEALTH.

At the recent meeting of the State Board of Health, present Leroy Parker, Rev. D. C. Jacokes, Drs. H. F. Lyster, J. H. Kellogg, Hazelwood, and the Secretary, the following business of public interest was transacted:—

The President read his annual address, reviewing the work of the year and presenting an outline of what is desirable to be done in the future. Among his suggestions was the securing in some way of the introduction of text-books on hygiene into the schools; greater attention by localities to the pay of their health officers; and a change in the present laws so as to specify certain duties to be performed by health officers.

The Secretary read his report of the work of the quarter, as the busiest ever known in the office. A large number of documents had been issued. There were 1,850 of the documents published by the Board on diphtheria sent to teachers alone, and this is only one of the many general distributions made of those documents. The annual report of property for the fiscal year was also presented.

The Secretary presented a communication on wounds from toy pistols, describing the pistols, and the catridges as determined by analysis, and several cases of wounds followed by lockjaw and death. Referred to the committee on accidents. He also presented a resume of the work of other State boards of health during the quarter. A statement was also presented relative to the immigrant inspection service, saying that the service in Michigan had been continued through the month of October on a reduced scale, and the work was impeded by a reduction of the force. It was thought advisable by the Board to continue the inspection during the winter with a force as strong as it had been during the summer, and the Secretary was requested to present to the National Board of Health the necessity of continuing this service at the ports of Detroit and Port Huron during the winter months. Most of the immigrants coming into the State come through Canadian ports where small-pox prevails most of the time. Those coming from the lower Canadian provinces are not inspected at any point so far as known. Some of the largest outbreaks of small-pox in this State, including that at Westwood, have been traced directly to immigrants. The condition of emigrant cars had been complained of and by action of this Board their condition had been improved. Letters were presented showing the introduction of diphtheria at L'Anse in this State by immigrants.

Col. E. C. Watkins, warden of the State House of Correction at Ionia, addressed the Board on the examination of plans for public buildings, and mentioned some

plans which he proposed to present to the Legislature at the coming session, and wished to have them examined by the Board before presenting them. A committee was appointed as requested.

Dr. Lyster reported a paper on the present knowledge of typhoid fever in preparation by him, and was requested to prepare it in the form of a document for general distribution, and when prepared, to be published in the Report. He also reported, in connection with Mr. Parker, the history of the recent epidemic at Flint, which they were requested to prepare, as it was not entirely completed.

Dr. Mulheron's report on the same outbreak was requested to be included in the same report, and his report of an epidemic of small-pox at Portland was ordered printed in the Report.

The Secretary was authorized to issue a circular to correspondents relative to disease in 1882. Also circulars and blank forms for the annual reports of health officers and clerks of local boards of health.

The subject of compulsory registration by plumbers, as required by the laws of New York, was presented, and referred to Dr. Lyster and Mr. Parker for the purpose of bringing it before the Legislature.

The committee on sanitary conventions was authorized to make arrangements for a convention at Muskegon the last week in November or the first in December.

The Secretary called attention to a meeting of the American Public Health Association at Indianapolis, Oct. 17–20, and members of the Board were requested to attend the meeting. Also to the meeting of the Sanitary Council of the Mississippi valley, and a meeting of the representatives of national and State boards of health on the subject of sanitary inspection and museums would be held at the same time and place. The members of this Board who are to be present at Indianapolis were authorized to elect delegates to this meeting.

The Secretary was authorized to purchase Thompson's quadrant electrometer, and by means of it to enter upon a system of recording observations of electricity in the atmosphere.

Dr. Kellogg was requested to prepare a paper on "Physical Culture," also a paper on "Habits in Relation to Health," particularly the alcohol and tobacco habits.

The Secretary exhibited mortality statements for Lansing, Mich., and Savannah, Ga., and compared them. In Lansing, for the month of June, the death rate was less than 2 in 1,000, while in Savannah it was about 30 in 1,000, or 15 times as great.

Leroy Parker reported a bill making it a criminal offense to willfully communicate a contagious disease, in accordance with a recommendation of the American Health Association. It was ordered printed in the Report for the purpose of calling to it the attention of the Legislature.

The Secretary reported the fact of there being sickness in a herd of cattle at the State Fair at Jackson. He had notified the State Commission, appointed for the purpose, and had heard from the Secretary, Dr. Murray of Detroit, that he had visited Jackson, and after the best investigations of the matter that he was able to give, it was his opinion that the malady was the Texas cattle disease. This is so contagious that cattle driven over the ground where those affected with the disease have passed, are liable to contract it. The authorities at Jackson and Grand Rapids, where the herd was subsequently exhibited, should take precautions to prevent the spread of the disease.

Dr. Baker, in connection with Dr. Lyster's paper on "what is known about typhoid fever," presented two diagrams, showing for the years 1877–80 the relation of deaths from that disease to the population, from which it appears that the common opinion among physicians, that this disease prevails mostly between the ages of 18 and 35, and that there is little danger after 40, is not sustained by facts. A greater proportion have the disease at the ages between 60 and 80 than at any other period of life.

It was stated the "flame ventilated" small-pox hospital, proposed by Dr. Wright would be tested in Detroit. Members questioned whether the plan was practical, and the matter was referred to a committee.

Leroy Parker and D. C. Jacokes were appointed a committee on a plan for the regulation of medical practice in Michigan.

Dr. Kellogg suggested some action by the Board relative to teaching sanitary science in the colleges of Michigan.

Mr. Parker presented a report on the proceedings of the American Social Science Association at Saratoga, and gave abstracts of several papers on public health subjects which were read there.

Dr. Baker called attention to an important paper recently published by a committee appointed by the National Board of Health to investigate the "syphonage and ventilation of traps," published in a late number of the *Sanitary Engineer*.

TEMPERANCE AND MISCELLANY.

Devoted to Temperance, Mental and Moral Culture, Social Science, Natural History, and other interesting Topics.

AUTUMN.

THOU comest, Autumn, heralded by the rain,
With banners, by great gales incessant fanned,
Brighter than brightest silks of Samarcand,
And stately oxen harnessed to thy wain!
Thou standest, like imperial Charlemagne,
Upon thy bridge of gold; thy royal hand
Outstretched with benedictions o'er the land,
Blessing the farms through all thy vast domain.
Thy shield is the red harvest moon, suspended
So long beneath the heaven's o'erhanging eaves.
Thy steps are by the farmer's prayers attended;
Like flames upon an altar shine the sheaves;
And, following thee, in thy ovation splendid,
Thine almoner, the wind, scatters the golden leaves!

—*Longfellow.*

WRITTEN FOR GOOD HEALTH.

IGNORANCE ABOUT ALCOHOL.

BY JULIA COLMAN.

THE popular ignorance about the true nature and effects of alcohol, after all these centuries of experience with it, is something very wonderful. We have referred to it frequently in these articles, but such is our conviction of the immensity of the fact, the curiousness of the cause, and the importance of its being understood before any effectual remedy can be provided, that we shall devote this article to its consideration at the risk of some slight repetition.

The proofs of this lack of exact knowledge lie thick all along the path of its daily use by all sorts of people, the learned and the ignorant. We see them in the contradictory character of the pleas made for its use. It is one of the commonest things to take alcohol "to keep out the cold," or to warm up the person who has been exposed to the cold. The common observation of the fact that tipplers complain of the cold even more than other people, that drunkards often lose noses and fingers and toes by frost-bite, that those who drink the most and ought therefore to be the warmest, are much more likely to freeze to death than those who do not drink at all, seems to have no effect at all in correcting this erroneous impression. It is laid to anything and everything else rather than to the drink. Even Dr. B. W. Richardson, with all his quick wit and natural acumen, passed through a remarkable experience (detailed in his temperance lesson book) when he was quite a young man, in which he became a victim of "hot mulled ale," but he thought the effect must have been due to some adulteration. He never suspected that it was the legitimate effect of the alcohol, nor did the truth come to him through a long subsequent practice of medicine, during which he had, of course, many opportunities of seeing the deceits of alcohol. It was only when he investigated the subject scientifically, and tested alcohol in every possible way by experiment, that he discovered that alcohol acted like cold in the reduction of animal temperature, and thus he found the full explanation of the singular sensations that he experienced as the result of taking alcohol in the hot mulled ale.

He also relates a case where he prescribed wine to a champion rower and the man refused to take it and gave his reasons. He had found by experience that he could not row so well when he took alcoholic drinks of any kind, though in ever so small a quantity. But Dr. Richardson did not believe him until the truth came out in the course of these experiments.

A few other athletes have found the same fact with regard to their athletic ability, though they might not be aware of the full explanation. Please observe also, that all Dr. Richardson's learning and his undoubted medical ability did not enable him to solve the problem, to suggest an explanation, nor even to suspect its existence, until he took up the matter as a *special* study.

But a more curious phase of the question comes to light with the fact that alcohol is taken for purposes diametrically opposite. One would infer from its alleged heat-giving properties that it would be entirely unsuitable for a summer drink, but we hear of no special falling off in the use of alcoholic drinks in the summer. While it is true that the dealers get up special preparations of drinks, hot for winter use, and others cool for summer, yet the vast majority of the drinks consumed

are of the temperature of the surrounding air, whatever the season may be. And they are taken, not only in winter to warm up and in summer to cool off, but also to induce wakefulness or sleep, rest or exertion, for the poor and the rich, the successful and the unfortunate, the sick and the well, the gay and the despondent, the full and the hungry. There is scarcely any condition that cannot and is not made a plea for the use of alcohol in some form.

And more wonderful still is the fact that this infatuation was so great that people did not investigate the cause of these contradictions. They saw them and laughed about them, saying, facetiously perhaps, that if a man likes a thing he can easily find an excuse for using it. But there is really a reason far beyond that. Alcohol, even in small quantities, paralyzes the nerves by extracting a little of their moisture so that the keenness of their sensation is blunted. So if the previous feeling was uncomfortable, alcohol brings relief, not by removing the bad cause, but by taking away the drinker's knowledge of it. The pain, the wrong is there, but the nerves of sensation no longer tells of it, and the man *feels* relieved. In case of cold, there is still another action. The nerves that control the vessels of the minute circulation are relaxed and more blood passes into them. This causes a rise of *surface* temperature, sometimes to the extent of half a degree; but this soon passes off outwardly and the real reduction of the vitality, caused by the alcohol, reduces the vital heat one, two, three, or four degrees,—more than that would be pretty likely to prove fatal, and if not, the body is many hours in rallying to the normal standard. In this condition the body is very easily affected by external cold, and it is largely for this reason that the drinker so easily succumbs to extreme cold. But this subsequent reduction of temperature was rarely suspected until proved by Dr. Richardson, because the drinker judged by his *feelings*, not knowing that his organs of feeling, the nerves, had been tampered with by alcohol. He felt the first slight glow and attributed that to alcohol, but by the time that passed off, he had lost all nicety of perception, or if he felt the cold he failed to attribute that to its right source, for he had already been convinced that alcohol warmed him.

With regard to the pleasant sensations, the hilarity sometimes induced by it comes from the same cause. The blunted nerves do not feel the pressure of their ordinary surroundings, hence there is an unusual lightness and airiness which unbalances a man about as it would to remove some of the ordinary attractions of gravitation. He feels less weight, he thinks it wonderfully nice, and he becomes hilarious; but he soon becomes unbalanced both in mind and body, mixed up, hazy, and gradually unconcious. Thus the drinker appears to others more happy than he feels, and his subsequent misery he fain would hide from everybody. The young man had it about right who thought there was n't much fun in getting drunk. "If a fellow is to have a good time, he wants his senses about him so as to know what is going on," was his assurance.

This effect upon the nerves is the key to the secret of alcoholic power, and I would that all our temperance men and women possessed a knowledge of it. If we can get people who have tampered with drink in any form (and they are the vast majority now-a-days) to understand that they cannot judge correctly by their feelings, we have done much toward breaking the power of the drink over them, and with thoughtful people of every grade this will have great weight. They will need, however, to study much more than that.

It should be remembered that this knowledge is only the *key* to the room, it is not the room itself. The brave but unfortunate Lieutenant De Long made a sad mistake in using this *partial* knowledge only. He said in his last diary, that the alcohol did them good service in that it took away the feeling of hunger, but alas! it did much more than that. It prevented the little food they had from doing them any good. Further, the nerves of the stomach were not the only ones that were paralyzed by its fateful force. Who can tell how much more shrewdly these men might have acted, and how much more energetically they might have worked without it? Certainly they were in a position where they needed all their wits and all their energies, they had none to spare in fighting alcohol. We read about the mistakes made in the route, the miscalculations in several respects, their passing very near food and succor more than once. We will not say they were mistakes very like what might have resulted from the bewildering effects of the alcohol, but we do believe that their taking this alcohol at

all was by far the greatest mistake they made. We believe if they had been educated as our boys now are in temperance schools, a better result might have awaited them. The reading of "Story's Alcohol" and "Guthrie's Temperance Physiology" might have saved them; and in the hope that they may yet save others from a like fate, these books have been put into the libraries of the Military Academy at West Point and the Naval Academy at Annapolis; and we wish some generous-hearted man would do a like benefit to all the public libraries in the country.

There is no doubt that these studies are essential to effective work for temperance, though many workers do not yet see it. I remember once hearing a most popular public lecturer say lightly, "When a man's house is on fire, we do not stop to argue with him about what KIND of fire it is, but we put it out if we can, or get him out of it, anyway." Very true, but when the fire is insidious, when it may last twenty years or more before it burns the house down, when like beer it looks more like water than fire, it may be wise to convince him that it *is* fire, and it may be the surest way to get him to put it out, since he is the one to do it. We wish to *win the man*, to make him understand temperance and love it, and work for it, and make right laws about it, and enforce them, but above all we wish him to win others to temperance, to have everybody understand it and understand alcohol, to be as *wise* and *true* as alcohol is *crafty* and *deceitful*,—then shall we have good and effective and lasting work for temperance; but we cannot have all this without special intelligence and information.

BIBLE TEMPERANCE.

BY MRS. E. G. WHITE.

APPETITES AND PASSIONS.

"ABSTAIN from fleshly lusts, which war against the soul," is the language of the apostle Peter. Many regard this text as a warning against licentiousness only; but it has a broader meaning. It forbids every injurious gratification of appetite or passion. Let none who profess godliness regard with indifference the health of the body, and flatter themselves that intemperance is no sin, and will not affect their spirituality. A close sympathy exists between the physical and the moral nature. Any habit which does not promote health, degrades the higher and nobler faculties. Wrong habits of eating and drinking lead to errors in thought and action. Indulgence of appetite strengthens the animal propensities, giving them the ascendency over the mental and spiritual powers.

It is impossible for any to enjoy the blessing of sanctification while they are selfish and gluttonous. Many groan under a burden of infirmities because of wrong habits of eating and drinking, which do violence to the laws of life and health. They are enfeebling their digestive organs by indulging perverted appetite. The power of the human constitution to resist the abuses put upon it is wonderful; but persistent wrong habits in excessive eating and drinking will enfeeble every function of the body. In the gratification of perverted appetite and passion, even professed Christians cripple nature in her work, and lessen physical, mental, and moral power. Let these feeble ones consider what they might have been, had they lived temperately, and promoted health instead of abusing it.

When Paul wrote, "And the very God of peace sanctify you wholly," he did not exhort his brethren to aim at a standard which it was impossible for them to reach; he did not pray that they might have blessings which it was not the will of God to give. He knew that all who would be fitted to meet Christ in peace must possess a pure and holy character. "And every man that striveth for the mastery is temperate in all things. Now they do it to obtain a corruptible crown; but we an incorruptible. I therefore so run, not as uncertainly; so fight I, not as one that beateth the air; but I keep my body under, and bring it into subjection; lest that by any means, when I have preached to others, I myself should be a castaway." "What! know ye not that your body is the temple of the Holy Ghost, which is in you, which ye have of God, and ye are not your own? For ye are bought with a price; therefore glorify God in your body, and in your spirit, which are God's."

Again, the apostle writes to the believers, "I beseech you therefore, brethren, by the mercies of God, that ye present your bodies a living sacrifice, holy, acceptable unto God, which is your reasonable service." Specific directions were given to ancient Israel that no defective or diseased animal should be presented as an offering to God. Only the most per-

fect were to be selected for this purpose. The Lord, through the prophet Malachi, most severely reproved his people for departing from these instructions.

"A son honoreth his father, and a servant his master; if then I be a father, where is mine honor? and if I be a master, where is my fear? saith the Lord of hosts unto you, O priests, that despise my name. And ye say, Wherein have we despised thy name? Ye offer polluted bread upon mine altar; and ye say, Wherein have we polluted thee? In that ye say, The table of the Lord is contemptible. And if ye offer the blind for sacrifice, is it not evil? and if ye offer the lame and sick, is it not evil? offer it now unto thy governor; will he be pleased with thee, or accept thy person? saith the Lord of hosts. Ye brought that which was torn, and the lame, and the sick; thus ye brought an offering; should I accept this of your hand? saith the Lord."

Though addressed to ancient Israel, these words contain a lesson for the people of God to-day. When the apostle appeals to his brethren, to present their bodies "a living sacrifice, holy, acceptable unto God," he sets forth the principles of true sanctification. It is not merely a theory, an emotion, or a form of words; but a living, active principle, entering into the every-day life. It requires that our habits of eating, drinking, and dressing, be such as to secure the preservation of physical, mental, and moral health, that we may present to the Lord our bodies —not an offering corrupted by wrong habits, but—"a living sacrifice, holy, acceptable unto God."

Peter's admonition to abstain from fleshly lusts is a most direct and forcible warning against the use of all such stimulants and narcotics as tea, coffee, tobacco, alcohol, and morphine. These indulgences may well be classed among the lusts that exert a pernicious influence upon moral character.

The earlier these hurtful habits are formed, the more firmly will they hold their victim in slavery to lust, and the more certainly will they lower the standard of spirituality.

Bible teachings will make but a feeble impression upon those whose faculties are benumbed by self-gratification. Thousands will sacrifice not only health and life, but their hope of Heaven, before they will wage war against their own perverted appetites. One lady who for many years claimed to be sanctified, made the statement that if she must give up her pipe or Heaven she would say, "Farewell, Heaven; I cannot overcome my love for my pipe." This idol had been enshrined in the soul, leaving to Jesus a subordinate place. Yet this woman claimed to be wholly the Lord's.

Wherever they may be, those who are truly sanctified will elevate the moral standard by preserving correct physical habits, and, like Daniel, presenting to others an example of temperance and self-denial. Every depraved appetite becomes a warring lust. Everything that conflicts with natural law creates a diseased condition of the soul. The indulgence of appetite produces a dyspeptic stomach, a torpid liver, a clouded brain, and thus perverts the temper and spirit of the man. And these enfeebled powers are offered to God, who refused to accept the victims for sacrifice unless they were without a blemish! It is our duty to bring our appetites and our habits of life into conformity to natural law. If the bodies offered upon Christ's altar were examined with the close scrutiny to which the Jewish sacrifices were subjected, who would be accepted?

With what care should Christians regulate their habits, that they may preserve the full vigor of every faculty to give to the service of Christ. If we would be sanctified, in soul, body, and spirit, we must live in conformity to the divine law. The heart cannot preserve consecration to God while the appetites and passions are indulged at the expense of health and life. Those who violate the laws upon which health depends, must suffer the penalty. They have so limited their abilities in every sense that they cannot properly discharge their duties to their fellowmen, and they utterly fail to answer the claims of God.

When Lord Palmerston, Premier of England, was petitioned by the Scotch clergy to appoint a day of fasting and prayer to avert the cholera, he replied, in effect, "Cleanse and disinfect your streets and houses, promote cleanliness and health among the poor, and see that they are plentifully supplied with good food and raiment, and employ right sanitary measures generally, and you will have no occasion to fast and pray. Nor will the Lord hear your prayers, while these, his preventives, remain unheeded."

Says Paul, "Let us cleanse ourselves from all filthiness of the flesh and spirit, perfecting holiness in the fear of God."

He presents for our encouragement the freedom enjoyed by the truly sanctified: "There is therefore now no condemnation to them which are in Christ Jesus, who walk not after the flesh, but after the Spirit." He charges the Galatians, "Walk in the Spirit, and ye shall not fulfill the lusts of the flesh." He names some of the forms of fleshly lusts,—"idolatry, drunkenness, and such like." And after mentioning the fruits of the Spirit, among which is temperance, he adds, "And they that are Christ's have crucified the flesh, with the affections and lusts."

James says that the wisdom which is from above is "first pure." If he had seen his brethren using tobacco, would he not have denounced the practice as "earthly, sensual, and devilish?" In this age of Christian light, how often the lips that take the precious name of Christ, are defiled by tobacco-spittle, and the breath is polluted with the stench. Surely, the soul that can enjoy such uncleanness must also be defiled. As I have seen men who claimed to enjoy the blessing of entire sanctification, while they were slaves to tobacco, polluting everything around them, I have thought, How would Heaven appear with tobacco-users in it? God's word has plainly declared that "there shall in no wise enter into it anything that defileth." How, then, can those who indulge this filthy habit hope to find admittance there?

Men professing godliness offer their bodies upon Satan's altar, and burn the incense of tobacco to his Satanic majesty. Does this statement seem severe? Certainly, the offering is presented to some deity. As God is pure and holy, and will accept nothing defiling in its character, he must refuse this expensive, filthy, and unholy sacrifice; therefore we conclude that Satan is the one who claims the honor.

Jesus died to rescue man from the grasp of Satan. He came to set us free by the blood of his atoning sacrifice. The man who has become the property of Jesus Christ, and whose body is the temple of the holy ghost, will not be enslaved by the pernicious habit of tobacco-using. His powers belong to Christ, who has bought him with the price of blood. His property is the Lord's. How, then, can he be guiltless in expending every day the Lord's intrusted capital to gratify an appetite which has no foundation in nature?

An enormous sum is yearly squandered for this indulgence, while souls are perishing for the word of life. Professed Christians rob God in tithes and offerings, while they offer on the altar of destroying lust, in the use of tobacco, more than they give to relieve the poor or to supply the wants of God's cause. Those who are truly sanctified, will overcome every hurtful lust. Then all these channels of needless expense will be turned to the Lord's treasury, and Christians will take the lead in self-denial, in self-sacrifice, and in temperance. Then they will be the light of the world.

Tea and coffee as well as tobacco, have an injurious effect upon the system. Tea is intoxicating. Though less in degree, its effect is the same in character as that of spirituous liquors. Coffee has a greater tendency to becloud the intellect and benumb the energies. It is not so powerful as tobacco, but is similar in its effects. The arguments brought against tobacco may also be urged against the use of tea and coffee.

When those who are in the habit of using tea, coffee, tobacco, opium, or spirituous liquors, are deprived of the accustomed indulgence, they find it impossible to engage with interest and zeal in the worship of God. Divine grace seems powerless to enlighten or spiritualize their prayers or their testimonies. These professed Christians should consider the source of their enjoyment. Is it from above, or from beneath?

To a user of stimulants, everything seems insipid without the darling indulgence. This deadens the natural sensibilities of both body and mind, and renders him less susceptible of the influence of the Holy Spirit. In the absence of the usual stimulant, he has a hungering of body and soul, not for righteousness, not for holiness, not for God's presence, but for his cherished idol. In the indulgence of hurtful lusts, professed Christians are daily enfeebling their powers, making it impossible to glorify God.

LITTLE DROPS OF WATER.

BY BESSIE EMERSON.

"Mary, have you ever seen that Miss Harding? She is the queerest creature ever did see."

"Yes, I have seen her; and they say the whole family is just as strange."

"I should say they were strange! Do you know I have heard that they do not eat a bit of butter, or salt, or meat, or

white flour, or, or—, well I should like to know what they *do* eat."

"They say that Miss Harding wears the reform dress at home, whatever that may be."

"I should think the one she wears on the street was reform enough; I could almost see the tops of her boots every step she took the other day."

"Let's call there some day and see what they are like, and perhaps they will invite us to tea. I do so wonder what they eat."

"O Mary! do come and look at this black cloud; I believe something is going to happen to us because we have been talking about our neighbors. I must hurry and I believe I can get home before the rain comes."

The clouds were dark and threatening and they were increasing in size and blackness every instant. They rushed and churned themselves into a maddening fury that made people pause, and look, and then hurry on faster than ever. The wind was rapidly rising and the dust blew in clouds.

Mary Clark stood at the window and watched her friend, Susie Weston, until she was out of sight, and it did not take long, for she almost flew down High Street, and up Main Street, until she came to Chestnut Street, and here she paused, for a carriage was coming down the street at full speed—but, no, she could get across the street before the horses reached that point, and she stepped from the sidewalk. At that moment the lightning flashed and a loud peal of thunder came at the same instant. Susie almost reeled, then the horses were right there, they started back, then plunged forward, and oh! oh!—

A woman knocked senseless, a scream from the carriage, the driver trying to hold the frightened horses, and the rain had commenced to come down in torrents. All was confusion, when a voice said, "Is she much hurt? You had better bring her into my house out of the rain." And Ruth Harding opened the gate and the front door, and led the way for the men to bring in poor, unconscious Susie Weston, to her own room where the fire burned cheerfully on the grate.

The doctor was sent for at once, and until he came Miss Harding stayed by Miss Weston, and quietly and wisely treated her until she recovered her consciousness. While the doctor was making his examination, Miss Harding stepped into the next room and awaited the result.

The storm that came so quickly soon spent itself, and even now was breaking away, and as Miss Harding stood and watched the clouds she thought of the poor suffering stranger in the next room, and her thoughts ran something like this: "I suppose this young lady, whoever she may be, will think we live very strangely, for I can tell from her face and the overtight corset that she is a stranger to our principles. I wish I could persuade her to accept some of the blessed truths while she is here, that one more poor, tired body might find rest and one more mind become clearer because of a body fast gaining health."

As these loving thoughts were passing through her mind for the lady she had sheltered under her roof, the clouds broke entirely away and the sun for a moment shone forth in all its fullness of glory, and then as it went to rest left behind golden streets and golden-topped mountains touched with blue and purple and green, and you could gaze upon the moving and changing splendor, until you could almost fancy you saw an angel flitting by.

"So the tempest of trouble met the tempest of love in the end of the day, and the world rolled on into the night under the glory and peace of their rushing and melting together."

There was a night of confusion in the usually quiet house, and in the morning the neighbors were told that Miss Weston was not seriously injured but must remain where she was for a few days.

Susie did not think much that night, but the next morning she lay very quiet for a long time and thought of her situation. She remembered her conversation with her friend the afternoon before, and she knew that she was in the very house that she had wondered so much about, and had been waited upon all night by the very one that so short a time before she had been making sport of.

Then she commenced to wonder what her breakfast would be like, and she thought of the "no butter, or salt, or meat, or white flour," and while she was thinking Miss Harding walked in with her breakfast.

She placed it upon a stand by her side and said kindly, "I suppose our way of living is not like what you have been used to, but I hope you will be able to eat something, and I think in a short time you will enjoy it; we do very much."

Susie was left alone with her breakfast

with a little silver bell near by in case she should want anything.

She looked at her breakfast a long time before she commenced to eat. There was oat-meal mush and canned peaches, so white and tempting, and a sweet potato, and gems, and the "funniest little rolls that ever were." Susie took one up and turned it over and over, and put it down again, before she commenced to eat.

"How did you enjoy your breakfast, Miss Weston?" asked Miss Harding.

"Very much indeed; it did taste real good and I did not miss the salt hardly a bit. But do tell me how you make those gems, they were delicious?"

"They are simply made of Graham flour and cold water."

"But what makes them so light?"

"The secret seems to be in having the gem pans sissing hot and the oven hot."

"And those queer little rolls, they were as sweet as nuts?"

"They were made the same as the gems, only made stiff and rolled. I will show you all about our cooking when you are able to come down stairs."

Susie had been at Miss Harding's nearly two weeks. She was able to sit up in three or four days after the accident, but she had no home, and it would be dreary going back to the boarding-house while she was not strong, and she and Miss Harding were fast friends now, so she stayed.

Miss Harding at first felt the same interest in her that she did in any one she wanted to help, but in those days they had grown confidential and Susie had shown herself more willing than would have been supposed to listen to the truth.

Susie was sitting one day in an easy chair, and was looking out of the window, when Mary Clark, her friend, called.

"How strange it was, Susie," said Mary, after they had talked awhile, "that you should have been brought here that afternoon, after the conversation we had about these very people!"

"O Mary, how could I have said anything against them! I believe it has taught me a lesson that I never shall forget, and that is, never to talk against people until I know what I am saying. There I was ridiculing people that knew far more than I did. They have taught me how to live. I never knew how much it rested with me whether I should have good health or not, and I do believe that in the future I can dress in such a way and eat such food that I can greatly improve my health."

"I am surprised at what you say. I supposed you were just *enduring* it here, and I was pitying you so much; but here I find you able to go away but staying because you like it, and even saying that you intend to adopt their ways. Pray how are you to manage? You cannot board with other people, and are you going to have your dress at the top of your boots"

"I am determined to live as hygienically as I can, although I cannot tell yet just what I shall do, and I do not think I shall have my dresses quite as short as Miss Harding's, for I cannot live the retired life that she does, but I do mean to have them so they will not touch the ground, and I am going to leave off my corsets, and I am going to have thicker shoes than I have had; that much I can do."

Miss Harding happened to be in the next room and overheard a part of the above conversation, and she smiled as she went about her work and thought that there the seed had fallen into good ground, and she prayed that it might bring forth most abundantly.

Susie's words "I mean to have my dresses so that they will not touch the ground, I am going to leave off my corsets, and have my shoes thicker than I have had them," rushed through her mind, and she thought, "if every woman in our land would just do that, if they did no more in the way of reform, how much healthier they would be, and how much better wives and mothers they would make, and how much better children they would have!"—*Herald of Reform.*

Keep in the Right Place.—The world is made up of differently shaped persons—as, for instance, round men and square men; and half the trouble in life is caused by the round men getting into the square holes. People should not be everlastingly mixing things—the sand and the sugar, the flies and the milk, etc! Better to succeed as a blacksmith, than to fail as a poet; to measure ribbon well, than to bungle in trying to be a statesman.

—Most men are helped a great deal by joining a church. For many men trying to lead a Christian life without joining a church is very much like a pear tree growing in the highway; the boys rob it, the wheels bark it, and the hogs spoil it; it grows a few hard juiceless pears, but if it had been in the orchard its branches would have been borne down with fruit.—*Beecher.*

POPULAR SCIENCE.

—Recent observations go to show that the heating of flour by the sun has an effect similar to that of overheating the stones during the process of grinding.

—Among the curiosities recently exhibited by a London Society was the microscope of half a century ago, weighing 125 lbs., and the "Midget," a modern invention, weighing only a few ounces.

—Napoleon I. is said to have been the inventor of the sleeping car, having had one constructed for his own use in the Russian campaign. It was captured at the battle of Waterloo, and is now on exhibition in England.

—A few days since, a miner at work on a shaft of the Weehauken Tunnel, 165 feet below the surface of the earth, found a baby alligator twenty inches long. It was hermetically sealed in the "pocket" and had not undergone the slightest decomposition. So says the *Trenton, N. J., Gazette.*

—The oldest rose-bush in existence is at Hildesheim, Hanover. It is supposed to be 1000 years old, and planted—so tradition would have us believe—by Charlemagne. Shoots have been grafted on its trunk which are about 38 feet high. It never bore so many blossoms during any one season as that just past.

—The *Cherokee Times* says that several persons who were passing over a mound in Woodbury Co., Iowa, discovered the bones of human beings which had been unearthed by recent heavy rains. Upon excavating, an ancient burying ground was found. The forms were interred in two layers, feet to feet. Upon the head of each was an earthen jar containing half a clam shell. Seventeen entire skeletons were removed. The bones were of ordinary size.

—There was recently exhibited at Horticultural Hall, Boston, Mass., a wonderful and complicated piece of mechanism in the form of a clock. It is seventeen feet high, and twelve feet wide, and arranged to represent automatically the scenes in the Passion of our Lord. Nearly two hundred figures are employed. These are about eleven inches in height, and appropriately clad. First comes the Adoration of the Magi and Flight into Egypt. The scenes representing the Passion are, Entry into Jerusalem, Last Supper, Gethsemane, Council Chamber, Aceldama, Hall of Judgment, Prætorium, Crucifixion on Calvary, etc. It is a marvel of mechanical skill, and many of the figures, movements, etc., are said to be startling, so life-like is their appearance.

—Capt. Robson, who recently arrived at New Orleans from Messina, reports the discovery of an island about 200 miles west of Madeira. It consists of a promontory connected with a mountain range by an extensive plateau. The land is destitute of vegetation, and covered with pumice stone and volcanic debris. From an excavation, made between what seem to have been massive walls, were exhumed various articles, including bronze swords and carved heads, also vases and jars upon which were traced hieroglyphics, and a mummy in a sarcophagus. The relics were presented by the discoverer to the British Museum.

A Self-Winding Clock.—The self-winding clock which was brought to public notice at the Paris Exposition of 1878 has been greatly improved, and the inventor, a Belgian, is now supplying them for domestic use. The winding apparatus consists of a small windmill, very ingeniously constructed. They are placed in connection with a chimney, a ventilation pipe, or in some locality where a current of air may be secured, although the mechanism is such that a constant, regular current is not essential.

Distance Action on Metals.—The curious fact has been observed that the surface of a metal undergoes a certain change by the presence in its immediate neighborhood, though not in contact, of another metal. This change is not of such a character that it can be observed by the eye, but careful electrical experiments show that a positive change occurs which can only be explained by the supposition that each metal gives off from its surface a vapor which settles on the surface of other metals near by and effects some change in the character of its surfaces.

GOOD HEALTH.

BATTLE CREEK, MICH., NOVEMBER, 1882.

J. H. KELLOGG, M. D., EDITOR. TERMS, $1.00 A YEAR.

THE CLIMATE OF MICHIGAN.

MICHIGAN enjoys a climate unequaled by that of any of the Middle-Western States. It does not, of course, afford the dry, rarefied air of Colorado and the far West, nor the tropical warmth in winter of Florida and New Mexico; but these climates are required only by special classes of invalids, and then, usually, only at certain seasons of the year. But Michigan affords a typical "temperate" climate, being situated near the center of the temperate zone, and protected in such a manner as to preserve a more equable temperature than that of other States adjoining. Its rolling country and immense tracts of timber, protect it to a very great degree, from the parching heat of the prairie States, while its location near the great Lakes, surrounded on all but its southern boundary by a broad expanse of water, affords a still greater protection from the severe cold of winter and the intense heat of summer to which her sister States are exposed. In no direction but from the south can air-currents reach the greater portion of the State without having been washed and cooled in summer by the waters of the surrounding great Lakes. No one ever heard of an epidemic of sun-stroke or heat stroke in Michigan. When newspapers are rife with reports of scores of deaths daily from sun-stroke, in the larger cities and even country districts of adjoining States, such a thing is almost unheard of in Michigan.

But what about "Michigan malaria?" Unfortunately for the reputation of Michigan as a healthful State, the idea got abroad some years ago that the principal feature of its climate was malaria. "Going to Michigan" was considered almost synonymous with "going to have a fit of the ague." It was not supposed to be possible for a person to visit Michigan, or even to pass through the State, without having the "chills." There was indeed, some foundation for such a reputation forty years ago, when the dense, primeval forests which covered her fertile soil were being cleared off, and the virgin earth for the first time was turned up to the surface by the settler's plow. The conditions were such as to afford the most favorable opportunity for the generation of malarial germs, which, for several years, contended hotly with the early settlers for the possession of the beautiful peninsula. Civilization has conquered at last, however, and "Michigan malaria" is no longer anything more than a scarecrow, which is now and then brought out by Western land agents, the advertisers of quack medicines, and the proprietors of "liver pads," and other quacks, as a sharp advertising dodge. What was true of Michigan forty years ago, and for a few subsequent years, was equally true of Massachusetts, Connecticut, Rhode Island, and other New England States, two centuries ago; but as the forests have been cleared away, affording free ventilation of the soil, the favorable conditions for the production of malaria have gradually disappeared in Michigan, as well as in the older States; and to-day Michigan is redeemed from the curse of malaria as fully as New York, Massachusetts, Connecticut,

and other parts of the Union which were once overrun by this zymotic cause of disease. We do not wish to intimate that Michigan is wholly free from malarial disease. This would be saying more than can be said of any State in the Union. Last year malaria visited every section of the country. Even the rocky heights of Colorado, and the dry prairies of Western Kansas did not escape; while in many parts of New England and the Eastern States generally,—which have so long ridiculed Michigan as a hot-bed of malaria,—malarial fevers were as frequent and as fatal as in Michigan. A great historian said: "Westward the Star of Empire takes its way." Malaria seems to follow the same rule, and has moved on from Michigan and planted its pestiferous seeds in the marshes and river bottoms of the South-western States.

A sickly time in Michigan only occurs when the weather-vane points to the south. From every other quarter the air comes to us washed and cooled by the waters of our great inland seas, or disinfected by the ozone evolved by the immense tracts of pine forests which still cover the northern portion of the State. Fortunately, the south wind is not frequent during the warm season, nor, in fact, at any season, the prevailing wind being from the southwest, which only strikes the central portion of the State after having traversed the southern part of Lake Michigan, being thereby deprived of its chief objectionable features.

Battle Creek is located in one of the most salubrious and elevated portions of this splendid State, at an altitude of nearly one thousand feet. The soil is a sandy loam, beneath which are many feet of gravel almost as white and clean as that of the sea-shore, under which lies the water-bearing strata, a dense sandstone rock, furnishing a pure water supply, safe from danger of contamination through surface drainage, when properly reached.

Battle Creek is proverbially a healthy city; and the portion of the city in which the Sanitarium is located has always been regarded as the most desirable of any, from a health stand-point. The elevated site overlooks the rolling country for many miles around; while hills, valleys, woodlands, rivers, little lakes fed by living springs, and broad, green fields, make up a prospect which can hardly be surpassed for the seeker after health. With such a soil, so perfectly supplied with both surface and under-surface drainage, stagnant pools are not likely to be abundant. The most copious rain leaves no trace behind it after a day or two, except a delightful freshness in the air, and a quickened growth in vegetation. Muddy roads are of extremely rare occurrence, while the well-graveled streets are seldom dusty.

THE HOME TRAINING OF GIRLS.

Of first importance in the education of a young lady is proper home training and education. The young lady who has acquired all the culture and accomplishments which can be secured in the schools, but has no knowledge of simple arts so necessary to the making of a home, and the proper training of a family, has neglected the most important part of her education. The general prevalence of this defect is becoming alarming. The girls of the present generation are as a rule far less skillful in bread-making, house-cleaning, and the other household arts, than in piano-playing, elocution, and similar accomplishments. This condition of affairs is becoming more and more common in this country. The poor mother, who has become worn out with arduous toil in the rearing of her family and in providing them with comforts and luxuries, seldom has a daughter who is able to take her place in the kitchen, at the wash-tub, or at the ironing-table. Unfortunate as is this state of things for the broken-down mother, as for her imperfectly educated daughter, mothers are themselves generally responsible for it. Mothers who have been brought up

to a life of usefulness and labor, often become infected with the popular notion that physical labor is ungenteel and unladylike, and determine that their daughters shall be "brought up differently from what they were." Imagining that they are going to make their daughters something more than women, and prepare them for a sphere something above that of true womanhood, these silly mothers toil and slave in the kitchen while their daughters sing and thrum the piano in the parlor, or simper and drawl nonsense in the drawing-room with some shallow-pated fop. The mother rises at early dawn to prepare the breakfast while her useless daughters are sleeping off the effects of the midnight dissipation in the ball-room. Reared in idleness, to habits of uselessness, the hard earnings of father and mother are spent in lavishing upon them accomplishments which can be of no service to them in after life. Such daughters are unfit to meet the realities of life, and are utterly devoid of the real accomplishments which go to make up womanly character and which would fit them for the performance of the duties of wife and mother in their mature years.

The fact is that the average modern young woman is accomplished to the point of actual uselessness. What women as a rule need is a more solid education. We do not object to accomplishments if they are not acquired at the expense of that thorough training which lies at the very foundation of real refinement and usefulness. How many young women fritter away their time and waste their lives in devotion to nothings! A young woman who is able to sing and play the piano skillfully, to dance gracefully, to talk "small talk" fluently, to dress "to kill," to sketch a landscape passably, to embroider, to knit lace collars, to jabber a little French and German, may be able to satisfy the demands of society, but is utterly wanting in that kind of culture which contributes to the real happiness of life. Such a person, as a quaint writer once said, is "all ruffle and no garment."

Nothing contributes more to the formation of a sound character than a knowledge of the humble industries which contribute to the making of a home. A long stride will be made toward the happy millenium for which so many long and which some fondly believe to be approaching, when a training in useful labor shall be considered as the first and most important part of a young lady's education; when girls are taught to do their part in the world's work and to be able to do it well as the highest position and the greatest happiness to which they may hope to attain.

A mother cannot do her daughter greater injury than to allow her to grow up ignorant of household duties and unaccustomed to useful labor; yet mothers are so utterly blind to their duties in this respect that it is not to be wondered at that the rising generation of girls is vastly inferior to their predecessors. An omen for good is the establishment in many large cities of cooking-schools and schools for training nurses; and there is some prospect that this country will soon possess institutions similar to those already established in England in which girls can learn a variety of useful employments and also receive training in domestic duties.

Popular sentiment needs to be educated in the right direction, and we believe that in the better classes of society at least some little advancement is being made, thanks to the labors of such noble and talented women as Mrs. Livermore, and Mrs. Jane Swisshelm, whose eloquent words in popular lectures and magazine articles have so graphically portrayed the follies of fashionable education, and the advantages of practical training as to convict thousands of mothers of the wickedness and folly of the popular method of educating their daughters, and have thus given an impulse to a reform the influence of which we trust may widen and deepen until the tide of

fashionable folly is checked. The national Woman's Christian Temperance Union, under the masterly leadership of Miss Francis E. Willard, has recently organized a work in this direction, the influence of which eternity alone can tell. The introduction of the "health plank" into the platform of this organization, which we regard as the very backbone of the present wonderful temperance movement, was an epoch of most momentous significance. Women are of all others the very ones to institute and carry forward this great reform, and the same indomitable energy, unflagging perseverance, and irresistible determination which has marked the work of the leaders of this organization, will secure the same happy results which have followed their efforts in behalf of temperance reform.

CLOTHING OF LITTLE CHILDREN.

A POINT of primary importance in regard to the clothing of children which mothers should ever bear in mind, is the fact that frequent changes are necessitated by the almost constant changes of temperature in this climate. The weather of a temperate climate is always subject to changes which will be recognized, and should be as far as possible anticipated, by the careful mother. Children possess very little power to resist the influence of cold or heat. Their vital functions, while very active, are more easily disturbed than those of older people, hence they are more susceptible to injury from change of weather than older persons. Mothers should be constantly on the lookout for changes which may involve the life of their little ones. The fashion of putting on flannel under-garments at the beginning of the cold season of the year, and putting them off again in the beginning of spring, is a pernicious one. There is no time of year when flannel clothing is more imperiously required than in the cool, damp days of spring and the occasional cool days in summer. Clothing should be adjusted to the weather of each day independently. In the winter time, an unusually cold day demands an additional supply of clothing, in the summer time an unusually hot day may require an opposite change of garments. In the spring and autumn, particularly when the weather is very changeable, it may be necessary to change the clothing two or three times a day in order to meet the exigencies of the weather.

Children should never be allowed to suffer for the want of a change of this kind simply because the needed garment has been soiled or must be saved for Sunday wear, or for any other trivial reason. If a child cannot be properly clothed, it should be sent to bed and kept there until the proper garments can be provided for it. The excuse which mothers often make for carelessness in this particular, that "they have been too busy" to make the necessary garments for the little one who has outgrown its old clothing, is no justification for such neglect; and it will generally be found that the required time has been worse than wasted in the preparation of unwholesome dishes which will have no other influence than to deprave the taste and to undermine the health of the husband and child, or in the entertainment of fashionable friends who are themselves squandering valuable time which belongs properly to their children, in the discussion of the latest fashions or the most recent scandal suit.

The clothing of the child at night is also a matter of importance. As a rule, flannel night-gowns should be worn, as by this means the little one avoids the chill often given by coming in contact with cotton or linen sheets, and is better protected from the chilly night air if, as is often the case, it becomes uncovered in the night by the displacement of the bed covers through its restlessness.

A VETERAN observer has noticed that all young men who smoke cigarettes are very thin about the legs and narrow about the head.

ROTTEN FOOD.

A RECENT writer who claims to be a sanitary authority, undertakes to show that partially decomposed food is better than that which is fresh and untainted. We do not imagine that any great harm will come from the article in which these singular views are ventilated, but it may be worth while to consider the argument in a very brief way. The following is a paragraph from the article :—

"It is to be remembered that absolutely fresh meat is not considered palatable by anyone. Meat must always be kept for a time until it becomes tender; in other words, until decomposition has proceeded far enough to render the fibrous portions softer and to destroy the first effect of coagulation of the myosin, but before the alkaline changes begin. In some kinds of game, decomposition is allowed to go beyond this point, and the flesh must be 'high' before it is acceptable to the epicure. Meat greatly decomposed, and even the flesh of diseased animals, has often been eaten with impunity. In Scotland, numbers of sheep die annually of the braxy, a diarrhœal disease, and the braxy mutton is always eaten by the shepherd's family. During the siege of Paris in 1871, immense quantities of un sound meat were eaten, and during the rinderpest in England, in 1863, an enormous number of sick cattle were slaughtered and used for food with no injurious results. The Chinese are said to be exceedingly fond of rotten eggs, and the Zulus are so fond of putrid meat that they call it 'ubomi,' a term which means superlatively happy."

The first statement certainly cannot be substantiated. There are plenty of people who do not like flesh which has undergone decomposition. The natives of most countries where meat is a large constitutent of the dietary, and is taken in a raw state, always prefer it as nearly fresh as possible. The Calmuck Tartar and the native Patagonian eat their beefsteak while it is yet warm and quivering with the departing life of the poor brute which has been captured in the chase. Everybody knows that the flesh of animals which feed on carrion is not only unwholesome, but unpalatable. Who would think of making a meal of a vulture or any animal whose food was known to be such as is recommended in the foregoing paragraph? It is well known that the food of an animal affects the character of it flesh. An herbivorous animal, as an ox or a sheep, becomes wholly unfit for food if fed on decomposing flesh. The flesh of an animal fed thus, has such an offensive flavor as to be intolerable to an ordinary palate. It cannot be doubted that the use of such flesh will produce equally bad results upon human beings, although the infrequency with which their flesh is used as food may leave the results less apparent than in the case of other animals. The reason that decomposing and diseased food is sometimes eaten without immediately injurious results, is that it is in some degree rendered innocuous by thorough cooking.

AN INALIENABLE RIGHT.

IT has always been admitted as an indisputable fact that human beings possess certain rights of which they cannot be deprived without the grossest injustice. Among these we think it right to class the right to know what goes into one's stomach. This right is never disputed except when a physician writes a prescription of some sort which he desires his patient to swallow without asking any questions for conscience or health's sake. This is not the custom of all physicians, we are glad to be able to say, nor perhaps, of the majority of them; but we have often met physicians who warmly contended that a patient has no right to know what he is taking, and that he will be in no way benefited by so doing. The following paragraph which we clip from an exchange seems to have been written

in the interest of physicians of this class :—

"Since in most cases there is some resemblance between the English and the Latin name of many well-known drugs, it has been proposed that physicians who write a legible hand should use obsolete alchemistic terms in their prescriptions, to prevent the patient from knowing what he is taking where any prejudice is likely to exist against the drug, as in the case of calomel and quinine."

Less than a year ago a lady came to us for examination. We at once observed that she was salivated and so informed her. She replied that she was aware of the fact, and that if she had known what she was taking at the time when the drug was taken it would not have occurred. Left entirely in the dark as to the nature of the supposed remedy administered to her, and having implicit trust in her physician, she had asked no questions as to the nature of the drugs she was swallowing, and the result was a salivation. She had long entertained a very just horror of mercury, and would not have taken the poison for any consideration if she had had an opportunity to exercise her own discretion in the matter. It seems to us to be asking of a rational human being more than is reasonable that he should swallow whatever may be offered to him without asking any questions, when in so doing he must incur the risk of taking into his system a deadly poison the consequences of which may be disastrous to health and even life.

In our opinion the sort of reform needed in the writing of prescriptions is not a return to the obsolete alchemists' terms, but the use of simple language which any intelligent person can understand. An intelligent, sensible patient never loses confidence in a physician by understanding what he is trying to do for him, and how he is trying to do it, provided there is common sense in the method to recommend it to his judgment, but rather gains confidence by the knowledge.

WHY WOMEN ARE DECLINING IN PHYSICAL VIGOR.

THE "little health of women" and the great increase of disease among them, especially nervous disorders, has received the attention of all classes of thinkers in recent times. Many eminent physicians have given much time and thought to the subject, and certain conclusions have been reached which may be looked upon as authoritative. The following summary of the causes which are at work to undermine the health of women, especially in the early years of life, was recently published in a circular sent out by the Association of Collegiate alumnæ, and presents the subject in a very forcible and concise manner :—

1. Social dissipation and excitement, which is neither amusement nor recreation. Girls are too often stimulated to shine socially and intellectually at the same time. A mother proves her daughter's perfect health by saying : "She has been able to go to parties or entertainments four or five evenings a week all winter, and she stands at the head of her class."

2. Habitual loss of sufficient and healthy sleep. In a New York academy, a class of sixty girls, between the ages of twelve and eighteen, chanced to be asked by a recent visitor for the time they retired the night before. The average was found to be twenty minutes before midnight; but no surprise was manifested by teachers, nor regret by the scholars.

3. Irregularity and haste in taking food, the use of confectionery in the evening, and the omission of breakfast. The principal of a large girl's school in Philadelphia lately said that so many habitually came to school without having sufficient breakfast, and taking little or no lunch, that he had been compelled, in order to obtain good mental work, to have a warm lunch furnished, and to insist upon every scholar taking it in the middle of the morning.

4. Tight, heavy, or insufficient clothing, which frightfully increases the tendency to consumptive and spinal diseases. A physician of wide experience confidently states that this cause alone has incapacitated more women than overstudy and overwork of all kinds.

5. The lack of sufficient out-door exercise. When a proper amount of time is devoted to such exercises, no time will be left for overstudy.

6. The ambition of parents and daughters to accomplish much in little time, which sends students to college either hurriedly and imperfectly prepared, or with a thorough preparation gained at the expense of health.

7. The usual postponement of instruction in the laws of physiology and hygiene to a college course. The Association recommends the introduction of a thorough course of physical training, with special instructors and lectures on the subject.

THE PHYSICAL EFFECTS OF ALCOHOL AND TOBACCO.

A Lecture Delivered at the Lake Bluff Temperance Convocation, Aug. 18, 1882.

BY DR. J. H. KELLOGG.

[Continued.]

Now let us inquire what effect alcohol has upon the body. We have seen that there is an affinity between man and the lower forms of life. There is also an affinity between men and trees, and between men and pumpkins, for that matter. Suppose we take a beautiful, flourishing plant, and pour alcohol upon it. It will wither away in a very short time. If we drop a tadpole into a vessel containing alcohol, it will die in a minute. I tried an experiment the other day with some minnows. First I put a minnow into a glass containing two teaspoonfuls of alcohol in a half-pint of water. In five seconds he turned over on his back, in ten seconds he began to float toward the top, and in sixty seconds he was dead. I thought that if I dropped another into a glass containing pure alcohol, he would die at once. I tried it, and the minnow lived for three minutes. I then put a minnow out on the table, and he lived for six or seven minutes. I determined that the reason for this curious result was that when the minnow was put into pure alcohol, he simply died of suffocation. In the other case, where the fluid was about the strength of small beer, the minnow became saturated with the alcohol inside as well as outside by taking it in through the gills, and thus died of alcoholic poisoning. In the first case the gills closed firmly as soon as the minnow was dropped into the alcohol, and he died because he could not breathe, just as the other one died when laid out on the table. This might be taken to show that in the case of the minnows, at least, moderate drinking is more fatal to longevity than hard drinking.

I will now call your attention to a series of plates which I have had prepared for the purpose of illustrating to the eye the baneful effects of alcohol upon the various tissues of the body; and first we will notice this Plate, which shows, greatly enlarged, the natural form of the stomach with a small portion of the duodenum attached. By the removal of a portion of the anterior wall of the stomach, the mucous membrane lining its interior is also shown. We would direct especial attention to the uniform rosy tint characteristic of the healthy state of this organ, in which digestion, one of the most important of the vital processes, is performed. A microscopical examination of the membrane shows it to be traversed by a dense net-work of blood-vessels, which are wholly invisible so long as the organ remains in a healthy condition. Little pockets are also found in which are located the peptic glands which form the gastric juice, the essential agent in the process of stomach digestion.

In the small intestine below the stomach we have a similar arrangement of blood-vessels and glands. The condition

of the stomach in health and disease is better understood than that of almost any other internal organ. This is true for two reasons: First, the stomach has been studied more than any other internal organ; Second, the study of its condition has been carried on under more favorable circumstances than that of any other internal organ. The stomach is a hollow organ, and physiologists and physicians have succeeded in making a permanent opening into its interior in some lower animals, through which they could watch the organ at work, and study the effects of the various substances which were introduced through the mouth of the animal, or through the artificial opening. Accident has, in several cases, made the same observation possible in human beings. One of the most notable cases was that of Alexis St. Martin, an employee of the Hudson Bay Fur Company, who, in the early part of this century, received a gun-shot wound which carried away a considerable portion of the abdominal wall, and perforated the stomach. The wound healed in such a way as to leave a permanent opening into the stomach through which the process of digestion and the effects of various substances upon the stomach and digestion could be accurately observed for many years. Dr. Beaumont kept this man in his employ, making hundreds of observations upon his stomach, the results of which were published, and are considered among the most reliable and conclusive of all the observations which have been made upon this organ. Dr. Beaumont made a careful study of the effects of alcohol upon the stomach of Alexis St. Martin, who enjoyed a remarkable degree of health and vigor even after his accident, which seemed not to have interfered in the least with his general health after his recovery, as he lived to a great age in the enjoyment of almost uninterrupted health, his death occurring only three or four years ago.

The next Plate represents the condition of the stomach of a person accustomed to use alcoholic drinks in what is termed "moderation"; as for example, a man who takes regularly his glass of grog before breakfast, or dinner, or a bowl of sling as a "night-cap." The mucous membrane of the stomach is in a state of congestion. This congested condition was observed by Dr. Beaumont in the stomach of Alexis St. Martin whenever he was allowed to take alcoholic drinks, of which he was very fond, even in a moderate quantity. The effect of alcohol, as well as that of mustard, pepper, pepper-sauce, spices, and condiments, is to produce a state of excitement and irritation in the stomach, the result of which, when frequently repeated, is permanent congestion, and is the cause of numerous forms of dyspepsia. But alcohol does more than simply irritate the stomach. By its antiseptic influence it prevents the digestion of the food, and by its chemical properties it destroys the activity of the gastric juice, and so does triple mischief.

[CONCLUDED NEXT NUMBER.]

The Cider Snare.—The decision at the last meeting of the American Health and Temperance Association to include cider among the prohibited drinks, was a step in the right direction, and will be recognized as such by all the friends of true temperance reform, when they have become fully acquainted with the terrible influence of the cider-drinking habit which has been so often demonstrated in many communities. The following, which we quote from a recent exchange, is by no means an exaggerated picture of the results of the use of soured cider as a beverage, and the recipe given for keeping cider sweet is a good one, and the only one which can be relied upon as being reliable:—

"If we knew of any process for keeping soured cider sweet, we should certainly lock such a secret in our own hearts, for of all the insidious compounds for transforming men into brutes and stupid, sotted demons, soured sweet cider is the worst. The man who habitually gets intoxicated

through the use of soured sweet cider, fastens upon himself the most miserable and hopeless form of inebriety known to medical men; and in order to prevent the development of such a disease, with all its fatal consequences, we propose the following recipe for keeping cider sweet: *Let it remain in the apples.* If temperance people will follow this recipe, it will prevent some of the bad influences and demoralizing effects of soured sweet cider. We have known of cases where the ruin wrought by a few barrels or a few cisterns of soured sweet cider kept among the farmers, was greater, if possible, than would have been wrought by an open bar in their midst. There are communities where farmers build cider cisterns, and pour into them ten, fifteen, or twenty barrels of soured sweet cider, drugged to prevent acetous fermentation, then put a pump in them, and from these reservoirs of inflaming poison deal out the elements of disease and demoralization to the community, and thus defy all law and gospel. This has occurred in towns where "no license" was the voice of the people for years in succession, and the result has been a harvest of drunkards and desolated homes, and all the crimes and outrages that follow in the train of such debauchery. Let all temperance people cease dallying with this fatal tempter. There must be nothing hidden in our tents if we expect to gain the victory."

For the Sick Room.

THIS department will be devoted to the consideration of topics of special interest to invalids and those who have the care of the sick. We shall endeavor to make it in an eminent degree practical, and think it will prove to be a valuable addition to the journal. Questions of general interest coming under the head of the subjects to which this department is devoted will be answered as heretofore in the "Talks with Correspondents."

Feeding through the Bowels,—In certain cases of disease, it is sometimes necessary to maintain the patient by the introduction of food through the bowels, a process known as rectal alimentation. Experiments have shown that food thus introduced is by an anti-peristalic movement carried up to the upper part of the alimentary canal, and there digested. Life has been sustained in this way for months at a time. We have frequently sustained patients thus for weeks at a time. The following are useful preparations for use in this manner:—

Beef-Tea and Egg.—Beat lightly one egg with four tablespoonfuls of strong beef-tea. Inject as directed before. This is the most nourishing of any preparation which can be employed for this purpose, and as it is easily prepared should be resorted to whenever a patient cannot be nourished by the stomach.

Pancreas and Cream.—Chop very fine three ounces of fresh beef pancreas. Add two tablespoonfuls of warm water and a teacupful of sweet cream. Mix thoroughly in a small pail. Cover and place in a pan of water blood-warm. Keep at this temperature for from one-half to three-quarters of an hour, stirring frequently. At the end of this time strain through a coarse colander, rubbing through as much as possible of the pancreas, and inject into the rectum. If the patient will not retain all at first, use half the quantity, keeping the balance in a refrigerator until needed for use. Then warm to the proper temperature and inject as before.

—The best way to treat a cold successfully, is to begin before it is taken.

LITERARY NOTICES.

—OUR UNION. This is the organ of the Woman's National and International Christian Temperance Union. It is issued monthly, edited by Margaret E. Winslow, and published by Esther Pugh, 54 Bible House, N. Y.

Its able corps of contributors includes Miss Francis E. Willard, Miss Julia Colman, Mrs. J. Ellen Foster, Mrs. Mary A. Livermore, and many others whose names are well known to the public. The Portrait Gallery which contains engravings and biographical sketches of prominent temperance workers is not the least of its many interesting features.

—The Good Time Coming, by Julia Colman.

This is the title of a pamphlet recently published by the Woman's National Christian Temperance Union, which treats in a most convincing manner of the baneful hereditary effects of the use of stimulants, and shows conclusively that the evils of intemperance do not end with the offender.

—Transmitted Effects of Alcohol is the subject of another tract of the same series. We have also received from the same Society, "Heredity of Alcohol" by Norman Kerr, M. D., F. L. S., "Effects of Alcohol on Offspring" by Nathan Allen, M. D., "Diet for Mothers Including the Question of Alcoholic Drinks" by James Edmunds, M. D., and "Stimulants and Narcotics" by James Muir Howie, M. D., in all of which the evil influences which darken the future of the coming generation as the results of heritage are vividly portrayed. This series is the best for general use we have yet seen on this subject, and we hope they may have an extensive circulation.

For sale by the National Temperance Society, 58 Reade St., N. Y.

—The Illustrated Christian Weekly, 150 Nassau St., New York City.

This is an interesting family paper of a high moral tone. The entire volume numbers over 600 pages with 400 cuts. It contains stories from the best English and American authors, interesting orininal matter, and able editorials upon current topics.

Sample copies free. Subscription price, $2.50 per year.

We have received a copy of the *Congressional Record* containing an earnest appeal by Mrs. Elizabeth Thompson in behalf of National Prohibition, and the speeches of Hon. H. W. Blair, delivered in the House of Representatives, on the "Manufacture and Sale of Intoxicating Liquors," and "Aid to Common Schools." These contain an array of facts and figures that must be convincing to the most skeptical, and the arguments deduced therefrom are ably and candidly presented.

—The New Idea. This is the unique name of a sixteen page weekly, edited and published by Frank H. Feno, Altay, Schuyler Co., N. Y.

In addition to serials, each number contains familiar talks on science, sketches of literary characters and their work, together with articles upon the subject of elocution and selections to be used in reading or speaking, accompanied by suggestions concerning appropriate gestures to be used with each selection, also an analysis of the same, indicating the various modulations and the different tones to be used in its rendition. This is indeed a "new idea" and one that cannot fail to be of great assistance to the amateur of elocutionary art. The subscription price is $1.00 per year.

—The Cultivator and Country Gentleman. This is a twenty-page weekly published at Albany, N. Y. Terms $2.50 per annum. The farm, the garden, and the fireside each receive their meed of attention, and those engaged in rural pursuits will find in its columns much that is both interesting and profitable.

—A Circular to the Children of America. Issued by the Longfellow Memorial Association.

The plan to secure land opposite the house in which the poet lived, and erect a suitable memorial, and the requirements for membership to the Association have previously been mentioned. Contributions of ten cents each are now solicited from the children of America who loved the poet and are interested in assisting to secure the memorial. A package of ten memorial cards will be mailed to the sender of every ten such subscriptions. The cards contain a portrait of Mr. Longfellow, a view of the house in which he lived, and one of his poems in a fac-simile of his hand-writing.

Address, John Bartlett, Treasurer, Boston, Mass.

—The *North American Review* for November presents an unusually diversified Table of Contents. "English views of Free Trade," by the Hon. John Welsh of Philadelphia, is a clear and forcible exposition of the difference between the economic situation of England and that of the United States, and of the considerations which make Free Trade imperative for the former country if she would retain her present position as the world's workshop. Joseph Neilson, Chief Judge of the Brooklyn City Court, writes of "Disorder in Court-Rooms," a subject of profound interest to good citizens at all times, and more especially now in view of certain recent occurrences. The *obiter dicta* of the learned author touching the Guiteau trial and the Lawson-Gray incident at Dublin, are characterized by the best judicial temper. Dr. Wm. A. Hammond, ex-Surgeon-General of the U. S. Army, offers "A Problem for Sociologists," the problem being to determine the degree of responsibility before the criminal law, of persons affected by certain forms of insanity. "The Industrial Value of Woman," by Mrs. Julia Ward Howe, is a very able reply to an article recently published on "Woman's Work and Woman's Wages." Advantages of the Jury System," by Dwight Foster, formerly a Justice of the Massachusetts Supreme Court, will command the attention of every thoughtful citizen, being a grave and learned defense of an institution which it is becoming the fashion to belittle and decry. The remaining articles are, "Safety in Theaters," by Steele Mackaye, the distinguished actor and theatrical manager; "The Pretentions of Journalism," by Rev. Geo. T. Rider; and a symposium on "The Suppression of Vice," by Anthony Comstock, O. B. Frothingham, and Rev. Dr. J. M. Buckley.

Publishers' Page.

☞ Now is the time for canvassers to begin work taking orders for GOOD HEALTH. This year has been one of abundant harvests, and no more favorable opportunity than the present could be desired for making an effort to extend the usefulness of a popular teacher like this journal. The subject of health is attracting more and more attention from all classes of society and in all parts of the country. Agents are offered a commission of twenty-five per cent on all subscriptions obtained, or thirty-five cents in cash for each subscription. This is a larger commission than is offered by any other journal of the same size and price within our knowledge, and ought to induce many who are interested in the welfare of their fellowmen to take hold of the work. An outfit for canvassing will be sent for fifteen cents.

☞ The past summer has been as remarkable for the absence of fatal epidemics and the usual summer diseases as the previous summer was for its unhealthfulness. The climate in Central Michigan has been simply delightful the whole summer, and we are now enjoying a fall which so far as the weather is concerned is simply perfect. We have visited nearly every part of the United States east of the Rocky Mountains, and we feel convinced that there are very few if any localities which can boast so fine a climate, all things considered, as Central Michigan. The Editor of the *Rural Home*, an agricultural paper published at Rochester, N. Y., after making a number of visits to the State, the last being in mid-winter, penned the following in a letter to his journal :—

"I believe Michigan has more sunshine to the acre than New York has ; and why it should be so puzzles me, too. The State is three-fourths surrounded by water, and within its area the water surface is large. Yet I never spend a week or two among the Michiganders but that I find them blest with more clear sky than New Yorkers enjoy."

☞ The number of patients at the Sanitarium was never larger at this season of the year than at the present time. In fact, there has seldom been any time of the year when the list of patients exceeded the present. The constant addition of new facilities and appliances, and improvements in various directions, and in the more thorough systematizing of various departments, has gained for the Institution a reputation fully equal to that of any other in the land; and it is probable that there is no institution in this country, if in the world, where so large a number of cases pronounced hopeless are treated with success.

The surgical department of the Institution has become one of its most important and valuable features, hundreds of important surgical operations being performed every year for the relief of cases which have for a long time resisted every other means of treatment employed. It is not an uncommon thing for patients who have been confined to their beds for many years to be seen walking about the halls and grounds within a few weeks after arriving at the doors of the Sanitarium on a bed or litter.

One remarkable feature in the surgical history of the Institution is the fact that not a single patient has ever died as the result of a surgical operation, and the proportion of successful results from operations is very greatly above the ordinary average; the results being in fact rarely ever otherwise than completely successful, even in cases in which the vitality of the patient is so low that only partial success could be hoped for.

☞ The "Home Hand-Book of Domestic Hygiene and Rational Medicine" is meeting with large sales in the hands of energetic agents in various parts of the country. The recent addition of several very attractive features has greatly enhanced its value. Among the most noticeable of these is a dissected plate, or paper manikin, of the human body, showing the position and relation of all the important organs of the body in the most admirable manner. The manikin is accompanied by an index which makes it almost or quite equal to an anatomical atlas.

In addition to this ingenious mode of showing the structure of the human body, the publishers have added four beautiful chromo-lithographic plates, showing twenty-six different objects, illustrating the various diseases, etc. Nothing by way of illustration so expensive and complete has ever been attempted before in a work of this kind, and that the effort is appreciated is evidenced by the fact that the sales of the work were never so rapid as at the present time. Canvassing agents are receiving a good commission, and when competent for the work, make good wages.

Those who wish to canvass in the West, east of the Rocky Mountains, should address, W. D. Condit & Co., Des Moines, Iowa.

☞ Years ago we read a fable in which it was represented that a lion was challenged to combat by a polecat. The king of beasts refused to accept the challenge at the risk of being called a coward, on the ground that should he engage in such a conflict "everybody would know that he had been fighting with a skunk." We have always admired the wisdom of that lion; and whenever we are badgered to a controversy by bigoted contemporaries who desire to obtain a little gratuitous advertising, we recall the fable and hold our peace.