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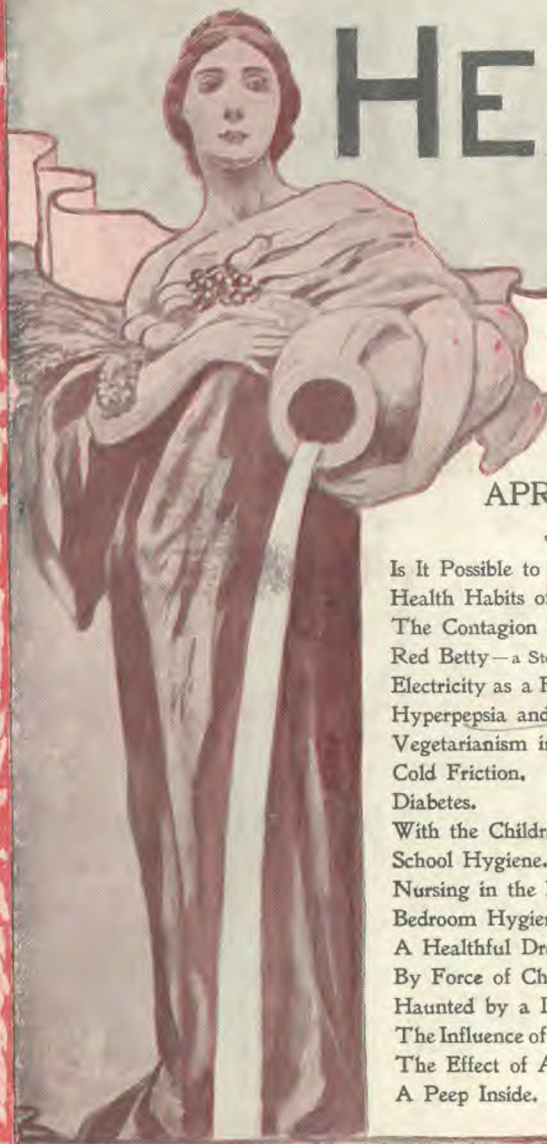
GOOD HEALTH



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C.W.B.

APRIL, 1900.

VOL. XXXV. EDITED BY J. H. KELLOGG, M.D. NO. 4.

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Purity, sweetness, refreshing and delightful cleanliness are the sensations produced by the use of

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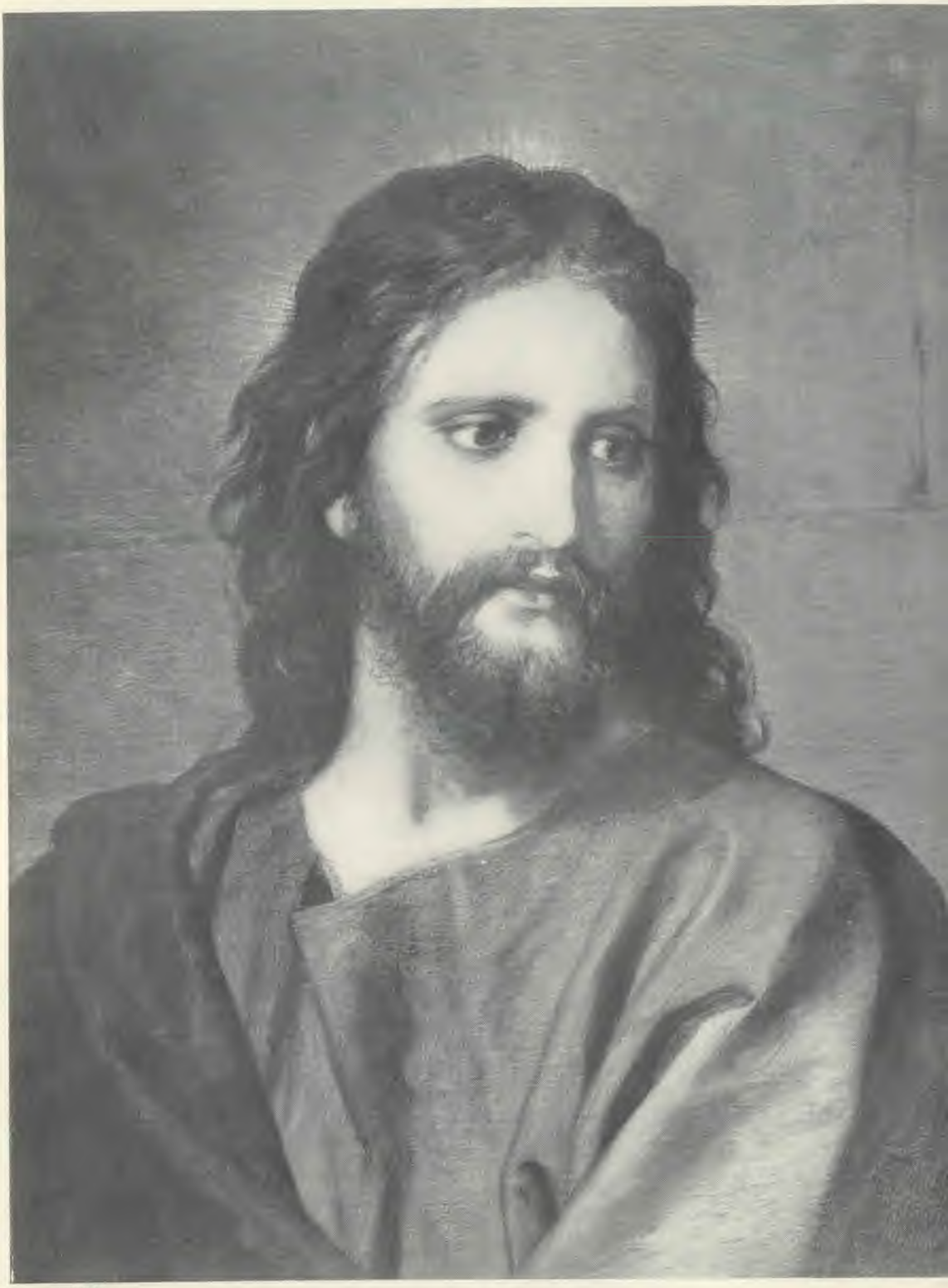


HOFFMAN.

"HE IS RISEN."

GOOD HEALTH

A Journal of Hygiene.

VOL. XXXV. APRIL, 1900. NO. 4.

IS IT POSSIBLE TO LIVE A CENTURY?

BY J. H. KELLOGG, M. D.

THAT it is possible for human beings to live a full century is not a question open for discussion; for there are at the present day living in the world probably several thousand persons whose age is one hundred years or more. But we have become accustomed to regard such persons as living to so great an age on account of some exceptional natural endowment of vitality, perhaps as the result of fortunate heredity; and have from childhood looked upon a man of fifty or sixty years as old and "ripe for the tomb." It is a weekly or even daily experience to learn of the death from acute or chronic disease of persons less than one third of a century old. We have come to look upon death as inevitable, for the great majority at least, at an age even one half that of the centenarian.

Knowing that statistics show the average length of life among modern people to be forty-two years, while David tells us that at his day the ordinary span of life was only threescore years and ten, it may indeed at first seem the height of presumption for a person to undertake to plan for one hundred years of life; and to those fatalists who look upon man as predestined to death at a certain day, to which they are borne on by a tide of circumstances, it may seem idle to consider the question. Some may feel that for an individual deliberately to attempt to live one hundred years by an earnest study of those conditions which make for health, and of the causes which lead to death, is to seek to thwart the plans of Providence, and hence a sort of sacrilege — a state of mind like that which led a Dutch philosopher of the 17th century, one of the first investigators with the microscope, to destroy all the notes which he had made of the marvelous revelations of his lenses, because it seemed to him sacrilegious to reveal the secrets of the Almighty which had by divine design been hidden from the eyes of men.

Without stopping to show the falsity of the philosophy which would effectually bar all human progress and make humanity mere driftwood upon the sea of life, we turn away from this pessimistic view of man's life and destiny, and plant our feet upon that universal fact that man loves life, and clings to it more tenaciously than to any other of his possessions. "All that a man hath will he give for his life," said Christ. The possession by man of so powerful and universal an instinct is better evidence than could be offered by any philosophy that man has the right to live as long as possible, and that life, not death, is his natural destiny; that death is an enemy to be held at bay so long as possible; and that when at last the citadel of life succumbs, it will be because the doors have been left ajar so that enemies have

entered,— walls have been left to crumble till they no longer afford protection, and the defensive forces within have lost their power to resist.

Perhaps we may with profit consider for a moment the question, "What is life?" and its antithesis, "What is death?" Life is positive; death is negative. Of the ultimate nature of life, science tells us nothing, except that it is an intelligent, active force which in its operations gives rise to the phenomena which we call life. In its ultimate, truest sense, we must doubtless admit that "life power," "life force," "vital energy,"—different terms for the same thing,—is one with the great unsearchable and invisible Source of all energy which dwells in the universe, and which weaves itself into all the phenomena of nature, from the great circling orbs of the celestial worlds to the tiniest plantlet upon this little sphere.

There is one great source of energy. We may not say that life is a part of it or is derived from it, but that it *is* it; that life as we see it is simply one of its infinitely varied manifestations. Man is simply a form through which life manifests itself. Man is the mechanism; life is the power that sets it going, and keeps it in operation. So long as all parts of the mechanism are intact, and so long as its various parts co-operate in harmony, life will be uninterruptedly and efficiently manifested; in other words, man will continue to live. When any part of the mechanism is injured, or when its several parts no longer act in harmony, life to that extent ceases to manifest itself in perfection; and to the extent that life diminishes, death claims domain.

Death, unless it be caused by a wound or accidental, does not come suddenly; it is a development. As life retires, death enters. The human mechanism, like a water-wheel, can be kept in motion only by a supply of energy. This energy is not supplied to man in a subtle and mysterious way, but in a most substantial and tangible manner, by means of those substances which we call food, which are simply stores of life. The stream of energy entering the human mechanism from these stores is under man's control. He may regulate the stream of life which enters his body just as the miller regulates the stream of water which flows upon his water-wheel. There are gates that may be opened wide, through which a full tide of energy may flow into his being, vitalizing every organ, energizing every function, and lifting him upon the highest plane of living activity. These doors may be closed, so that the tide of life will dwindle to a feeble stream, or be wholly interrupted. When this is the case, weakness, inefficiency, and finally disease and death are the result.

Death comes to man, not as an entity, not asa positive attacking force, as the figures of speech often employed might suggest, but simply as the consequence or natural result of the withdrawal or interruption of the stream of life and energy from the one great Source of all life, upon which man and all other living things depend.

In view of all these facts it is evident, as Seneca so graphically says, that "man does not die; he kills himself." As remarked by Dr. Saffray, an eminent French physician, in his work, "Les Moyens de Vivre Longtemps," "We die prematurely, but it is not a consequence of the order established by Providence; it is the result of our ignorance, of our passion, of our vice." It depends upon us, then, to put a stop to this wholesale suicide, and to prolong our lives to their normal limit.

But even one hundred years is not the extreme limit of human life, as is shown by the fact that a number of persons, even in modern times, have been known to live to an age far beyond a century.

The length of life in the animal kingdom is something remarkable. After a successful battle, Alexander once set at liberty an elephant which he had ridden during the battle, first attaching to him a collar bearing an inscription. This historic animal was found bearing his certificate of age, some 350 years afterward. Buffon reports the history of a horse which was doing its regular work at fifty years of age. In the museum at Manchester, England, is the skeleton of a horse which was known to be more than sixty years of age at death. A few years ago there died at San Francisco, Cal., a donkey known to be fifty years of age. Buffon also reports the fact that he had captured fish which were more than one hundred and fifty years old. A fish once caught in Germany was found carrying a ring attached to its body, which bore a date 261 years prior. The enormous whales of the Arctic Ocean are believed by some naturalists to attain the remarkable age of more than one thousand years.

Man is naturally the toughest, hardiest, most enduring of animals. When in good training and properly fed, he can travel in a week farther on foot than the fleetest horse. When he stood in the perfection of his vigor and purity as he came from the hand of his Creator, he was easily master of all living things; not king of beasts, but king of the world. If an elephant can live four centuries with his coarse, clumsy organism; if a whale, with his comparatively low grade of organism, his small brain and unwieldy body, can live a millennium; certainly man, with his magnificent powers, his marvelous energy, his towering intelligence, his ability to adapt himself to his environments and to control conditions,— certainly this superior being, living a life of simple obedience to the divine laws of his being, ought to outstrip the whole animal creation in length of life.

HEALTH HABITS OF THE BOERS.

BY "SISTER ROSA."

"Sister Rosa" is an English woman who went to South Africa about twenty-five years ago as a Florence Nightingale nurse. Learning of the Battle Creek Sanitarium through its branch in Claremont, near Cape Town, she came here to obtain further knowledge of its principles and methods.

THE Dutch people in South Africa may be divided into three classes,— those of the Western Province, the Orange Free State, and the Transvaal. Those living in the Western Province are highly educated and cultured, having fine colleges and schools for both boys and girls. The Dutch in the Free State are agricultural people, and it is only of late years that they have realized the advantages of education. There are two colleges in Bloemfontein,— the Grey College for boys and the Dames Institute for girls. And belonging to the Church of England is St. Andrew's College for boys and St. Michael's High School for girls. All of these schools have a high standard of education. While the Transvaal educational advantages are very meager, the people are beginning to see the advantages of culture. They have a few schools in Johannesburg and Pretoria, while many of the farmers employ private governesses for their children.

Mark Twain has met the Boer, and this is what he says of him in the London *Daily Mail:* "He is deeply religious, profoundly ignorant; dull, obstinate, big-

oted, uncleanly in his habits, hospitable, honest in his dealings with the whites; a hard master to his black servants; lazy, a good shot, good horseman, addicted to the chase; a lover of political independence; a good husband and father; not

THE MARKET PLACE IN JOHANNESBURG, TRANSVAAL, SOUTH AFRICA.

fond of herding together in towns, but liking the seclusion and remoteness and solitude and empty vastness and silence of the *veldt;* a man of mighty appetite, and not delicate about what he appeases it with — well satisfied with pork and Indian corn and biltong, requiring only that the quantity shall not be stinted; willing to ride a long journey to take a hand in a rude all-night dance interspersed with vigorous feeding and boisterous jollity,

but ready to ride twice as far for a prayer-meeting; proud of his Dutch and Huguenot origin and its religious and military history; proud of his race achievements in South Africa — its bold plunges into hostile and uncharted deserts in search of free solitudes unvexed by the pestering and detested English; also its victories over the natives and the British; proudest of all of the direct and effusive personal interest which the Deity has always taken in his affairs.

"He can not read, he can not write; he has one or two newspapers, but he is apparently not aware of it; he had no schools and taught his children nothing; news is a term which has no meaning to

him, and the thing itself he cares nothing about. He hates to be taxed, and resents it. He has stood stock still in South Africa for two centuries and a half, and would like to stand until the end of time, for he has no sympathy with uitlander notions of progress.

"He is hungry to be rich, for he is human; but his preference has been for riches in cattle, not in fine clothes and fine houses and gold and diamonds. The gold and the diamonds have brought the godless stranger within his gates, also contamination and broken repose; and he wishes they had never been discovered."

This is quite true, as I have found them in the Transvaal. One of the reasons, I think, why they are so uncleanly in their habits, is because of the great difficulty of getting water. That part of the country having no rivers, the inhabitants are dependent upon the falling rain for their supply of water, which is collected in dams; but during the dry season or in times of drought this supply becomes exhausted, and they then have to rely on small streams, oftentimes very muddy and three or four miles off.

They do not undress at night. This is because they lived so long in wagons when they first went to the Transvaal that they seem to have gotten out of the way of it. Their manner of life is very simple: they rise with the sun and go to bed at sunset. They eat three meals a day when they are at home, although they can exist for several days with only a little biltong and a drink of water, which they do not require to be either filtered or strained. They live on coffee, bread, and meat. The coffee is made mostly of wheat and barley, and is often drunk without milk or sugar.

The Boers are a very healthy, rugged race, being subject to only a few diseases. They do have typhoid fever and many contagious diseases, against which they take no precaution, saying, if they get them, that it is the will of God, and they ought to have them. They are great fatalists. These diseases do not spread as rapidly here as in towns, because the people live such long distances apart, it not being unusual for Dutch families to live ten and fifteen miles distant.

In most Dutch houses they have no literature except the Bible, and they always have worship both morning and evening. They will go as far as one hundred miles four times a year to the *Abendmahl*, or Lord's Supper, which is a high festival, and they take advantage of meeting at that time to celebrate baptism and marriages. All candidates for marriage must learn the catechism and repeat it publicly.

The Boers are very hospitable, giving a guest the best of all the house contains when he is on a journey, and in most cases declining any pay.

SAYING GRACE.

WHEN we 're at grandpa's house to dine,
He looks about with sober face,
Then clasps his hands and shuts his eyes,
And sister says he 's "saying grace."
He says big words that I don't know,—
I 'm only four years old,— but then
I know *two* words he always says,
And one is "Thanks" and one "Amen."

While walking in my grandpa's woods,
We saw a squirrel, big and gray.
He held a nut between his paws,
But did not eat it right away.
He closed his little shining eyes,
His hands raised just like grandpa's. Then
I said, O sister, keep real still,
He 's saying "Thank you" and "Amen."

— *Laura F. Armitage.*

THE CONTAGION OF HEALTH.[1]

BY C. C. NICOLA, M. D.

A GREAT agnostic once said that had he been making the universe, he would have made health contagious instead of disease. Only a short-sighted and pessimistic mind could make such an unjust and acrid criticism on the beneficence of nature. Health is contagious. Health is the only thing that is natural. Disease must be courted, earned, worked for. We catch health with every breath. When a man who has dissipated his vital forces, by chance breathes in certain germs which find in him a soil prepared for their growth, we say he has caught disease. Shall we then complain of an all-wise Providence, and forget the unnumbered times which we have breathed God's vitalizing air, and instead of disease have caught new life and health?

We catch health night after night. We waken three hundred and sixty-four mornings in the year and find that we have contracted new life and health while we slept. Shall we complain, then, if we waken one morning in the year, and find, perchance, that we have failed to catch health, and have a "cold," perhaps purely as a result of our own neglect?

Health is contagious. Think how many of God's creatures drink from his fountains day by day, and catch only the sparkle of life, which is the only thing he has placed in them. It is only man that puts poisons in his drinking water, and contaminates it with disease. We catch health every moment we live. We catch it from the pure air we breathe, from the pure water we drink, from every morsel of good food we eat. Health is everywhere. God has filled the earth with it. We are inoculated with health from every sunbeam, from the beautiful flowers, from the green trees. We catch it whenever we meet a friend who has it.

Health is the most natural thing in the world; and it is because it is so common and natural that we notice so much the exceptions. We expect it in everything but man. Watch the calf that has only been in this world of ours a few days, and you will see that he has already caught health in its most active form. He runs and leaps and throws his head. Why does he run? — Not because he is pursued, but simply because he is so brim full of health that he can not help it. Turn your horse out in the lot, and watch the symptoms of health. He rolls on the ground, charges up and down, or kicks his heels high in the air, simply because he feels like it. Watch the plant in the garden; you are not surprised to see it grow day by day, so long as it has good soil and plenty of sunshine and rain. You would be astonished if it did not grow, and would immediately seek for an explanation, because you know that the plant in and of itself can not help growing. Health and life are just as natural to man as they are to the colt or to the plant.

Health comes of itself; but disease must be earned. We see people working long and diligently in their pursuit of disease. They will even sit up nights, robbing themselves of needed sleep, and persistently pursue their object into the wee small hours. They cause their poor, jaded bodies to dance up and down on the ballroom floor long after the tired nerves beg for rest. They rouse their tired stomachs at midnight, and require them to take charge of an indigestible mass of ice-cream, or pork and pickles, or oyster ooze. Then, lest they should fail to acquire disease after all this, they shut themselves in club rooms, which

[1] From a talk to the patients in the Sanitarium at South Lancaster, Mass.

they fill with the poisonous and stifling fumes of burning tobacco, with which they bathe the delicate cells of their lungs for hours at a time. It is truly an irksome task that healthy people have who set about thus trying to acquire disease; but by months of devotion to this one end, they usually succeed; and even then few are satisfied with the result. Health, on the other hand, will come without being sought. It is the natural condition. It is the first product of natural law, which must be deliberately broken if one escapes health.

How strange it is that society, custom, and tradition should have combined in tempting people to violate the plain, simple laws of nature by holding out before them some illusory pleasure as a compensation for neglect of health. But what pleasure can equal the joy that springs from pure and unhampered health? To the man who has perfect health, it is a joy to live. The air he breathes has a relish in it; there is a joy and a satisfaction in every move he makes, in every thought he thinks. He looks out on a beautiful world with clear eyesight, unclouded by melancholy or remorse. He takes up life's duties with a zest; he works for the pleasure of action, and yet he finds supreme satisfaction in the results accomplished. He feels that he is living, and that he is in harmony with the watchword of nature, which is "Progress." The sweetness of refreshing sleep after a day of useful labor affords a choicer pleasure than can be found in the bewildering maze of the ballroom. The joy that springs from a sense of harmony with God, as manifested in nature, is truly a higher joy than can be bought in the gilded mart of questionable pleasure. It is the joy the flower feels in blooming; it is the joy the bird feels in singing, or the colt in running and jumping. This pleasure, like health, is the divine birthright of every man. Without health, how devoid of real pleasure is wealth, social position, intellect, and even life itself. For "life is not merely to live, but to be well." And how many an ambitious scholar, grasping after the bubble of fame, finds too soon that "a brilliant intellect in a sickly body is like gold in a spent swimmer's pocket."

"O blessed health! Thou art above all gold and treasure. 'T is thou who enlargest the soul, and openest all its powers to receive instruction and to relish virtue. He that has thee has little more to wish for, and he that is so wretched as to want thee, wants everything with thee" (Sterne).

RED BETTY, OR THE SLAUGHTER OF THE DUMB INNOCENTS.

BY MRS. L. D. AVERY-STUTTLE.

CHAPTER II.

(Copyright, 1899.)

"CERTAINLY, Red Betty. I only hope you will have strength to tell me everything," I replied, as I offered her a few handfuls of fresh, tender grass. She tried to eat, but she made sad headway, and seemed feverish and weary. I held a brimming pail of cool water to her mouth, and she eagerly drank every drop.

"I remembered what my mother said," she then continued, "and walked quietly after the boys, but if I would halt for a little moment, Tom would jerk hard on the rope around my neck, and so force me along. The little girls followed us as

far as the barn, sobbing. I felt very sorry to leave them, for they had always been good to me. All this time I was wondering why my master intended to sell me, and if I was going to be killed.

"Tom tied me in the barn, where I was left alone for a long time, as it seemed to me. I grew very hungry and thirsty, and at last, when the little girls came and gave me a drink and some nice fresh grass, I was glad indeed. O, how I wanted to ask them where I was going, and if I would be killed; but they could not understand my speech, though I could understand theirs quite well.

"After dinner my master came to the barn, and I saw a strange man with him. O, how hard my little heart beat when I heard them talking about me!

"'I guess she will lead; it's not very far to the station,' said the stranger, whom my old master called Mr. Riggs. Then I remembered that I had seen him a few days before, standing with master by the fence, and looking at me. Master explained to him that I was a very fine animal, and that my mother was one of the best on his large farm. But I did not have time to think of it long. I saw the stranger give master some money, and then he quickly untied me, and led me away toward the station.

"I soon found that I, in company with many others of my kind, most of them older than myself, was going to be sent to a large farm in another State. We stayed at the station all night, and in the morning were driven into a car with boards nailed across in such a way that we could see out, and the air could come in. I was very glad of this, for it was a dreadfully hot day, and we needed all the fresh air we could get from between the boards, and much more.

"Mr. Riggs, my new master, did not seem to care very much how we suffered, for he did not make any provision for us to have anything to eat or drink all day. He told the man at the depot that he guessed we could stand it all right till evening, for the car would go straight through. But when noon came, master felt as if he could not get along without his dinner, and I looked through the boards and saw him making his way to a lunch-room as fast as he could go.

"O, how we all suffered from heat and thirst that long, long day! The car was quite crowded, and I did not dare to lie down for fear my companions would tread upon me as they were doing a little while ago, kind lady, when you rescued and brought me to this nice, cool place," and methought my strange companion gave me a look of gratitude. But I begged her to continue her story.

"Well," said she, "we were all very glad indeed when our train stopped just as the hot sun was setting, and we were allowed to walk out of our suffocating prison. I had formed the acquaintance of two or three of my companions on the road, and as they all declared that we were certainly going to be killed at our journey's end, I became very much frightened again. Though I told them I was sure I had heard our master say we were going on a large farm, still they declared I must be mistaken, and although I was quite sure about it, I began to grow very nervous, until at last I determined to run away if I could. I could not forget the story my poor mother had told me about the dear "heathen" on the other side of the world, who never killed poor animals, and I wondered if I might not be able to reach the country where they lived. We had traveled so far and so fast that to my untutored mind it seemed that we must be almost there.

"However, I did not see any chance to escape, until we were being driven across a wide gang plank into the boat that was to ferry us over the river. I

was so anxious to run away that I watched every opportunity. At last fortune favored me. It was getting to be quite dark now. Just as we were about to walk over the plank into the boat, a lad came along driving some cows and calves past us. When master had his head turned, I dropped behind just a moment, and watching my chance, slipped in among the other herd, and the boy drove us away. We had passed along in this way for some distance, and I was just beginning to think I had escaped with my life, when, in walking too near the edge of a high precipice, my foot slipped, and I went down, down, into the dark river below.

"The boy heard me cry," said Red Betty, "and heard the splash, but as he did not miss any of the animals, he thought it must have been a falling rock.

"I was much frightened, and as I did not know how to swim very well, I soon became tired, and in spite of myself, I found I was drifting farther and farther into the middle of the river. Pretty soon I passed a tiny island near the other shore. O, how I struggled to get my feet upon the ground, and spring up upon the bank! but the current was quite strong, and it kept throwing me farther away from the cool, grassy bank that I so longed to reach. Finally, wearied by my desperate efforts, I gave up in despair, and uttering a loud cry of anguish, I knew no more.

"At last when I came to myself, I found that I had been driven on to the opposite bank by the waves, and that a large tree which had fallen by the river shore had caught me in its top and saved my life. I looked around me. It was quite dark, and I would have been much frightened only I remembered that I had probably escaped certain death — the death which I feared my poor companions would finally share."

"Your adventures have certainly been quite wonderful, you poor creature," I said. "Were you a human being, I should surely say that your escape from death had been providential."

"Well, I can't say as to that, though I am sure that a God who cares for a tiny sparrow must have some care for the larger of his creatures; but after all, there is only certain death before me now, after these many wanderings, and so I do not know but I would better have perished many years ago."

"O, do not give up to despondency," I begged, wondering if there was no way in which I could save her life. As I mused upon it, she continued: —

"By using all my strength I soon managed to drag myself upon the bank, where I landed more dead than alive, to be sure; but hope is strong in the breasts of all God's creatures, and a love of life was implanted in them when they were created. So, as I lay upon the cool grass, I felt that life was very sweet to me, and after cropping a few mouthfuls of the tender herbage which grew in luxuriance all around me, I curled myself up in a little heap close beside the upturned roots of the fallen tree, and slept very soundly.

"It was morning when I awoke. I was quite stiff and sore, but was so grateful to think that I had escaped with my life that I did not mind that. O, what a sense of freedom and security I felt, alone in the cool, green woods, far from that dreadful pen where my poor little brother had been so cruelly butchered. If I could only have been near my dear mother, my joy would have been complete.

"As I was thinking it all over, I looked up, and there, perched on a limb of the tree that had saved my life, was the dearest little animal looking straight at me. I had not seen anything like it before, for

I had never been in the woods till now. The tiny creature gazed at me curiously, and at last I took courage to speak to it, for I was sure it was so small that it could not hurt me.

"'Good morning, little stranger,' I said, 'will you tell me your name?'

"The cunning fellow winked at me quite saucily, flirted his long, bushy tail in a coquettish manner, and replied,—

"'Certainly, my name is Gray Squirrel.'

"'And mine,' I replied, 'is Red Betty.'

"'Well, Red Betty, you seem so gentle that I do not feel afraid of you,—indeed, why should you hurt me who have never done you any harm? Where did you come from? I do not think I ever saw you before.'

"Then I told my little companion all about myself, and as I continued, he grew more and more interested. But when I came to the part in my story where I had finally run away from my master for fear he was going to kill me, little Gray, as I soon learned to call him, grew very sympathetic, and hopped down from his branch and came to sit close beside me. He wiped his soft, bright eyes with his cunning little paws when I told him about my poor brother's sad fate.

"At last I asked him a question that had been in my mind ever since we began talking together. I wanted to know very much, but I had been so afraid I would be disappointed that I almost dreaded to ask. Finally I said: —

"'Pray tell me, little Gray, is not this beautiful forest situated in the land of the dear, good heathen, who never, never kill poor animals that are weak and helpless? because, you see, I have come many, many miles since I left my mother, and she told me there was such a country, and I so hope I may have found it.'

"'I do not know what they call this country,' he said, 'but I have often had to run for my life, and hide myself from some cruel boy with his long, ugly rifle. I have had some very narrow escapes, I assure you. They do not cut our throats as they do yours, but they shoot as many of us as they can, and yet we have never done them any harm,' he said sadly, 'and I do not see why they should wish to hurt us.'

"I felt my heart sink like lead when I heard these awful words. 'Well,' I said, 'if I have not yet reached that country, I would better be going — really, I am quite afraid to stay here any longer;' and I trembled as I fancied I heard a slight rustling in the leaves behind us, but it was only the wind in the branches.

"'O, I assure you,' said little Gray, 'it is quite useless for you to go any farther, for I have heard my grandfather say that this world is very, very large indeed, and I know certainly that you could never reach that country if you were to travel all your life.'

"Then, kind lady," said Red Betty mournfully, "I felt quite discouraged, as you may imagine, and I finally told my tiny friend that if this was true, I would not think of leaving him, and should be glad of his company. He was very much pleased, and proposed that I go with him at once to his home, which was in a large, hollow tree, quite a distance from where we then were. On our arrival, we found little Gray's family all astir, and waiting for their breakfast.

"'I have a very interesting family,' said little Gray, proudly, 'and I wish you also to become acquainted with some of my neighbors. Meanwhile,' he continued, 'I should be glad if you would consider this pleasant, leafy bower your home; see, it is very close to my nest in the tree, and we can warn each other of any danger.'

"Then I turned my head, and O, such a nice, cozy home for myself as I saw!

It was much nicer than the close, stuffy bed in the old barn where my poor mother had slept every winter night since she had lived. It was so sweet and cozy, with long, trailing grapevines for a ceiling, and pretty ferns and moss for a carpet. Besides, it was quite secluded, and I began to feel happy again, because I saw that I could hide myself completely from the sight of any cruel hunter, in my shady bower. Outside there was a cool, sparkling brook where we could quench our thirst, and as there was an abundance of fresh, sweet grass, I knew that I need never be hungry. By the time I had completed the survey of my new home, little Gray and his family had finished their breakfast, and my good friend came at once to call upon me, and ask me how I liked my new home.

"'I am delighted with it, indeed,' I replied, 'and very thankful for your kindness; already I feel quite at home here.'

"'Well,' he continued briskly, 'I am going now to invite in a few of our good neighbors, for I am sure you will be much happier after you are acquainted with them.'

"After an hour or so, little Gray returned, bringing a merry company with him. I was reclining on my soft, green couch when they arrived, but I hastened to greet them. There were Mr. and Mrs. Deer, with their family, whom I recognized at once as distant relatives of the sheep family, whom I knew well at my old home. Then there were the Woodchuck and Chipmunk tribes, who chattered incessantly; besides these there were quite a number who were introduced to me as our feathered friends. They were headed by Mrs. Owl, who looked very sleepy indeed, and winked very wisely.

"Little Gray insisted that I tell my story to the assembled friends, who listened in breathless silence till I had finished. Then Mr. Deer shook his beautiful antlers sadly as he said: —

"'I see that we are all of us in the same sad plight; we have one bitter enemy — man; even the innocent little birds who give us such sweet music are in as great danger as ourselves. Already, even in my short life, I have known many hundreds to fall by the cruel hand of our common enemy.'

"I was quite surprised at this dreadful tale," continued Red Betty, "for I did not think it at all probable that little birds could form the diet of human beings."

(To be continued.)

ELECTRICITY AS A FAMILY REMEDY.

BY A. J. READ, M. D.

THE use of electricity has become so common in the arts and sciences that its power and modes of action are constantly attracting attention. Every child who graduates from our public schools acquires some knowledge of its production and the laws that control its action. Many invalids who have struggled long and earnestly against the inroads of disease and nervous debility are gratefully familiar with its vivifying and health-restoring influences. But the achievements which are possible with this powerful agent can be attained only by a careful and discriminating application of the laws controlling it.

From a medical standpoint, four kinds of electric currents are recognized; viz:—

1. The *static* current, produced by large glass discs so arranged that their rapid revolutions induce a current of electricity of such high potential that it escapes in sparks through the air to neighboring objects by means of which it can complete its circuit back to the opposite pole of the machine. This form of electricity was the earliest current discovered, and is now applied almost exclusively by physicians in institutions and in office practice.

THE STATIC ELECTRIC MACHINE.

2. The *galvanic* or constant current, produced by a strong battery or dynamo capable of causing electricity to flow without interruption through a wire or suitable conductor in one direction, back to its original starting place. This current gives a burning, smarting sensation to the skin, similar to that produced by a very hot fomentation or a mustard plaster. A person may take very large doses of this form of electricity, if it is properly applied, without feeling any marked muscular contractions or disagreeable sensations; but as it is one of the most powerful electric currents used for medicinal purposes, and is capable of producing burns and extensive destruction of tissue, its use is considered dangerous except in the hands of a competent physician.

3. The *sinusoidal* current, produced by a small dynamo so arranged as to give an undulating current, the direction of which is rapidly alternating; it is also capable of producing very marked but painless muscular contractions. This current, very powerful, and may do much good or much harm. It is used almost exclusively by physicians.

4. The *faradic* current, produced by sending a small galvanic current through a coil of wire so wound around a soft iron core as to magnetize it and so connected as to interrupt itself automatically, thus inducing, according to the known laws of electricity and magnetism, currents and counter-currents in the primary and secondary coils, which are capable of being utilized. These currents, when passing through the body, cause contractions of the muscles, and

THE GALVANIC ELECTRIC CABINET.

involuntary movements of the parts to which they are applied.

The faradic current is the safest and most available for family use. The modern apparatus for producing this current consists of a box (see p. 206) containing a dry cell, which is connected with a medical coil and interrupter. There are binding posts for the primary and also the secondary currents. The box also contains cords, metallic handles, and plates with sponges, called electrodes, for conveying the current to the body. Such an outfit will be found clean, reliable, and convenient. The care of the battery consists chiefly in economizing the current when not in use, and keeping the battery clean and dry.

When the dry cell is exhausted, a new one can be easily inserted, thus making the battery as good as ever.

In addition to the above outfit, a few

THE SINUSOIDAL APPARATUS.

electrodes should be ordered from a tinsmith, to meet the requirements of the ordinary household,— two electrodes of each kind represented (see p. 207). They may be made of zinc or annealed copper.

The bath-tub electrodes may be bent to hook over the side of the tub at any desired height or in any position. If a metal tub is used, it may be found necessary to insulate the electrodes from the tub by inserting between them a piece

COMBINED GALVANIC AND FARADIC CABINET.

of enameled or rubber cloth. The long spinal electrode may be easily fitted to the contour of the back in making applications to the spine. The short spinal electrode may be bent around the palm of the hand, and used in the mitten friction bath described later, although its original design is for local spinal and other treatments covering a limited area. The use of the other instruments will be readily understood from their nature.

Two faradic brushes should be added to the list, one an electric hair brush for applications to the scalp. This brush should have a binding post connected to the end of the handle, and should be made of fine steel wires set in a rubber back, and connected with the binding post by a wire through the handle.

The other brush may be had from any dealer in electrical supplies, and consists of a bundle of fine steel wires used as an electric flesh brush; or what in the writer's opinion serves better, as well as being cheaper, an ordinary wire fly-killer brush, which may be had for a dime of any hardware dealer. This brush connected

THE FARADIC BATTERY.

to one pole of the battery and passed lightly over the skin is an excellent skin stimulator. It may be applied over a large area of skin or to a small area, giving a revulsive effect as well as acting as a direct tonic to the skin itself.

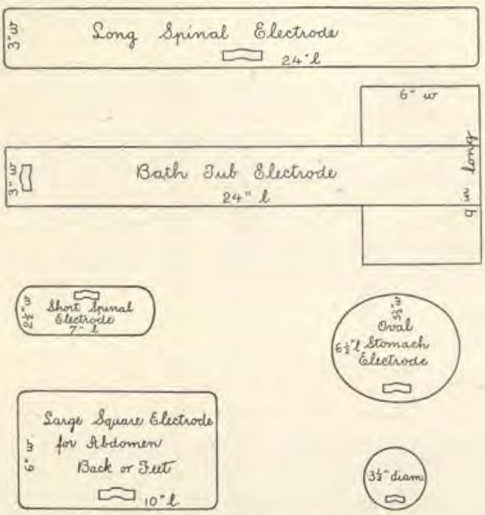
The application of faradism can be referred to only in the most general terms, to bring before the reader the principles on which the medicinal effects of the current depend. Some years ago, Duchenne, of Boulogne, by a series of carefully conducted experiments, established the fundamental principles of faradism. He determined a marked difference between the effects of the primary and the secondary currents, and found that the primary current is capable of giving the more marked deep nerve pain and muscular contraction, while the secondary current is more sedative in its action.

The stimulating effects of the faradic current depend upon (1) *the current used*, the primary being more stimulating than the secondary; (2) *the rapidity of the vibrations or interruptions*, a low note of the vibrator indicating the most highly stimulating current; (3) *the strength of the current;* (4) *the length of the application*, short, vigorous applications being most stimulating; and (5) *the methods of conveying the current to the patient.*

The last effect is varied by the kind of electrode selected to be used; for example, the bare metallic electrode or the brush over a region affected with anesthesia or numbness would give the best results, stimulating the circulation and increasing the nervous sensibility. Where there is a general depression of the vital functions, so commonly noticed in the spring of the year, and sometimes called "spring fever," excellent results follow the use of electric cold mitten friction, as this measure combines the stimulating and tonic effects of both cold and electricity, and can be borne by the most delicate constitution. It is applied as follows: Have the patient stand on a large flat electrode, or place the electrode at the lower end of the spine, if the patient is in a recumbent position, then slip a short spinal electrode, bent to fit, into the palm

A GROUP OF ELECTRODES.

of the operator's hand, and draw over it a mitten made of Turkish toweling or brilliantine. Now with the current passing, dip the mitten in cold water, and proceed to rub the various parts of the patient's body, beginning with the arms



FORMS OF ELECTRODES.

and shoulders. In cold weather the application may be improved by placing the foot electrode in a foot tub filled with hot water, in which the patient stands while taking the application. The cords should be two yards long, and the distal end covered nearly to the tip with rubber tubing.

When properly applied, this application constitutes one of the most effective of tonic measures. By using a folded wet towel under the electrode, the application of the primary current to the stomach or bowels may be made a valuable stimulating measure, often giving very gratifying results in sluggishness of these organs. A stimulating application to any muscle or group of muscles, which for any reason is paralyzed, is to cause contraction of those muscles by passing the faradic current through the thickest part of each muscle from one side to the other, or by touching the small sponge electrode to the point where the nerve supplying that muscle comes nearest to the surface. A little skill and experience are necessary, however, to become proficient in this mode of application.

The sedative effects of the current depend on (1) *the current used*, the secondary being more sedative to sensitive and painful areas; (2) *the strength of the current*, mild applications being most soothing; sometimes the whole effect of the treatment is destroyed by attempting to use the current too strong; (3) *the rapidity of the vibrations or interruptions*, the high note of the vibrator indicating the most sedative current; (4) *the method of application*, sponge- or towel-covered electrodes being most sedative.

By wringing folded towels out of warm water and applying them to the spine throughout its whole length under the long spinal electrode and under the large square abdominal electrode, the combined influence of a heating compress and the secondary faradic current may be obtained. This is a most excellent home treatment for insomnia, because it so alters the circulation and lessens nerve irritability as to induce sleep. In treating painful areas, the electrode applied over a hot fomentation, passing the "crescendo and diminuendo" secondary current of Frommhold, is a very gratifying measure. The method consists in slowly turning on the current, and increasing its strength very gradually up to the point of toleration, then decreasing gradually again to zero. This procedure may be repeated each time the fomentation is renewed. Neuralgia and acute rheumatic pains often disappear as if by magic under this treatment.

HYPERPEPSIA AND HYPOPEPSIA.

BY W. A. GEORGE, M. D.

NO class of diseases has attracted more attention during the last few years than those connected in some way with digestion. In fact, many diseases which are not usually referred to the alimentary canal, are caused to a great extent by errors in diet. It is therefore important that digestive disorders should be thoroughly understood.

Digestion begins with the changing of starch into a kind of sugar, called maltose, by the action of the saliva in the mouth. Still later the starch undergoes a further change,—into glucose, or grape-sugar. The importance of thorough mastication is thus readily apparent; for unless the food is well broken up by the teeth, the saliva, and later the gastric juice in the stomach, can not reach every particle to act upon it. If the food is taken in too large quantities, or if the wrong kinds of food are eaten, or if the person does not take enough exercise in the open air, disease of the stomach is liable to be produced, perhaps one of those mentioned at the head of this article; and following this, or caused by it either directly or indirectly, disease of any other organ in the body.

Digestion, as the word is generally used, means the action of the gastric juice upon the nitrogenous substances in the food, by which process the albumen is changed into peptone. This action is accomplished by means of a ferment called pepsin, which is always present in the gastric juice, but which will not act unless there is also present a sufficient quantity of hydrochloric acid. After all, then, the amount of hydrochloric acid secreted by the stomach regulates to a great extent the kind of work done in that organ.

There are four diseases which take their names from this action of pepsin upon albumen; viz., apepsia (*a*, not; and *pepsia*, digestion), meaning no digestion; hypopepsia (*hypo*, below), meaning less than or below the normal amount of digestion; dyspepsia (*dys*, painful), meaning painful digestion; and hyperpepsia (*hyper*, above), meaning above or more than the normal amount of secretion.

Cases of absolute apepsia are rare, but there are quite a number of extreme cases of hypopepsia on record, in which the work done by the stomach was so poor that it might be called apepsia.

Dyspepsia, or simple dyspepsia, is very common. It may be said to exist in all cases where otherwise healthy individuals have a slight attack of indigestion, due to some error in diet, such as overeating or eating some indigestible substance, like green apples, as is so common with children.

Both hyperpepsia and hypopepsia are chronic diseases, and are difficult to cure.

The gastric juice, when normal, should contain about two-tenths per cent (.2%) of hydrochloric acid, this being the average amount found in the gastric juice of healthy individuals. It has also been found that artificial gastric juice gives the best results when prepared with a solution of this strength. If less than two-tenths per cent of hydrochloric acid is present in the gastric juice, the albumen can not be acted upon by the pepsin as it should be, and consequently digestion is slow, and fermentation or decay of the food in the stomach may result, because there is not enough hydrochloric acid to destroy the germs taken in with the food, or which have been developing in the stomach since the last meal. Fermentation is very common in cases of extreme hypopepsia

or apepsia, as there is no acid in the stomach to kill the germs, and the body temperature is just right to encourage their growth.

When the hydrochloric acid in the gastric juice is increased much above the normal amount, it may prevent the proper action of the pepsin, so that the work of the stomach is retarded by its own secretion. Hyperpepsia, then, may not mean too much digestion, but too much secretion of hydrochloric acid. In extreme cases of hyperpepsia there may be great distress, due to the irritation caused by the excessive amount of free hydrochloric acid. This distress, however, might be mistaken for heartburn due to fermentation, which is more likely to occur in hypopepsia.

Several years ago the writer made a prolonged and careful study of the results of the examination of over five hundred patients, comparing the symptoms in each case with the results of analysis of the stomach fluid. By this investigation it was plainly shown that it is impossible to tell the true condition of the stomach by the symptoms, but that it is necessary to make a careful chemical analysis of the stomach fluid in order to treat understandingly and satisfactorily each case of disordered digestion.

VEGETARIANISM IN THE SOUTH SEA.

BY A. C. WHARTON.

THAT a vegetarian diet is favorable not only to mental but to physical vigor, has been so thoroughly established that no further proof should be needed at this late day. Nevertheless, as the flesh-eating public are inclined to belittle the facts adduced in support of this position, an additional bit of evidence of unimpeachable trustworthiness may not be out of place here.

The following extracts (slightly abridged) are from a little book, "The Home of the Mutineers," published in 1854, which gives an account of the mutiny aboard the British ship "Bounty" in 1787, and the settlement of nine of the conspirators, with their Tahitian wives, on Pitcairn Island, an uninhabited speck of land in the Southern Pacific. As everybody knows, the descendants of these criminals (under the training of John Adams, a mutineer who had become sincerely pious) grew up to be an admirable community, orderly, industrious, devout, and virtuous.

The little colony was unknown to the world until 1814, when it was discovered by Captains Staines and Pipon, of the English navy. It now numbered forty-six souls, Adams being the only survivor of the nine mutineers; and the impression made upon the visitors is told in the following quotation from the book just named: —

"The young men were finely formed, athletic, and handsome, their countenances indicating goodness of heart; but the young women particularly were objects of attraction, being tall, robust, and beautifully formed, while their manners exhibited a degree of modesty that would have done honor to the most virtuous people on earth. Their teeth are described as beautifully white and perfectly regular, without a single exception."

Observe the simplicity of their diet: "Yams constitute their principal food, boiled, baked, or mixed with cocoanut made into cakes, and eaten with molasses. Taro-root is no bad substitute for bread; and bananas, plantains, and *appoi* are wholesome fruits. The common beverage is water, but they make tea from the

tee-plant, flavored with ginger and sweetened with juice of the sugar-cane. They but seldom kill a pig, living mostly on fruit and vegetables. With this simple diet, early rising, and a great deal of exercise, they are subject to few diseases; and are certainly a finer and more athletic race than is usually found."

"The people live principally on vegetables, having meat about once a week; and each family gets fish once, and, occasionally, twice a week."

They had but two regular meals a day, "at about twelve o'clock a breakfast [or dinner] consisting of yams and potatoes made into a kind of bread;" and this meal was followed by supper at seven in the evening. At supper, "except once or twice a week, no fish, meat, or poultry will be found to grace the board; but yams and sweet potatoes and such humble fare."

"No wines or spirits," adds our authority, "are admitted on the island, except in small quantities for medical purposes."

On this abstemious fare the islanders became a race of athletes. During Captain Pipon's visit in 1814, a young girl accompanied him to the boat, carrying a large basket of yams "over such roads and down such precipices as were scarcely passable except by goats, and over which we could scarcely scramble with the help of our hands. Yet with this load on her shoulders she skipped from rock to rock like a young roe."

"The personal strength and activity of the men, as observed by Captain Beechy in 1825, do not seem diminished at the present day. Two of the strongest, George Young and Edward Quintal, have each carried without inconvenience a kedge anchor, two sledge-hammers, and an anvil, amounting to upwards of 600 weight. In the water they [the islanders] are almost as much at home as on land, and can remain nearly a whole day in the sea. They frequently swim around their little island, a distance of five miles."

During a short visit to the island in 1849, Lieutenant Wood, of the English navy, was struck with the health and strength of the people. "A young woman, eighteen years of age, had been accustomed to carry on her shoulders one hundred pounds' weight of yams over hills and precipitous places, where one unaccustomed to such exercise would scarcely be able to scramble. A man sixty years old with ease carried the surgeon of the 'Pandora' up a steep ascent which he had himself in vain attempted to mount, the ground being slippery from recent rains; and the officer being a large man, six feet high, rendered it the more surprising. Indeed, Lieutenant Wood said he was himself borne aloft in the arms of a damsel, and carried up the hill with the utmost facility."

The foregoing extracts do not, of course, prove that similar results would not have followed the use of a flesh diet; but they do abundantly prove that perfect physical development is possible on an almost exclusively vegetarian diet. With the exception of indulging in meat once or twice a week, the Pitcairn islanders, as we have seen, lived on fruits and vegetables alone, not having even grains, which vegetarians themselves are apt to think essential to bodily vigor. Yet on that spare diet these people developed a degree of physical hardihood unsurpassed if not unequaled by any flesh-eating community known.

COLD FRICTION.[1]

BY J. H. KELLOGG, M. D.

BY the term "cold friction" is designated a procedure which consists in the application to the surface of the body of a series of partial wet rubbings, one part after another being taken in systematic order until the whole cutaneous surface has been gone over and has been brought into a condition of vigorous reaction.

Requisites.— A vessel containing a few quarts of cool, cold, or very cold water; ice-water may be employed in most cases. A mitt consisting of rough material of some sort,— ordinary rough linen toweling may be used; Turkish toweling is not desirable; coarse alpaca or brilliantine is excellent for the purpose, but the best fabric is a closely woven cloth resembling hair-cloth, but slightly rough to the touch, which is manufactured in Egypt and Turkey, where the author became acquainted with it in the Turkish baths of Cairo and Constantinople. It is there used in a sort of preliminary shampooing applied after the sweating process is completed and before the application of soap. This material possesses just the right degree of roughness, stimulating the skin without irritating it, and is woven closely enough so that it holds just the right amount of water for the purpose for which it is designed. A Turkish sheet and one or two towels are also required.

Method.— The patient is undressed, and lies upon a massage couch wrapped in a Turkish sheet. First of all, the patient's head, face, and neck should be wet with cold water. If the hair is not saturated (ladies often object to this), a towel wet with cold water should be placed around the neck. The vessel containing the cold water is placed at one side, near the head of the couch; the attendant places the mitt upon the right hand, and then uncovers a small portion of the patient's body, preferably the arm, and taking the patient's hand with his own left hand, he dips the mitt into the cold water, then proceeds to rub the arm briskly, rapidly going over the whole surface, and continuing until the skin reddens. A towel is then thrown about the arm, which is quickly dried and spatted. The other arm is then treated in like manner, then in succession the chest, the abdominal surface, the back, and the legs, the whole surface of the body being made to glow with strong reaction.

This application is graduated by regulating the temperature and also by means of different degrees of saturation of the mitt, designated as "moist mitt," "wet mitt," and "filled mitt." For the "moist mitt," the palmar surface is merely touched to the surface of the water; for the "wet mitt," the hand covered by the mitt is quickly dipped in the water two thirds its length, then shaken to remove surplus water; for the "filled mitt," the whole mitt is immersed and filled with water, and quickly carried to the part to be treated. The water flows out while the surface is being rubbed, and the effect is thus almost as vigorous as that of the half-bath, only that it is partial in its application, and hence may be employed in cases in which the shock of a cold application to the whole surface simultaneously would be injurious through producing visceral congestion or excessive excitation of the central nervous system.

By this means it is easy to bathe a fever patient with ice-water or water at a temperature of 35° to 45° without the production of shock or other undesirable effects, while securing the tonic effect

[1] From the writer's forthcoming book, "Rational Hydrotherapy."

upon the heart and the increase of general vital resistance which are the most desirable effects obtained from the Brand bath, and without the inconvenience of that procedure. The effect in lowering the temperature is as great as, or even greater than, that of the Brand bath.

This method, which the author has systematized and introduced within the last year, he has found among the most useful of all cold applications, both as a tonic and as an antipyretic. One of the great advantages of the method is that it lends itself so readily to all the various conditions arising in the treatment of various pathological states.

Physiological Effects.— The act of rubbing the surface produces mechanical effects similar to those from the impact of water under pressure as in the douche, although the effect is perhaps somewhat less pronounced than with water at the same temperature in the form of the douche; however, a much lower temperature may be employed with cold friction than with the cold douche (32° F.), and hence the reaction induced may be even more powerful, and indeed, according to the author's observation, is more quickly secured, than with the cold douche. At least, there is no form of douche, except the author's percussion douche, which produces so vigorous and prompt reaction as does the cold friction applied with a mitt of proper texture. Reaction occurs with great rapidity in this procedure, for the reason that the delay which commonly follows the thermic impression of cold before reaction begins, is prevented by the application of vigorous friction simultaneously with the thermic impression. Circulatory reaction is also greatly increased, so that a large amount of blood is rapidly brought to the surface.

The stimulation of the peripheral nerves induced by cold friction produces most profound effects upon the nervous system, the heart, the glandular structures, and indeed the whole organism. It is a most powerful tonic; hence a regulator of nutrition and a potent vital stimulant.

The friction mitt may be advantageously employed in the rubbing sitz, the rubbing shallow, or Brand bath, and all other forms of cold baths in which rubbing is desirable. In mixed applications of this sort it may be advantageous to employ a mitt for each hand. In such cases the rubbing should be applied to small areas in succession until the whole surface has been gone over, as an arm, a leg, the back, the chest, the abdomen, each part being rubbed until red, and dried by thorough rubbing with warm flannel.

Therapeutic Applications.— Cold friction may be locally applied over any part desired. When applied to the lower extremities, for example, the effect is revulsive or derivative. Cold water applied to the precordial region with friction influences the heart in a powerful manner. Cold friction applied to the back and scalp powerfully stimulates cerebral functions.

Cold friction is indicated in all cases requiring tonic applications; hence it is invaluable in neurasthenia, and especially with very feeble neurasthenics who are either too weak to receive the douche or too exhausted to react to this powerful tonic procedure. Cold friction affords the best of all means of training the patient to endure the contact of cold water with the surface. It has no equal as a measure for this purpose.

This procedure may be advantageously employed in cases of anemia, chlorosis; in all forms of wasting disease, as tuberculosis, and in convalescence after fevers; in cardiac dropsy, as a means of stimulating the peripheral circulation; in anasarca from renal disease; in chronic toxemia accompanied by spasm of the

peripheral vessels; in all cases of cardiac insufficiency; in febrile conditions, to reduce temperature, whenever cold in any form is indicated. It is a hydric measure of remarkable versatility, and may be employed in a vast variety of cases. There is no measure of greater value than cold friction in the treatment of tuberculosis pulmonaris. The application may be made twice daily with advantage, a temperature of 75° being used at first, and steadily lowered day by day until 40° can be readily endured. The "moist mitt" should be used. As it is the tonic effect which is especially desired, care should be observed that the skin of each part treated is made to glow with vigorous reaction before another part is undertaken, thus avoiding any tendency to pulmonary congestion.

Cold friction affords an excellent means of testing the ability of a patient to react. In fevers, it presents an excellent test for the state of the heart, and even affords a valuable means of prognosis. Great slowness to react, the parts remaining cold and pale, indicates excessive irritability of the vasomotor centers or nerves. This condition, which is commonly present in anemia, especially in grave cases, is often a cause of great difficulty in securing reaction. When this condition is present in acute fevers, it is a positive indication of diminished heat elimination, and suggests at once the necessity of employing some means to increase the peripheral circulation, such as the short, hot-blanket pack, hot immersion for three to four minutes, fomentations to the spine, or some other heating process, to be followed by cold friction, and is a contra-indication for prolonged cold baths. When the skin is very slowly reheated after an application of cold water, the indication is great feebleness of the heat-generating functions of the body, or diminished power of heat production. When this condition exists in cases of fever, it indicates impending collapse.

The value of this means of testing the condition of the patient will be appreciated when it is considered that by the simple application of friction with cold water to the arm or some other small area, the condition of the whole system may be accurately determined.

Contraindications.— There is scarcely any condition in which the cold friction mitt may not be employed. It may almost be said that there are no contra-indications for its use. The only real contraindication is the existence of conditions requiring the application of heat to relieve pain or a general hot application to relieve congestion of the kidneys in acute inflammation or some similar condition, but even in these cases the cold friction may be very usefully employed at intervals of two or three hours or once or twice daily, as a means of maintaining cardiac tone and supporting general vital resistance.

DIABETES.

BY H. F. RAND, M. D.

DIABETES is a disease very much dreaded, because it is supposed to be fatal. This fear is well founded, yet the disorder is not always fatal, and most cases can be greatly improved and life prolonged by a strict regulation of diet and adherence to the laws of hygiene in other respects.

There are two forms of diabetes: one, called diabetes mellitus, in which, by some disorder of nutrition, an excessive amount of sugar has accumulated in the

blood and is excreted by the kidneys. This form of the disease is almost always fatal. In the other form, called diabetes insipidus, the urine is normal, but is of low specific gravity. In both forms the quantity of urine excreted is excessive.

As to the true nature of diabetes, we are still in ignorance. It is a disease usually affecting the higher classes of society; for its causes include conditions which are found in persons of leisure; as, lack of exercise, high living, the nervous temperament. Heredity is one important cause. Mental shock, nervous strain, and worry precede many cases. Constant application to business, over-indulgence in eating and drinking, and a sedentary life seem especially prone to produce the disease. Injuries to the spine and brain have been known to produce it. Gout, syphilis, and malaria are thought to be predisposing causes. It has also followed infectious fevers.

Diabetes affects men more frequently than women. It is a disease of adult life, yet children are sometimes affected, the result of heredity. Persons of the Hebrew race seem especially liable to it. It is more common in cities than in the country.

Chemical analysis of the urine reveals large quantities of carbohydrates and peptones, and defective assimilation of glucose by the system. There is disturbance of the liver functions, and nervous disturbances cause changes in the circulation.

Observation having often found the pancreas affected, it is supposed that this organ, or gland, is one of the seats of the trouble. The removal of the pancreas in dogs will produce the disease.

The following changes in anatomy are given by most authors: The central nervous system shows no constant tissue change; and in the sympathetic nervous system, the ganglia become enlarged and sometimes hardened, but there is nothing peculiar in these changes. The liver is usually enlarged, and fatty degeneration is common. The lungs show important changes, and the heart is enlarged in some cases. The arteries are hardened in many cases, and the pancreas shows important changes. The kidneys usually show general inflammation, with fatty degeneration.

All experienced observers agree in regard to the important relation which diet bears to this disease. It is universally thought that the use of sweets, such as candy, honey, pastry, and sweetmeats of all kinds, is without doubt the most common cause of diabetes.

As to the symptoms, we find they are divided into acute and chronic, but there is no essential difference between them except that in the former the patients are younger, the course of the disorder is more rapid, and the emaciation more marked. The onset of the disease is gradual. One is apt to feel in the beginning a tired, weary sensation, as if he had to force himself to exercise. This feeling is accompanied by an inordinate thirst. Very rarely does the disease set in suddenly. When it is fully established, it is characterized by great thirst, the passage of a large quantity of saccharin urine, a voracious appetite, and progressive emaciation. The amount of urine may vary from six or eight pints to thirty or forty pints in twenty-four hours, with a high specific gravity — from 1025 to 1045. The course of the disease is much more rapid in children than in adults, in some instances lasting only a few days, and in others a few months.

The complications are, first, in the skin, boils, carbuncles, and eczema with intolerable itching. Gangrene is not uncommon, especially in elderly people. In the lungs, we notice acute pneumonia, which may be lobar or lobular, tuberculosis, and

bronchial pneumonia. Albuminuria is also present in many cases.

As to the nervous system, we find in the latter stages of the disease what is called diabetic coma, or the fatal stupor of diabetes. This may last from one to five days. In some cases there is inflammation of the peripheral nerves, neuralgia, numbness, and tingling; also emaciation, which is characterized by lightning-like pains in the limbs, loss of the knee-jerk, and loss of power in the extensor muscles of the feet.

Among the mental symptoms we notice that the patient is often morose, and there is a strong tendency to hypochondria. General paralysis has been known to develop.

As to the special senses, persons may become blind on account of lack of nutrition of the cornea, and cataract often develops. There may also be inflammation of the retina of the eye, resembling the albuminuria of Bright's disease. There may also be paralysis of the muscles of accommodation, atrophy or wasting of the optic nerve, and inflammation in the temple.

In children, the course of the disease is rapid. Cases without hereditary tendency are, of course, the most favorable; and stout, elderly persons are better able to withstand it than thin persons. Middle-aged persons so affected may live for many years.

The probable outcome of diabetes is considered grave. In a few instances on record there was what is called glycosuria, in which the disease is transient, or in other words, sugar appears in the urine only at times. These cases are very amenable to treatment.

The treatment for this disease is, in ple form, regulation of the diet ar increase of exercise, as the imp thing is to increase oxidation, or the ing up of waste matters in the bod an article written by Dr. Kellogg *Modern Medicine* for September, 1 an outline for the treatment of t ease, from which I will quote, as tains the epitome: —

"Cold baths, especially sho shower baths, not preceded by bath, followed by vigorous fricti surface, and also cold mitt fri good. The latter is given by coarse mitt made of mohair ping it into ice-water, and the briskly different parts of the the whole surface is covered. wet-sheet rub, the cold wet- manual Swedish movements, vibrations, and massage, aid especially petrissage, in which are vigorously kneaded. Ex be taken every day in the op point of fatigue, but avoi The reason of this is that th already overworked, and e of the best means of burni plus sugar. As many of t inordinate eaters, the amo well as the kind must be foods containing a large a should be avoided. Av and fruits, except sour and pears without sugar, able in many cases. I a large amount of star carded. The patient myss, kumyzoon, and b ably one of the simples and buttermilk."

"An exchange reports," says *Electricity*, "that in an examination that was made of some 'electric belts' sold by a street fakir, it was found that beneath a strip of gauze was a layer of dry mustard. When the wearer per mustard was moistene ing sensation, and the lieved a current of el through him."

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of trade unions might pass, and that the out the envelopes. I wish you could see any p world might return to an unrestrained how pleased they are to get one in their day of the Lord.

WITH THE CHILDREN.

GERTRUDE AND ESTHER.

I WANT to love sister," the little one said when her mother had left the children for a moment alone with the camera. The photographer was just ready to "pose" them, but he was too true an artist not to catch the involuntary pose, so full of the unconscious grace of childhood.

Ethel and Thea are true health reform children, and this is a real scene. Thea is treating her doll to the conventional dose of medicine (a very proper use for it), while Ethel is giving her pet hen a foot bath and a fomentation to the head. The little brown hen is used to being treated hydrotherapeutically by her little friend, and never objects. If she has a headache, it must certainly disappear under this treatment.

Florence, our seven-pose baby, has been cheated out of her malted nuts, and is very indignant (read the expressions in the picture from right to left). One night, after being put to bed, she happened to think of her doll, and burst out with, "Mamma, I must get up and put a hot

ETHEL AND THEA.

cloth on my dolly's stomach, or she will cry dreadfully before morning." Her mother thought it best to let her do it, for the future effect it would have on the child; so the little thing, only twenty months old,

got out of her cozy bed, so sleepy she could not walk straight, found a cloth, heated it hot by the stove, and put it on the doll's stomach with the remark, "There, you will be better in the morning." Her first thought upon waking was for the sick doll, and she ran to it, asking, "Is you better this morning, dear?"

THE CHILD'S FACE.

THERE'S nothing more pure in heaven,
And nothing on earth more mild,
More full of the light that is all divine,
Than the smile of a little child.

The sinless lips, half parted
With breath as sweet as the air,
And light that seems so glad to shine
In the gold of the sunny hair.

O little one, smile and bless me!
For somehow — I know not why —
I feel in my soul, when children smile,
That angels are passing by.

I feel that the gates of heaven
Are nearer than I knew,
That the light and the hope of that sweeter world,
Like the dawn, are breaking through.

—*Ernest Warburton Shurtleff.*

SCHOOL HYGIENE.

BY ELIZA M. MOSHER, M. D.

GOOD HEALTH is always interested in any effort for the improvement of health in our public schools. A movement is now being made in this direction by the Michigan State Federation of Women's Clubs, and a report of a joint committee from the Federation and the Collegiate Alumnæ Association, with Dr. Eliza M. Mosher, Dean of the Women's Department of the University of Michigan, at its head, was given at the annual meeting last November. The following article, giving a résumé of school hygiene, was prepared by Dr. Mosher for the *Interchange*, the official organ of the Federation, soon after the Federation meeting.]

Hygiene has been defined as the "art of preserving the health." Health is "that condition of body in which all its component parts perform their work easily and perfectly." The art of preserving them in such a condition is best acquired through a knowledge of the structure of the body; of the laws under which its component parts normally act; and of the forces and influences which help and hinder its activities.

A knowledge of the structure of the human body presupposes some degree of acquaintance with —

1. (*a*) The chemical elements which enter into the structure; (*b*) the behavior of these toward one another and toward the other elements.

2. The union of elements to form cells, under the influence of that mysterious force which we call *life*.

3. The changes through which living cells pass in the process of building up tissues, and in the performance of their functions.

4. Physics and bacteriology.

Knowledge of the minute structure of the body and of the laws under which the various organs and systems of organs within it act, has increased very notably during the past ten or twenty years; so that to-day much which it was necessary to know in order to acquire skill in preserving health has been formulated, and is available to all.

Skill in preserving the *adult* human being in health does not imply equal skill in preserving the health of the incomplete and therefore modified being — the child. Knowledge in reference to the modifications must be acquired. Many of the influences which act upon the child from without differ from those which affect the adult, and it is essential to discover which are helpful and which are harmful to him.

School Hygiene refers to the preservation of the health of immature individuals while under the influences of school life. It may be considered under three heads: —

1. Hygiene as regards the person.
2. As to instruction.
3. As to the construction and furnishing of school buildings.

A knowledge of personal hygiene has long been considered an important part of a teacher's fitting, although it is not certain that such knowledge will enable him to materially affect the surroundings of the child in this regard. It frequently happens, however, that the advice and example of a wise teacher (one who has the subject at heart, and not merely on the tongue) is transmitted to the home of the child, and there put into practice as far as conditions will permit. No one can question the importance of such knowledge and example on the part of the teacher.

The following outline embodies in a general way that part of the subject relating to —

Personal Hygiene.

Food: —

1. Selection, preparation, amount required per day.
2. Proportion of proteids, fats, sugars, starch.
3. Effect of overuse of sugar.
4. Effect of the use by children of pastry, crackers, pickles, tea, coffee, beer, tobacco, chewing-gum, etc. Value of warm as compared with cold meals.
5. Danger from use of unsterilized milk and water (unless the supply is known to be pure). Importance of the free use of water as a beverage.
6. Number and regularity of meals.

Exercise: —

1. Outdoor exercise as an aid to body metabolism.
2. Effect of play as compared with manual labor.
3. Comparative value of directed and undirected play.
4. Gymnasium work.
5. Number of hours which should be given to exercise daily.

Rest: —

1. Number of hours of sleep required by school children.
2. Best hours for rising and retiring.
3. Importance of preventing undue emotional excitement at home and at school.

Cleanliness of Body and Clothing:—

1. Number of baths, and kind, which should be taken weekly.
2. School baths for children without conveniences at home.
3. Public baths.
4. Influence of *requiring* cleanliness of body and clothing.

Clothing: —

1. Suited to climate and occupation.
2. Avoidance of weight; of pressure upon moving parts.
3. Avoidance of undue friction of skin by clothing (reflex effect injurious).
4. Importance of airing clothes worn through the day or night.
5. Harmfulness of overwarm neck-wraps.
6. Importance of hygienic footwear.

Eyes: —

1. Importance of testing focal distance (provided adjustable desks are in use).

2. Moderate use of eyes at school and in the home.

3. Importance of sufficient and properly adjusted light.

4. Best artificial light.

5. Methods of protecting defective eyes from overuse in school.

Habits of Posture: —

1. Influence of various habitual postures upon the shape of the body.

(*a*) Causation of curvature of spine, rotation, flat chest, round shoulders, wing shoulder.

(*b*) Habit of standing with weight of body on one foot (the other pointed outward), or on the heels.

(*c*) Effect of sitting unevenly upon foot, slipped forward on the seat, bent at waist line (forward).

2. Influence of habitual postures during school life upon the health of the individual at maturity.

3. Best mode of writing — Spencerian, vertical, half-vertical.

4. Significance of habits of posture and habits of movement.

Bad Moral Habits: —

1. Evil thoughts and habits, their contagiousness in school; how to recognize them in children. Physical causes; best methods of dealing with the evil.

Diseases and Conditions Common to School Children: —

1. Non-contagious: Bad breath, indigestion, headache, nervousness, nosebleed (repeated), chorea, hysteria, anemia, adenoids.

2. Contagious diseases: Mumps, measles, chicken-pox, whooping-cough, diphtheria, scarlet fever, tuberculosis, skin eruptions.

3. Importance of familiarity with symptoms on part of teacher.

4. School conditions which favor the spread of disease germs.

Hygiene with Reference to Methods of Instruction.

This section of the subject of School Hygiene is still in the process of evolution. It is certain that methods of management and of instruction which affect the general body or any portion of it unfavorably are uneconomic; they ultimately interfere more or less with the intellectual advancement of the child. Our knowledge of the normal unfolding of the minds of children is incomplete, hence we are unable to formulate methods of teaching which entirely harmonize with nature's plan.

The outline which follows is, therefore, only preliminary to one which shall be based upon greater knowledge of the needs of school children: —

1. Personal qualifications of superintendents and teachers.

2. Arrangement of classes to enable the child to do a maximum amount of work with a minimum amount of fatigue.

3. Number of subjects each child can pursue simultaneously with profit.

4. Order of subjects pursued.

5. Importance of regularity of attendance.

6. Recesses, and schoolroom calisthenics.

7. Gymnasium work.

8. Manual training.

9. Sense training as an aid to intellectual development.

10. Best methods of conducting examinations.

11. Discipline.

12. Punishments.

Hygiene with Reference to the Construction, Furnishing, and Cleaning of School Buildings.

Although this subject has been before the public a long time, and great advances have been made in our knowledge

of it, we can not ignore the fact that grave mistakes are still being made by those in charge of this important branch of public work. The experience of superintendents and teachers is still too often ignored by architects and school boards, and the children suffer the consequences. Notwithstanding this, teachers should be familiar with the principles which underlie the construction of sanitary buildings; and above all, they should have positive knowledge in reference to the hygienic furnishings of the buildings in which they themselves and the children are to spend so much time. Intelligent parents everywhere should also be thus enlightened, to the end that a right public opinion may be developed.

1. *Site* — with reference to healthfulness; surrounding buildings; adequate and sunny playgrounds.

2. *Cellar* — protection from dampness and ground air; adequate light and ventilation; harmfulness of placing closets, etc., in the cellar.

3. *Height of building.*

4. *Entrance* — exposure, size, steps, cover.

5. *Corridors* — relation to schoolrooms, size; use for wraps, for recreative purposes; ventilation.

6. *Wardrobes* — importance of separate ventilation, etc.

7. *Schoolrooms* — size, height, shape, windows, teacher's platform, blackboard, heating and ventilating fixtures.

8. *Lavatories* — location with reference to schoolrooms; floors, walls, light, ventilation, automatic plumbing appliances; arrangements for the disposal of waste in country schools.

9. *Staircases* — protection from fire, adaptation to height of children; landings; the best construction to prevent crowding.

10. *Gymnasium* — importance of; size, ventilation, light, baths; plumbing apparatus.

11. *Heating and ventilation* — importance of familiarity with principles involved; best methods in use; intelligent oversight; thermometers; effect on teachers and pupils of overheated air-draughts, insufficient heat, etc.

12. *Furnishings of school buildings* —

(*a*) Desks and seats: Importance of easy adjustability; use of book-rests to prevent the production of round shoulders and to allow a permanent adjustment of desks at height of pupil's elbow when seated (saddle-shaped seats), backs which support body *comfortably* in hygienic positions; value of foot-rests for growing children; danger of spinal curvature from bad habits of posture in school; eye-strain due to unhygienic seats and desks.

(*b*) Blackboards: Location as regards light; height; material.

(*c*) Drinking-water: Importance of using receptacles with faucets (the cupless drinking-fountain the ideal); protection of water supply from dust and foul air; cup not to be dipped in receptacle after use; individual cups and towels.

(*d*) Pads and pencils: Danger of transference of pencils from pupil to pupil; objections to slates.

(*e*) Paper napkins: For emergency use to prevent spitting on floor.

13. *Cleaning of school buildings* —

(*a*) Dust, foul air, and pathogenic germs most dangerous impurities in schoolroom.

(*b*) Use of "dustless oil" on floors; use of bristle brooms for sweeping; use of cloths instead of brushes for dusting furniture.

(*c*) Sources of foul air: Insanitary condition of cellar; crowding; lack of proper ventilation; closing rooms *without airing after use.*

(*d*) Pathogenic germs: Importance of medical oversight of school children, and knowledge of the symptoms of contagious diseases on part of teachers; well-venti-

lated wardrobes for clothing; daily sterilization of drinking-cups and receptacles for water.

(*e*) Cleaning of closets and lavatories: Frequent flushing; daily washing of basins and closets; weekly removal of waste from country schools; use of disinfectants.

NURSING IN THE HOME.

BY ABBIE M. WINEGAR, M. D.

THE subject of nursing in the home is one that should concern every mother, for she is not only the head of the household and has to attend to all the duties relevant to such a position, but in case of sickness the responsibility of caring for the sick one rests upon her particularly, if no trained nurse can be obtained.

We can not estimate too highly the value of a well-trained, judicious nurse in all cases, and the advantage to every home of having some member of the family qualified to fill such a position; and no one is so well fitted for this position as the mother who appreciates the great responsibility resting upon her to rear her children so that they may become useful members of society. It is true that it is utterly impossible for every mother, or even those who might desire such training, to enter a hospital and spend the two or three years usually required in such schools in order to fit nurses for their life work. We must, then, look for a training from some other source. The foundation for such training is a thorough understanding of the human body — the functions of its various organs, and the ability to detect any deviation from normal conditions.

A large amount of suffering is due to ignorance on the part of the afflicted one or of parents or friends. Every woman, before taking upon herself the responsibilities of motherhood, should thoroughly acquaint herself with the anatomy and physiology of the human body, and of the best methods of keeping her own body in a healthy condition, that she may not transmit disease to her children.

If the girls in our schools and colleges were allowed to spend more time in the study of practical subjects and less in the acquirement of the so-called accomplishments, they would leave school with a higher appreciation of life, and be better fitted for the responsibilities which often come to them early in life. It is far too often the sole aim of both mother and daughter to secure an early marriage; and alas! how many unhappy homes there are in our land because of the inability of the young housekeeper to fill the position of responsibility she thus assumes.

Every home should be so arranged that a suitable room may always be at command in case of sickness. This room should be located on the sunny side of the house, and where it may be as quiet as possible. The room may be very simply and inexpensively furnished, and so arranged as to be comfortable and pleasant for the patient, and convenient for those who are nursing. The building itself should of course be upon high ground, so that the drainage shall be from, not toward, the house. It should be open to the sunlight, and free from dense shade trees, so that the air may be as dry as possible.

It is well to remember that odor from cooking food is often very disagreeable to a sick person, so the room should be one that can be shut off from the kitchen.

There should be two or three windows, if small, or one, if large, and these should be so arranged that the room can be properly ventilated. For this purpose the window may be raised from the bottom a few inches or more, according to the season, and lowered a few inches from the top, and thus good circulation be secured. It is a great mistake to shut out from the sick-room the pure fresh air, as it is one of nature's most efficient means of restoration. Lace or plain muslin curtains may be used for the windows, as they can be laundered and kept fresh and clean. There should also be shades to the windows, to exclude light if necessary.

In building a house, a sick-room should always be provided for; but should we find ourselves in a home not arranged with special reference to this feature, we must then select, from the rooms we have, the one best adapted for the purpose, and with little or no expense we can often have a very comfortable and convenient room. The walls and ceiling should be of some delicate tint that will be restful to the eyes — not large, bright-figured paper, or anything that will become monotonous to the patient. The floor, if possible, should be of hard wood, and finished in such a way as to require no carpet. It can then be kept clean and wholesome, and free from dust. A few rugs will add to the cheerfulness of the room, and will also serve to muffle the sound of walking.

A single bed is to be preferred. It may be of either wood or metal, preferably the latter, as it is lighter, and more easily cleaned. The bed should be higher than the ordinary bed, for convenience in giving treatments. It should be so situated that the nurse can approach either side. If in a large room, it may stand in the center of the room, or the head may be against the wall, with both sides free. It should also be so arranged that the patient will not be in a draught. The bedding should be light, and of such material as to afford sufficient warmth.

But very little furniture is necessary: a table, one or two chairs, a washstand, or possibly a dresser, though this is not absolutely necessary. There should be no stationary washbowl or bath-tub or closet in or opening off from the sick-room. Although of great convenience in the home, they should be situated at a distance from this room, where the dampness and odors can not penetrate it. The plainer the furniture the better, as it does not collect dust so rapidly. Rocking-chairs should not be used in the sick-room, as the rocking movement is often very annoying to the patient.

A few well-selected pictures will add much to the cheerfulness of the room. There is nothing more beautiful than views of nature — landscapes, trees, flowers, birds, animals. A few plants or cut flowers add brightness, but they should be kept fresh, and should be removed at night.

If the patient is very ill, only the nurse should be in the room. The patient should not be permitted to talk more than is absolutely necessary, and should be spared the annoyance of answering the question, "How are you feeling?" a great many times during the day.

Persons sick at home are often subjected to much unnecessary suffering because those caring for them do not understand how to move and lift them without hurting them. This is sometimes due to carelessness, but more often to a lack of knowledge of the best methods of handling the sick.

A single bed is much more convenient than a wide bed, in moving or lifting the patient, as he can then be lifted from either side of the bed. Lifting the patient on a sheet — by four persons, one at each corner of the sheet, and stretching it so

as to make it as firm as necessary — is a very good method. Two persons may lift in this way if the patient is not large or heavy. The sheet should be firm and strong, that there may be no danger of letting the patient fall. The best method, however, is for three persons to lift the patient, if he is an adult.

The three persons who are to do the lifting should all stand on the same side of the bed. If it be on the right side, the first nurse should place her left arm under the head and neck, and her right arm under the back, just above the waist. The second nurse should place her left hand under the patient's back, just below the waist, and the right hand under the hips. The third nurse should place her left hand under the limbs, just above the knees, and with the right hand should support the feet. If possible, the patient should lie on his back, with the hands folded across the chest.

Everything being now in readiness, all should lift at the same time, that there may be no strain on the patient. He can be lifted and carried for some distance in this way without the least discomfort. The patient should be covered with a sheet or blanket while being lifted, so as to avoid exposure to draught or cold. In lifting from one bed to another, the head of the fresh bed should be toward the foot of the bed from which the patient is to be lifted, and at a right or acute angle with it on the side from which the patient is to be lifted. The nurses will then need to take only a few steps around to lay the patient on the fresh bed.

If only two persons are to do the lifting, it should be done in the same manner, except that the weight should be divided between two instead of three. The body of the patient should be kept on a level as nearly as possible, that there may be no strain on any part.

If the patient is to be carried for some distance, a very comfortable and convenient stretcher may be improvised for the purpose thus: Fold a comforter or quilt lengthwise, sew the two sides together, leaving the ends free. Then slip two poles through, one at either side, allowing the ends to serve as handles by which two attendants, one at the foot and the other at the head, may easily carry the sick one. (See figure below.)

If the patient is to be lifted from one side of the bed to the other, one person can move the sick one by placing one arm under the head and shoulders, and the other over the chest, clasping the two hands under the shoulder opposite from where he stands. The patient, if able, should then place his arms around the nurse's neck, when the head and shoulders can be easily lifted as far toward the nurse as desired. The hips should then be moved by placing both hands under the hips, and lifting as before. The feet should be placed in line with the body. If the patient is very feeble, care must be taken not to strain any part of the body.

In lifting the sick, the nurse should not forget her own health, by allowing the entire weight to drag upon the back. This may be avoided by maintaining an erect position, with a strong curve in the back.

The changing of the bed linen is often a source of annoyance, particularly if there is but one bed, or if the patient can not be lifted from one bed to another. The most simple way in which this can

be done is to move the patient as far as possible to one side of the bed, then loosen the sheet all around, and fold the soiled sheet toward the patient as far as possible. The clean sheet should then be put on, tucked in at the side, head, and foot, and this also folded lengthwise and pushed under the patient as far as possible. Then the patient should be rolled or lifted on to the freshly laid sheet. The soiled sheet should now be drawn off, and the other side of the clean sheet drawn over this side of the bed, and tucked in smoothly.

The upper sheet and blanket may be changed in the following manner: Loosen the bedding all around, and put a fresh sheet and blanket over the soiled ones. Have the patient, if able, grasp the end of the clean sheet and blanket, and hold tightly while the nurse draws the soiled sheet and blanket from the bed by grasping them at the foot and drawing them from under the fresh ones. Thus the patient is in no way exposed, and there is no unnecessary exertion on his part. If he is too weak or feeble to assist in this way, the nurse may grasp the clean sheet and blanket with the left hand, while with the right hand she slips the soiled bedding down toward the foot, and withdraws it as described.

If the patient is confined to the bed all the time, the same bedding should not be used both night and day; that which is used during the night should be in the open air during the day, and *vice versa*. Careful and conscientious attention to all the details plays no unimportant part in the recovery of the patient.

BEDROOM HYGIENE.

BY MRS. E. E. KELLOGG.

(Concluded.)

BEDSTEADS of iron or brass are considered the most sanitary. They are less cumbersome than most wooden ones, less liable to harbor vermin, more easily kept free from dust, and in case of infectious diseases, more easily disinfected. The last few decades have witnessed many changes for the better in the appointments of the sleeping-room. The four-poster of our grandmothers, with canopy above, curtains around, and valances below, has been gradually discarded, and it may be hoped that its accompaniments, the feather bed, the quilted covers, and stuffed bolsters, will soon become wholly relegated to the past. Feathers, while soft and warm, are particularly unhealthful to sleep on, or under, as is the custom in some foreign countries. Being of animal origin, they undergo a continuous slow decomposition, evolving foul and poisonous gases. They are also possessed of more or less remarkable hygroscopic properties, on account of which they absorb the exhalations from the body which are thrown off from the skin during sleep, retaining them from month to month, and even year to year, until the feather bed becomes a most unsanitary resting place.

A well-filled mattress of hair or elastic felt, or of fine excelsior, moss, or straw, these being the materials least absorbent of water and absorbable to organic matter, accompanied by woven-wire springs, makes a comfortable and wholesome bed. The mattress will be more convenient for turning if made in two squares. It should be taken to pieces, cleaned, and remade every year. It should be daily aired, frequently turned, and once each week, or at least once in two weeks,

taken out of doors to be sunned and well beaten. The dust, if any has collected about the tuftings, may be best brushed away with a whisk broom. A cover of double-faced canton flannel or heavy unbleached cloth, which can be aired daily and laundered frequently, should protect the mattress, underneath the sheet.

Pillows, if used, may be made of hair, moss, or cotton. If they can be afforded, air pillows and mattresses are excellent. Feather and down pillows are objectionable for reasons already stated; besides, they are too soft and yielding, thus inducing too much heat about the head. A pillow should be firm and not large, just high enough to bring the head on a level with the body, never high enough to elevate the shoulders. The real use of a pillow, if indeed there be a use for one, which is a somewhat mooted question, is to support the head. Certain Oriental and semicivilized nations seem to have attained this purpose far better than we, in the notched block of wood or rod of bamboo with its tiny cushion placed under the neck at night as a pillow.

To cover the sleeper, the bed should be provided with plenty of soft, fleecy blankets, of a quality which will be at the same time light in weight yet warm and of such a nature as to allow the air to pass through readily. These can and should be frequently laundered. Heavy blankets are depressing; quilts and comfortables stuffed with cotton or other impermeable material, while they provide warmth, are objectionable from a sanitary standpoint, because, not being porous, the waste matter given off from the skin during sleep is retained under the covers, to be reabsorbed again by the body during the period of time it is thus protected.

The scientist puts cotton into his culture tube to keep the germs from entering and contaminating his cultures; the cook covers her glasses of jelly and preserves with a layer of cotton to exclude air and germs from their contents; and if it were intended to keep out all the fresh air and to keep all the poisonous matter exhaled during the night in the stratum of air surrounding the body, scarcely anything could serve the purpose better than the common bedquilt or tufted cotton comfortable. These impermeable covers are often the cause of the restless sleep at night and the tired feeling with which one awakes in the morning. In very cold weather, in lieu of many covers, it is better that one wear warm bed stockings and a blanket robe outside the ordinary night garment. One good double blanket will supply the warmth, minus the weight, of three under other conditions, with far more ease and comfort to the sleeper.

In arranging the bed in the room, the position should be so chosen that if possible the windows shall be at right angles to its head, and should be so placed as to be easy of access on both sides, the head only being against the wall, and even this should be far enough removed to allow a free circulation of air on all sides of the sleeper.

If two persons occupy the same room, single beds afford the best conditions for health. An adult exhales, by lungs and skin, during every twenty-four hours, at least three pints of moisture loaded with impurities, and as this occurs during the night as well as the day, the bed atmosphere is likely to become densely foul from this waste matter, even when only one person occupies the bed; but with two occupants the evil is greatly increased, particularly so in case one be at all feeble or diseased.

The temperature of the sleeping-room should be several degrees lower than that of the day-rooms. A thermometer hung in the room is the best guide to the temperature, which should not exceed 60°,

and is better at 50°, or even lower. One sleeping in a cold room which has been well warmed and sunned during the day, and in which there is a free circulation of fresh air, is, if properly dressed and covered, likely to enjoy better health and to be less liable to contract colds, than if sleeping habitually in a warm atmosphere.

With all due attention to location, arrangement, and furnishing, a bedroom may still be a most unsanitary place unless the daily care of the room and bed be done with thoroughness and painstaking. One can scarcely conceive of a more unhygienic nest than a bed upon which the same mattress, pillows, and coverings have been used for years without receiving other attention than a weekly change of sheets, pillowslips, and spread. The external appearance is clean and often beautiful, the bed is made without wrinkle or blemish, but, like the whited sepulcher of which the Scriptures tell us, within it is full, if not of dead men's bones, of putrefying organic matter exhaled from the bodies of the occupants, and which has been absorbed by the bedding night after night until it has become literally saturated with impurities.

This evil is augmented in the majority of households through keeping to the old custom of making the beds as soon as possible after rising, that the morning work may be done up early.

Possibly this custom may have come down to us from primitive times when the bed was simply a skin or mat spread upon the ground or the tent floor, and taken up at once after rising. In some countries still, the dwellings contain no sleeping-rooms, and the beds, whatever they consist of, are spread upon the floor at night, and must of necessity be removed at an early hour in the morning, that they may not be in the way of the other household operations. But in a home where there is a room for sleeping, there should be no excuse for omitting that essential requisite of health,— a thorough, daily airing of all the bedding. This need not delay the consummation of the morning work; it simply necessitates arranging some plan whereby the bedmaking shall be last instead of first on the program.

The object to be attained in airing the bedding is not only to purify it, but to free it from the moisture it has absorbed, and both air and sunlight are desirable for this purpose. In every household it should be the daily custom of both old and young to arrange the bedding for airing before leaving their sleeping-room. A very good way to do this is to place two chairs near the foot of the bed, over which the covers are loosely thrown, each being taken off singly, beginning with the top one, care being taken to keep them off the floor. Hang the mattress cover over the foot of the bed, and place the pillows on another chair. This done, open the windows more or less, according to the season, but sufficiently at all times to allow a free interchange of air through the room and bedding, and leave it thus for two or three hours at the least. Once a week or oftener the bedding should be well sunned out of doors.

The same care should be given the furnishings of the folding bed, which is coming into such common use, and which, while it is a very convenient article of furniture where room is limited, bids fair to become a real menace to health from being "folded" too soon after occupancy.

If the round of other morning duties is completed before the bed is sufficiently aired, all or nearly all of the bedroom work may be done before the bed is made.

The slops, if any, require the first attention. Then the towels and other soiled articles being removed, and all the chamberware given its daily washing and scalding and drying with special cloths kept for the purpose, the room may be tidied

and put to rights. If only removable rugs are used on the floor, these may be taken out and shaken, then with a covered broom or floor cloth the dust can be wiped from the floor while the bed is airing, as such a cleaning should raise no dust.

When the room is thus in readiness, the bed may be made, the woodwork and furniture dusted, the rugs replaced, the pitchers refilled, and clean linen dispensed. If then the shades are left high, that the sun may continue to lend its purifying influence, the room may be left with a feeling of assurance that sleep will be more refreshing and health more sure for this sanitary painstaking.

A PRAYER.

TEACH me, Father, how to go
Softly as the grasses grow;
Hush, my soul, to meet the shock
Of the wild world as a rock;
But my spirit, propped with power,
Make as simple as a flower.
Let the dry heart fill its cup,
Like a poppy looking up;
Let life lightly wear her crown,
Like a poppy looking down,
When its heart is filled with dew,
And its life begins anew.

Teach me, Father, how to be
Kind and patient as a tree.
Joyfully the crickets croon
Under shady oak at noon;
Beetle on his mission bent,
Tarries in that cooling tent.

Let me also cheer a spot,
Hidden field or garden grot—
Place where passing souls can rest
On the way, and be their best.

—*Edwin Markham.*

A HEALTHFUL DRESS.

BY ANNE E. TABOR.

THE accompanying photograph is from the new edition of the Sanitarium Dress Catalogue for the spring and summer of 1900. It is a plain, modest gown of black crepon, with front of tucked taffeta silk and narrow insertion. The edges are finished with velvet appliqué. The dress is built on a foundation which is called the gown form,— a complete dress in itself, but in this instance, as in all heavy dresses, constituting the lining.

The gown form, for which patterns are furnished, is made to fit a perfectly natural figure, and can be adjusted to any size; therefore, in order for a garment made over it to look well, the person wearing it must maintain or cultivate perfect symmetry of form and grace of bearing. A woman who has worn stays all her life, who is stoop shouldered, whose chin protrudes when she walks, can not expect this gown to *fit* her until these deformities are overcome. She must learn to stand erect, with all the joints extended to their greatest limit, and she must also cultivate correct habits of sitting and of walking, keeping ever in mind that muscles, nerve, and skin are but the outer covering, or surface, of the body, and that the center—the bony structure — must be just as carefully trained as the surfaces if a perfectly shapely form is to be acquired.

Those who desire to adopt healthful dress must make up their minds to give time and attention to the development of their bodies. A dress that is made to fit a perfect form can never look well on a misshapen figure; it must have a perfect form within it to give the desired effect. Correct dress has often been condemned

because of its ungainly appearance, when the fault was not in the dress at all, but in the figure of the person wearing it. A gown can not be perfectly healthful that is distorted to "fit" a distorted figure. All the bodily functions should co-ordinate, or work together, to produce a perfect state of physical health. An appearance approximating that of perfect health is often produced artificially by padding, etc., but it remains a sham. By proper attention to cultivating her body, any woman, unless hopelessly deformed, can overcome her deficiencies, and acquire the beautiful form of a physically perfect woman; then that fine appearance so much desired will be hers by right, not by any artificial deception.

Those who wear healthful dress have the opportunity to make that dress so popular that every one will desire to adopt it, by making themselves a living example of its grace and beauty.

Any kind of drapery can be worn with healthful dress, by simply using the gown form as a foundation. The style of the draperies must be chosen to suit each wearer, inasmuch as dress is an individual study. Each woman, or her dressmaker, should study the style, color, texture, of the garments she desires, and select such as will harmonize with her own individuality, as her complexion, color of hair and eyes, height, etc.

Every woman can be dressed well, and most women can be made to look even beautiful, by careful attention to these principles of good dressing.

BY FORCE OF CHARACTER.

UNDER this caption the *Union Signal* prints the following from the pen of Margaret Merkel: —

"On the eve of his marriage to a young woman, resident in a distant city, Fred Mount said to his young men friends, 'My wife and I will entertain often in our home. Cornelia is social; you will admire her, and vote her a charming and companionable woman.'

"The people of Clyde approved of Mrs. Fred Mount, the mistress of the handsome Mount home. She was cordial, friendly, and companionable. The Mounts did entertain often, in a simple, enjoyable fashion. No elaborate receptions were given or formal customs observed.

"In a clubroom a trio of Mr. Mount's men acquaintances were talking of the young wife two months after the wedding.

"'Mrs. Mount is charming, and yet I do not like to meet her if I am not in my very best trim. I dare not even speak of tobacco or beer in her presence,' said an attorney to a bank clerk.

"'Do you know that I blushed for shame yesterday,' the clerk said, half laughing. 'After hours, I met Fred and Mrs. Mount on the street, en route to an entertainment. They invited me to accompany them. I flung away my cigar, saying, "The odor of tobacco is offensive to many ladies." I expected that she would reply, "Not at all. I do not mind the odor of a good cigar." Instead she said gravely, "If I have a headache, it makes me quite ill, but out in the open air one can avoid inhaling it." I could not but admire her courage in giving me to understand that tobacco is offensive to her.'

"'My offense against her,' chimed in the third of the group, 'is being caught coming out of a saloon in company with Gibbs. I turned away that I might not meet the question in her searching eyes. Gibbs was boisterous, and his reputation is n't good, though in business circles he is considered a good man.'

"'Mrs. Mount is not an aggressive reformer, yet one can not be in her presence ten minutes without learning that her standard of character is high. Fred meekly echoes his charming wife's opinions. She expects a man to live honestly and uprightly.'

"'Fred is n't a meek man,' said the attorney, 'but he has done well to fall in with her motto, "A white life for two." He has told me that much.'

"The banker took up the thread of testimony. 'My sister Kate was calling at the Mounts last week. Dell Copeland was there, and some one said that Molly Paul had returned to her heartbroken mother. Every one knows that Dell is ready to accept Ned Brant for his money, ignoring his bad reputation, and that Molly Paul was a good, honest girl until Ned enticed her to the city under promise of marriage. Dell said spitefully, "I hope every pure woman in Clyde will give Molly Paul to understand that she has sinned beyond forbearance."

"'"I thought the poor young girl might find help and friends who will go to her in this hour of need," Mrs. Mount said.

"'"What! we Clyde girls speak to Molly Paul?" Dell cried, angry at the suggestion. "She should be ostracized, made to feel the shame her conduct has brought her!"

"'"And Mr. ——, Mr. ——."

"'"Brant," sister Kate suggested.

"'"Society will surely ostracize Mr. Brant. You say they were not married."

"'"Molly's uncle was advised in time

to rescue her from Ned's clutches," Kate put in.

"'Miss Willard's famous words, "A white life for two," go marching on. Every day in the future, society will demand this pure living.

"'Sister Kate tells me that Mrs. Mount says her say so gracefully that one can not feel offended, yet she is frank and means just what she says.'

"'A charming personality is a precious possession,' the attorney said, looking grave. 'A man or woman can *look* "Quit your meanness" in a way that makes you greatly desire to. Why will not charming women in great numbers take up the words of Miss Frances Willard, "A white life for two," and speed the time when men and women will measure up to their high standard?'"

INVALID CHILDREN.

If the healthy, happy, romping, bursting-with-fun child needs care, scarcely less does the sick, peevish, feverish, wasting child need care. By care I do not mean the giving of medicine and the bathing and dressing, and the sunning, and the hundred things which it is the duty of the nurse to look after. I mean a subtle, out-of-sight care, a tact on the part of attendants, an ingenious letting-alone sort of care which is not too common.

A sick child needs most of all to forget himself. Little need, in these days of the clinical thermometer, the "feeling of the pulse," and the understanding of facial expression, to be always quizzing an invalid as to how "he feels," if "the pain has gone," if he "is better now," if "anything hurts him," or "Don't you feel able to sit up?" An intelligent nurse or mother can answer all these questions for herself without a word. To be put in mind of one's pain is as bad as the pain. Any one who has been sick knows there are intervals of self-unconsciousness, when the thought is fixed upon some pleasant theme. Suddenly some solicitous friend interrupts the interlude, and of course "the pain is back." I would ask few if any questions in regard to his condition were I attending a sick child. Every word and every act of the sick-chamber should be with a view of banishing self-consciousness. I would not even ask if the invalid is hungry. If it is time that he should eat, I would tempt with the sight of food. "Spring the suggestion" on him, and surprise the failing appetite. If questioned, appetite does not always answer.

There is danger of a sick child's being made selfish by his attendants. Teach him to think of others, and to make as little trouble for willing feet and hands as possible. The child will be the happier and have a better "getting up," morally. Give the invalid something to do with his hands,—corn on the cob to shell, buttons to string, a stick to whittle. If he is really weak, do not suggest that he count the kernels or the buttons, or make any particular figure with the stick or the knife. Many a child invalid has been made more ill by mental strain which in itself is simple. Something to do which employs the eye and not the hand is good,—a fresh picture now and then pinned at a convenient distance from the sight, the merrier the picture the better. Birds, insects, and animals to think about give pleasure and occupation without strain. The art of keeping a happy face before an invalid child is difficult to acquire, especially if the nurse is the mother; and a happy tone is yet more difficult.

To rehearse a child's symptoms before the invalid himself is to do a very dreadful thing. In a short time the child will "show off" his aches and pains for the benefit of strangers or members of his family. He will be taught that his sickness is very interesting, and learn to exaggerate in an innocent way for the entertainment of friends. How many of us have met invalid women who proceed at once to relate the story of the "operations" they have undergone, and the great variety of diseases that have fallen to their peculiar lot. Better to teach the child that illness is often nature's punishment for sins or neglect of her laws, and that the culprit who is suffering should be more ashamed and sorry than proud. At the best, illness of any sort is a misfortune, and should not be even discussed with complaisance. And yet illness may be a great teacher if the invalid has a wise nurse. Hearty resolves as to what good things one will do when one gets well are beneficial, and hasten recovery. Even a little child's mind may be led to expand in the sick-room, as a plant grows in a small box under glass.

A little invalid may be cultivated into nervousness by the suggestion of his nurse. "Does noise hurt your head, dear?" "Does it make you feel worse when the train goes by?" Better to say, "How nice it is to hear the engine whistle;" or, "What a funny racket those children make out in the street." As soon as a child is able, let him go for water and books and playthings. Remember that the sick-room is a schoolroom in which are learned the lessons which shall govern afterward. — *Elizabeth Grinnell, in the New Crusade.*

AN EASY CONVERSION.

The Hon. Ernest Howard Crosby, A. B., B. LL., ex-judge of the International Tribunals of Egypt, who, under the influence of Tolstoi, abandoned a political career, and now divides his time between farming and writing and lecturing on vital social topics, is quoted at length in the *Vegetarian Magazine.* Judge Crosby is a vegetarian from ethical reasons, and being a man of strong convictions, the following quotations respecting his views on this question will be of interest: —

"I do not like slaughterhouses, and I never did. Perhaps this marks the absence of strenuous qualities in my make-up, but such nevertheless is the fact. I remember the little slaughterhouse in the fields behind a New England village, I often passed as a boy, with its heaps of offal and vile smells polluting the air and landscape, and filling me with horror. I recall the great abattoir just out of Alexandria in Egypt, which I used to pass every day, with the string of patient cattle and buffaloes waiting outside, and the dirty rivulets of blood running down into the blue Mediterranean, which I had to jump across holding my nose, if I walked along the beach. I recollect, also a romantic tour of Venice in a gondola, which was quite spoiled because my gondolier took me through a narrow canal past the municipal shambles, where the loud bellowing of the bulls conjured up all kinds of repellant pictures. In all parts of the world, slaughterhouses are in full operation, and I do not like them. I believe the world would be cleaner and sweeter and more truly human without them, and for that reason I propose to do what little I can to bring them to an end. . . . Eating corpses is not nice from any point of view, even if we have always been doing it.

"I have spoken of our worst offense against our dumb brethren, but there are plenty of others. What a wretched thing the cattle train is, on the road for many days, in torrid heat and frigid cold, with frequent failure to provide food and water,— a long-drawn-out time of suffering and terror ending in death! Then the cattle ship is even worse; a regular allowance has been made on them for a considerable percentage of dead carcasses. A cattle ship in a storm is at least a miniature hell. Perhaps you never see these things: we have a habit of shutting our eyes to disagreeable things which minister to our appetites, but if you live in the country, take a look at the nearest pigsty on a cold night, and you will probably see enough. I have been endeavoring for a month to get a certain lay-reader to provide his pigs with a dry place to lie down in, but he only says, 'Oh, they will be butchered before long.' They have passed the whole of their natural lives in two inches of slime, and in this freezing mud they have to spend the coldest nights. The whole business of eating meat is bound up with cruelty, and it can not be divorced from it.

"I visited Count Tolstoi in Russia, and found him an extreme vegetarian. I told him that I hoped some day to try it. 'Your wife will do all she can to prevent it, you may be sure,' he replied, but in this respect he proved to be a false prophet. I remember reading an article about this time in an English review by Lady Paget, recommending vegetarianism, but stating that she had found the diet very difficult to adopt, and had made the effort once or twice before she succeeded. Now that I have lived upon a vegetarian diet for a considerable time without any difficulty whatever, I can not understand what she meant. It was partly in consequence of reading this article that I took up the new diet gradually, and I am inclined to think it is a good plan. It must have been about the first of June, 1896, that I began to eat meat only once a day. This was a slight change, which would have no injurious effect on health, and furthermore could not cause much of a domestic commotion. At the end of the year the family had become accustomed to see me refuse meat at luncheon, and when I began to do the same at dinner, it attracted little attention. I continued to take soup until June 1, 1898, and fish until June 1, 1899, taking one step each year. I still eat eggs and dairy products, but I confess that they worry me, and the butchering of calves which this necessitates is the meanest kind of butchery.

"This gradual change of diet has had no effect whatever upon my health. I am conscious of no alteration in my physical or mental condition, and my weight is precisely the same as it was before. Nor has the change caused me the slightest effort of will. It has not required the least self-denial, and I have no desire to eat meat."

THOREAU'S EXPERIENCE.

"I HAVE found repeatedly of late years," said Thoreau, "that I can not fish without falling a little in self-respect. I have tried it again and again. I have skill at it, and, like many of my fellows, a certain instinct for it, which revives from time to time; but always when I have done, I feel that it would have been better had I not fished. . . . There is something essentially unclean about this diet and all flesh, and I begin to see where housework commences and whence the

endeavor costs so much, to wear a tidy appearance each day, and to keep the house sweet and free from all ill odors and sights. Having been my own butcher and scullion and cook, as well as the gentleman for whom the dishes were served up, I can speak from an unusually complete experience. The practical objection to animal food in my case was its uncleanness; and besides, when I had caught and cleaned and cooked and eaten my fish, they seemed not to have fed me essentially. It was insignificant and unnecessary, and cost more than it came to. A little bread or a few potatoes would have done as well, with less trouble and filth.

"Like many of my contemporaries, I had rarely for many years used animal food, or tea or coffee, etc., not so much because of any ill-effects I had traced to them, or because they were not agreeable to my imagination. The repugnance to animal food is not the effect of experience, but is an instinct. It is hard to provide and cook so simple and clean a diet as will not offend the imagination, but this, I think, is to be fed when we feed the body; they should both sit down at the same table. Yet, perhaps, this may be done. The fruits eaten temperately need not make us ashamed of our appetites, nor interrupt the worthiest pursuits. . . . It may be vain to ask why the imagination will not be reconciled to flesh and fat. I am satisfied that it is not. Is it not a reproach that man is a carnivorous animal? Truly, he can and does live in a great measure by preying on other animals; but it is a miserable way, as any one who will go snaring rabbits or slaughtering lambs may learn; and he will be regarded as a benefactor of his race who shall teach man to confine himself to a more innocent and wholesome diet. Whatever my own practice may be, I have no doubt that it is a part of the destiny of the human race, in its gradual improvement, to leave off eating animals, as surely as the savage tribes have left off eating each other, when they come in contact with the more civilized."

HAUNTED BY A DEER'S EYES.

THE following "tragedy of the forest" has been sent us by a friend: —

"An exchange in the eastern part of the State of New York tells of a man who had been in the north woods on a deer-hunting trip, and who, on his return, related his experiences to a party of friends as follows: —

"Boys, sometimes the feeling may come over you that you would like to go and hunt deer, and if it does, try to argue with yourselves against it. There is not enough money in the world to induce me to go again. I like the woods, and if I could go there some time when the shooting season is not on, with my camera, I should be glad to go; but to go off again with a gang of men who walk all day and play poker all night,— you must excuse me.

"We might just as well have been in the Philippines so far as danger was concerned; for there was constant firing and skirmishing, and more than a dozen bullets went through the lumber shack we were occupying.

"When we arrived at the station, we had to drive twenty miles in a lumber wagon, and do you think those murderers would wait till morning before starting? — No; they hooked up at 12 : 30 in the morning, and drove over a logging road till 9 o'clock, with nothing to eat but a pan of beans. Work! we worked harder than I

ever did in my life, and the second day the law was off, and we could shoot; but before we were ready, fifteen or twenty men from Ohio and Indiana, camped a mile or two up the river, began banging right and left into the woods, and bullets whistled around us so only two of our men went out at all. I did not shoot a gun the whole ten days, and as I couldn't play poker, I had a lovely time. A man's life was not safe for a minute. Those fellows shoot if they see a leaf move, and run to see if they have killed a deer. If they find they have shot a man, they will not stay by the wounded man and try to save his life, but go off and leave him to die alone, for fear they will be arrested. O, the horror of it all is something I can not describe! Two corpses came down on the train I did, of men killed for deer.

"There were two pirates in our party, who wanted blood, and one day we heard them shooting down near camp; they finally yelled for me to come down with a lantern. It was just dusk, and I took a lantern and started. When I got there, they showed me a wounded doe they had shot, and one of the butchers was about to cut her throat. I wanted to go away. She tried to rise up, and bleated so pitifully that the tears came to my eyes; but I did not want to be considered a baby, so I stayed to see it out. If God will spare me from witnessing another such scene, I shall be happy. The doe seemed to think I was the only one in the party that had any heart, and she looked up at me with the most beautiful eyes I ever saw, except the eyes of the girl I love, and there were tears in her eyes, if I know tears when I see them. One of my friends put his knee on the neck of that beautiful creature, and held it down, and took a knife and placed the point on her beautiful throat, as a murderer might on the throat of a beautiful woman. There was a cut in the flesh, the blue blood came out in torrents, the body heaved, the deer cried, and the life blood went out. I felt as if I had stood at the death-bed of a beautiful child, and watched the last heaving of the bosom as the last breath came like a sigh almost human.

"I wanted to go away and cry, but those heathen would never have let me hear the last of it, so I stayed. I did nothing but carry the lantern, and I hated those fellows who dragged that beautiful creature up to the camp. They were covered with blood, and seemed to glory in it, like men you have read about who have killed somebody. The boys worked all the evening, skinning that beauty, and talking of how they plugged her in the foreleg, and in the stomach, and how she fell down and bleated, and got up again, and tried to get away, until my brain reeled, and I went to bed.

"In my dreams now I see that dark place in the woods, dimly lighted by the lantern, and the tragedy enacted there. I see the appealing look of those beautiful brown eyes. It is a wonder I did not stand between those men and their victim, and make them let her go.

"The boys sent me a piece of venison from that doe when we got home, but I might as well have attempted to eat a piece of my sweetheart. I am no cannibal. Do you know, I find it hard work to speak to my two friends who murdered that deer? If I ever go to the Legislature, I shall introduce a bill to make it murder to kill a deer."

WHY comes temptation, but for man to meet
And master and make crouch beneath his feet,
And so be pedestaled in triumph?

— *Browning.*

SCHOOL INSPECTION IN GERMANY.

THE idea of having the schools of Germany inspected by medical men was suggested by Professor Virchow in 1888, and is now in active operation in a number of the largest cities, with good satisfaction. The *British Medical Journal* speaks thus of the plan and its results: —

"The medical inspectors of schools are always appointed by the town in Germany, and never by the state. The great advantage of this arrangement is apparent when we consider that men living in a particular district are best acquainted with the local conditions, and therefore more competent in tracing infectious diseases to their origin.

"The medical school inspectors are of great assistance to the medical officer of health in the efficient discharge of his duties, though this assistance has the immediate effect of increasing rather than diminishing the work of the health officer on account of the fresh material discovered. In cases of difficulty, the inspector can refer to the medical officer of health or the magistrate of the town.

"The teachers were at first opposed to the appointment of medical inspectors, as they imagined that their authority in the school would be lessened; this, however, has not been the case. The medical man is not allowed to interfere in the discipline of the school, and consequently the relationship between the teacher and the medical officer is perfectly harmonious.

"The duties of the inspectors chiefly consist in visiting the school at regular intervals once a month, and inquiring into the health of the pupils and teachers. Their chief duty is to examine the methods employed for lighting, warming, and cleansing the class-rooms, also the system of ventilation. The inspector is allowed 'surprise' visits in Dresden and Nurnberg, but in the other towns notice has to be given of the approaching director. The separate class-rooms are only inspected once or twice in every half year. Instruction in general hygienic laws is given in the school every fortnight, lasting two hours. The first part of the time is devoted to the inspection of the various class-rooms; during the second hour children who are said by the teachers to be suffering from some bodily infirmity are examined by the medical man. The medical opinion is taken as a guide in estimating the amount of work the child is capable of doing. If an abnormality is discovered, requiring treatment, an official note is sent to the parents, informing them of the fact, and of the desirability of calling in their general practitioner, who should have entire control over the treatment.

"It was feared at the outset that the duties of the school inspector would not harmonize with the work of the general practitioner. An excellent rule was adopted of never giving a diagnosis until after a consultation with a general practitioner, the case being subsequently left under his care. The school authorities do not require a full diagnosis, or in fact any diagnosis, from the medical inspector; they merely wish to know whether the child is fit to do his work at the school. It is a great satisfaction to know that no unpleasant complications have occurred between the inspectors and the practitioners.

"Parents who receive the official documents may be divided into three classes: (*a*) Those who are grateful, and thank the teacher for the information: (*b*) those who are offended, and return the official document: (*c*) those who say that they already know that their child has suf-

fered from the particular complaint mentioned.

"A large proportion of the cases belong to classes *b* and *c*. This fact, however, can not be used as an argument against the usefulness of the system. If only a few cases are benefited, the existence of medical inspectors may be said to be fully justified. The question whether the requisite treatment shall be carried out rests entirely with the parents. No law of compulsory treatment can be enforced, even in Germany.

"The examination of every child entering the school is of use to the teacher, and may be of great value to the parents, especially in early cases of tuberculosis. When contagious diseases make their appearance, the medical inspector has to attend frequently, and decide when the class-room should be closed and disinfected. An examination of the health of children coming from an infected class-room is a point of great importance. In cases of smallpox, scarlet fever, and diphtheria, the pupils are not allowed to return to the school until six weeks have elapsed, and in measles, four weeks."

THE INFLUENCE OF FATIGUE ON THE MEMORY.

THE following interesting observations in regard to memory are from a journal of medicine, diet, and sanitary science, published in London, England: —

"Robust health is the best foundation upon which a good memory may be built. We do not mean that all healthy persons have good memories, but that persons with good health, other things being equal, will surpass in the powers of memory those who are sick. . . .

"A good memory can not be preserved with an impaired nervous system. Not only may a long-continued wakefulness change the temper of a mild and gentle person, completely alter his features and expression, and occasion a development of singular and most uncomfortable whims, but also cause great deviation in the powers of intellect and imagination, and ruin a good memory. . . .

"Great orators usually have powerful memories. Without readiness and quickness in the flow of words, oratory is impossible. Sometimes orators temporarily paralyze their memories by physical exhaustion. A noted lecturer in England says: 'When traveling expenses were the only thing that I received for my lectures, I used to walk to the place of their delivery. On my walk from Birmingham to Worcester, a distance of twenty-six miles, it was my custom to recite on the way portions of my intended address. In the first part of my walk my voice was clear and my memory was good; but toward the end I could scarcely articulate or remember the thread of my discourse. If I lectured the same evening, as sometimes happened, I spoke without connection, and produced little effect upon my audience. The reason was that I had exhausted my strength and paralyzed my memory. One Saturday I walked from Sheffield to Huddersfield to deliver two lectures. It was my first appearance there, and I was anxious to make a good impression; but in the morning I was unable to do more than talk half inaudibly and incoherently. In the evening I was tolerable, but my voice and memory were weak. My annoyance was excessive. I was a paradox to myself. My power seemed to come and go by some eccentric power of its own. I did not find out until years after that exhaustion of my strength had exhausted my powers of speech, thought, and mem-

ory, and that entire repose instead of entire fatigue should have been the preparation for public speaking.'

"There is one feature of the memory which has not before been considered, and that is its exaltation in some forms of disease. An exaltation is where a multitude of recollections spring up involuntarily on every hand. It has its cause in an increase of the circulation of the blood in the brain. It frequently appears in acute diseases, especially fevers. It is common in maniacal patients, and it sometimes appears as a feature of hysteria and in the early stages of brain diseases. . . .

"De Quincy, in his 'Confessions of an English Opium Eater,' gives an experience which shows how the memory may be exalted by intoxication by the use of opium. He says: 'Sometimes I seemed to have lived from seventy to a hundred years in a single night. The minutest incidents of childhood, or forgotten scenes of later years, were often revived. I could not be said to recollect them, for if I had been told of them on awakening, I should not have been able to acknowledge them as a part of my experience; but placed before me in dream-like intuitions, and clothed in all their evanescent circumstances and accompanying feelings, I recognized them instantly.' Such augmentation of the memory may be regarded as abnormal and undesirable, being an indication of disease; but it teaches one lesson to those who would strengthen their memories, and that is the value and necessity of a perfectly healthy and vigorous circulation of blood in the brain.

"The same lesson is taught by an opposite condition from that of an exaltation — a diminution of the normal memory by a decay or withering of the brain cells, and a diminished supply of blood to the parts. The loss of memory in the aged is a familiar example, and can only be accounted for by a deterioration of the brain elements and a diminution of blood supplied to them. One of the worst features of such cases is the fact that an old person is not, for a long time after decay has begun, aware of it. We are now treating a case of loss of memory in a person advanced in years, who did not know that his memory had failed most remarkably till we told him of it. He is making vigorous effort to bring it back again, and with partial success. The method pursued is to spend two hours daily, one in the morning and one in the evening, in exercising this faculty. The patient is instructed to give the closest attention to all that he learns, so that it shall be impressed on the mind clearly. He is asked to recall every evening all the facts and experiences of the day, and again the next morning. Every name heard is written down and impressed on his mind clearly, and an effort made to recall it at intervals. Ten names from among public men are ordered to be committed to memory every week. A verse of poetry is to be learned, also a verse from the Bible, daily. He is asked to remember the number of the page in any book where an interesting fact is recorded. These and other methods are slowly resuscitating a failing memory.

"The aged should all look to this danger in their lives, and resolve to combat it from the very first. By so doing they will make their declining years more enjoyable, and give much greater pleasure to their friends. Unceasing self-culture, especially in preserving the memory and intellectual faculties, should constitute a considerable part of the life of every aged person, even more than of the young. Only by it can this period of life be rendered pleasant and profitable. The beneficial effect of this course on the general health is also very considerable."

SEWAGE AND ANIMAL EXCREMENT AS FERTILIZERS.

THE use of sewage and animal excrement as fertilizers is regarded as a questionable practice, especially for lands on which food products are to be grown. Teeming with bacteria, as these fertilizers do, it is claimed that vegetables and grains raised on such land can not be free from them. A few substitutes for these fertilizers are suggested in a long article on the supply of plant food, in the *Vegetarian Messenger*, London, England, by John F. Appleyard, who writes as follows: —

"Many years ago the writer declared to a professional gardener that there was good reason to think that woolen rags chopped small and dug in the ground, would benefit the same, and got well laughed at for the suggestion. And yet, what is the fact? Woolen rags contain much nitrogen. The wool of which they are composed has been shorn from the sheep; sheep obtained this from food which had been furnished by the soil; so that using woolen rags, as suggested, is restoring to the soil organic plant food of which it had been previously robbed. The principle, too, has long been recognized and applied by agriculturists and others.

"It is said that whenever Mr. Gladstone saw a piece of paper on a lawn, he twirled it round the end of his walking stick, and thrust it into the ground. On being asked why he did this, he remarked that it improved the soil,— truly a mild way of doing this in homeopathic doses, yet right in principle. In these days of paper accumulation about the house, what a lot of eyesore rubbish might be got rid of by using it in the compost heap and in other ways — mulching and protecting plants from frost, for instance. Put old newspapers, packing paper, and similar matter in reserve, and see what a heap you will soon have. . . .

"In washing dishes and other things used at the table throughout the day, it is remarkable what a lot of plant food, usually thrown away, can be collected. This, taken to the garden and applied from time to time to the roots of growing crops, will soon give evidence of utility. The liquid in which vegetables have been boiled is very valuable when used thus after it has become cold.

"In wet weather, when the ground is already saturated with water, these washings may be soaked into the compost heap, which will filter and retain the nitrogenous and other matter, so beneficial to plants. Soapsuds should be carefully treasured for garden application. It is not only water impregnated with soap, which itself contains carbonate of soda and other constituents beneficial to vegetation, but it has in it the dissolved dirt and salts from the body and the clothing. These salts are greedily absorbed for the use of plants, by the innumerable tiny mouths at the extremities of their roots.

"Sugar itself contains a large amount of carbon, and appears to be very useful in plant food. A worse investment might be made than buying a quantity of cheap sugar or sugar waste for use in the garden. This may appear childish, but what the writer has long known is borne out by a very old recipe book which came into his possession a short time ago. The recipe runs thus: 'To make gooseberry trees grow fast, frequently water the roots with soapsuds and sugar.'

"When the house chimneys are swept, keep the soot for the garden; for besides being distasteful to many forms of garden pest, it is very beneficial to crops, con-

taining, as it does, nitric acid, sulphate of ammonia, sulphate of magnesia, and sulphate of lime,—all valuable plant foods. Coal ashes are very useful, especially in heavy soils; while wood ashes are extremely beneficial, for they contain much potash and other valuable plant foods.

"The ashes of all burnt vegetable matter are very useful as inorganic food for plants, but a more economical way of using vegetable matter is to bury it in the soil, where it decays, and by a process of slow combustion gives up to the soil the organic matter which would be dissipated by the extravagant method of burning. Decaying vegetable matter, too, has other uses in the soil, so that a good gardener will think often before consigning such refuse to the bonfire. Couch grass, diseased potato haulms [stems], clubbed roots of the cabbage tribe, and other hindrances to the proper growth of plants must of course be thoroughly consumed by fire — the quickest method possible; but as a principle, let every portion of a decayed healthy plant be restored to the soil whence it originated. Many persons take this right away, and then buy manure to replace the lost plant food.

"Exposed soil absorbs ammonia,—a most valuable plant food, which exists to a certain extent in the atmosphere, but which is very expensive to buy. It is caught in the meshes of deep and roughly dug soil. It is averred by some that charcoal mixed with the soil largely absorbs ammonia, and being very porous, 'has a great power of condensing air and oxygen within itself.' The grass cut from the sides of paths when they are trimmed, and above all, the mowings of the grass-plots or lawn, should be utilized as fertilizers.

"Sufficient attention is not given to green manuring. How frequently, after a crop has been raised, is the ground allowed to lie idle. Instead of this, a crop might be sown (white mustard, for instance, or any growing crop with searching roots), and after a few weeks dug in to decay and produce nitric acid, ammonia, etc., in the soil, besides benefiting it mechanically. Green crops thus treated collect a quantity of plant food from the soil and from the air, and hold it as a reserve for the succeeding crop of vegetation, which more readily takes its food from the decaying crop than from the soil itself. . . .

"Thinking persons will discover numerous additional ways of collecting plant food. This thinking and planning is also a very pleasant hobby. One feels a certain amount of satisfaction in gardening independently of excremental matter, and in proving to neighbors who do not wish to be convinced, that farm-yard manure is not absolutely indispensable."

THE EFFECT OF ALCOHOL IN DISEASE.

THE following extracts are from a paper by Dr. T. D. Crothers, of Hartford, Conn., secretary of the American Medical Temperance Association, and a recognized authority on the effects of stimulants:—

"The value of alcohol in disease has been and is seriously questioned in the minds of many persons. Tradition, social custom, and empiric dogmatism have invested the question with difficulties which, happily, are fast disappearing. A number of authorities have enumerated the diseases and conditions in which alcohol is counterindicated. This list has now grown to such an extent as practically to include almost every condition of dis-

ease and degeneracy known. Dr. Clouston is very emphatic in showing the danger of alcohol to all who have suffered from head injuries and inflammation of the brain and other nerve affections.

"Professor Woodhead, the Cambridge pathologist, gives the following list of conditions in which it should not be used: (1) Persons who have any family history of drunkenness, insanity, or nervous disease; (2) those who have used alcohol to excess in childhood or youth; (3) those who are nervously irritable or badly nourished; (4) those who suffer from injuries to the head, gross disease of the brain, and sunstroke; (5) those who suffer from great bodily weakness, particularly during convalescence from exhausting diseases; (6) those who are engaged in exciting or exhausting employment, in bad air and surroundings, in workshops and mines; (7) those who are solitary or lonely, and require amusement; (8) those who have little self-control, either hereditary or acquired; (9) those who suffer from brain weaknesses, the result of senile degeneration; (10) those who suffer from organic or functional diseases of the stomach, liver, kidneys, or heart; (11) it should never be given to young children, or those in the adolescent stage.

"This list is practically prohibitive of all use of alcohol in medicine.

"The brilliant discoveries in pathology and psychology have brought out the fact that alcohol, next to syphilis, is one of the most dangerous poisons in its effects on the body. This is rousing new critical inquiries about the theories as to its value, and reveals the errors concerning its use in medicine. The test of clinical experience confirms the conclusions of pathology and physiology. As a result, Continental physicians are rapidly changing their views of alcohol in therapeutics, and questioning the theories on which its use is based. Doubts concerning the place of alcohol in medicine are rapidly increasing in all German schools of medicine, and the physicians are recognizing this change in their practice.

"In this country, several elaborate experiments have been made of treating cases without alcohol, and the results have fully confirmed the theories of Continental physicians. . . . There is a critical spirit abroad, and the current literature is full of doubts and denials. The defenders of alcohol in therapeutics are disappearing, and reference to spirits as a tonic or stimulant are timidly made and feebly supported in the journals.

"The question is very tersely put by Dr. Baer, of Berlin, who says, in substance: The time has come for a change of theory and practice concerning alcohol in medicine, when modern pathological, chemical, and psychological research all fail to support the theories on which alcohol is used in medicine. Dr. Lagand, of Paris, puts the same idea in another form when he says: 'Our previous conceptions of alcohol and its action on the body are contradicted by clinical experience and chemical experiment in the laboratory.' From a pathological point of view, alcohol is shown to be one of the most insidious and destructive of tissue poisons, and its use is followed by certain cell and tissue degenerations that are uniform in their progress and growth. The theory of a tonic and stimulant value, or a force producer or conserver, can not be sustained by any facts that are unquestioned.

"The conclusions are inevitable, that alcohol and its theories as a therapeutic drug must be modified, and that its use in medicine will change, and no doubt will in the near future be put aside as worthless and dangerous."

The Layman's Idea of a Cure for Every Ill.

An octogenarian, says an exchange, was recently heard to remark that, if he were a physician, he would search the world over but that he would find a remedy for chronic rheumatism. This gentleman has fared well during his long life, and still claims that he is able to "eat everything." But his eighty-one years of indulgence of a taste for the "good things," including plenty of sugar, have finally developed such a vice of nutrition that even full doses of the salicylates afford only temporary alleviation of his rheumatoid pains. He is unable, or unwilling, at his time of life, to submit to any deprivations in his diet, and probably the degenerative changes that have taken place in his tissues would render nugatory even the most careful regimen. But his idea that there must exist somewhere a never-failing remedy for every ill is one that is very widespread among the laity.

Physicians are often asked by their patients why there can not be found sure cures not only for chronic rheumatism, but also for constipation, chronic intestinal catarrh, neurasthenia, and other obstinate maladies which signify more or less serious faults in the processes of tissue metabolism. When such diseases come on in early life, they are amenable to treatment, usually by having the patient turn about and patiently retrace the steps he has wrongly taken. If he has overworked with body or brain, and at the same time been underfed, he must change his habits, give himself more time for rest, recreation, and sleep, and pay more heed to the wants of the inner man. If, as is more frequently the case, he has ea en excessively as well as irregularly, and taken little or no exercise, he must promptly correct these disastrous hygienic faults, and then, with the proper attention by his physician to the vitiated secretions which always result in such cases, there will be hope of gradually and slowly restoring the lost balance in the nutritive process.

This class of affections, even in middle life, if not in old age, may often be cured by forswearing the habits that produced them, and a patient persistence in right living, with a judicious course of medicinal and mechanical treatment, based upon an intelligent study of the secretions and excretions, and long persevered in. When the disease-producing agents are produced within the body as a result of sluggish excretions and perverted secretions, hygienic measures must probably always hold the first place in the work of restoring the health, while drug remedies, including even germicides and antiseptics, need to be used with a more sparing and cautious hand.

A Vanished Appetite.

In his book, "Missionary Enterprises in the South Seas," John Williams, the famous missionary, tells about the introduction of horses and cattle on the island of Raratonga, one of the Hervey group. He says: —

"Having accomplished our purpose at Raiatea, we prepared to depart for Raratonga, having on board a valuable cargo consisting of several barrels of flour, which we very opportunely procured from an American ship, and other provisions for our necessitous families, together with horses, asses, and cattle.

"These excited the unbounded astonishment of the natives. Like their brethren of the Tahitian Islands, they called them all 'pigs.' The horse was *e buaka apa tangala*, 'the great pig that carries the man;' the dog they called *e buaka aoa*, or 'the barking pig;' the ass, *e buaka turituri*, or 'the noisy pig.' This last, however, was honored with another name,

e buaka taringa roa, or 'the long-eared pig.' The horses and asses greatly facilitated the labors of the missionaries, and the cattle proved an invaluable addition to the comforts of the mission families.

"It was more than ten years after our arrival in the islands before we tasted beef; and when we killed our first ox, the mission families from the adjacent islands met at our house to enjoy the treat; but, to our mortification, we had so entirely lost the relish that none of us could bear either the smell or the taste of it. The wife of one of the missionaries burst into tears, and lamented bitterly that she should become so barbarous as to have lost her relish for English beef."

The Craving for Stimulants.

That the blood normally contains stimulants, and that these stimulants exercise a favorable influence on function, and conduce to, and may even be a necessary factor in the production of, the feeling of well-being, explains the widespread liking in man and beast for stimulating substances, says Harry Campbell, in the *Lancet*. This liking, amounting often to a craving, is the expression of a great physiological principle. When there is perfect health, when the blood is well provided with its proper stimulants and not overcharged with depressants, there is no craving for extraneous stimulants, as alcohol, tea, and coffee; but when it is defective with the one and surcharged with the other, then is felt the desire for the glass of wine or the cup of tea. In order to obviate this desire, we should seek to keep the body at the highest level of health. The more perfect the health, the more perfect will be the composition of the blood, both in respect to physiological stimulants and deleterious toxins. A blood properly constituted in these and other respects will exercise a gentle stimulant action on the nervous system, and induce a condition of mild physiological intoxication, which expresses itself in a feeling of well-being and happiness, a condition which can not be bettered.

Children and Sweethearts.

"I often wonder," says a writer in *Harper's Bazar*, "if mothers of little daughters appreciate what they are doing when they jest with them about their 'little sweethearts' and 'beaux.' There is so much of this kind of talk that the clear-eyed listener sickens in the hearing. While boys and girls are young, they should be comrades, playmates, friends; but the possibility of a tenderer relation existing should never for a moment enter the heads of the innocent children. When Mabel's mother speaks of twelve-year-old Jack as her 'beau,' and the little girl flushes with self-consciousness or with anger, the irreparable wrong has been done. She will never again regard Jack as the jolly playmate. The bloom has already begun to come off the peach. The longer boys and girls are kept in ignorance of the fact that they can be anything but dear friends, the happier they will be. They can not help knowing that grown men and women love and are given in marriage, but the 'grown up' period seems very far off to them, and those who love them should keep them children as long as possible. They can be children but once."

Saving Odd Minutes.

One of our exchanges recently contained the following, which commends itself to those who appreciate the value of time: —

"In the room of a girl friend the other day we noticed something which especially interested us. To the pincushion, which occupied the central position on her dresser, was pinned a short poem,

evidently clipped from some newspaper. And the poem happened to be the 'Recessional,' which everybody knows about, but comparatively few people know.

"Now a pincushion is not the place where one expects to find a poem, however grand or beautiful, and we looked to our friend for an explanation.

"'I always have something I especially want to know, pinned to my cushion, she said, smiling, 'and when I 'm brushing my hair or adjusting a collar-button, I just glance over the lines. Before I know it I have the whole committed to memory, and then I remove it, and place something else in its stead.'

"Now this girl, as we happen to know, is a very busy girl, a stenographer in a law office, an earnest church worker, a favorite with other young people, and we had been surprised to hear her spoken of as 'so well-informed.' We wondered how she found time to acquire her information, but the pincushion revealed the mystery. She had learned the art of utilizing the minutes."

Contagious Diseases Treated by Pure Air.

Dr. Petersert, in his clinical lessons, asserts "that the human body is the reagent of the atmosphere, and reacts in health and disease against every impurity in it." From this he draws the following inferences: —

"1. In confined air the germs of disease abound and poison the system. It becomes pure only by freedom and exposure to the sun.

"2. In infancy, light is a powerful stimulant to nutrition.

"3. In all contagious diseases and in eruptive maladies we obtain the best results by exposure of the child to pure air as long as possible.

"4. We are able to explain the good effects of this exposure by the greater purity of the air inhaled, and consequently the greater quantity of it, for nature instinctively objects to inhaling that which is impure and by the improved nutrition, and the better digestion of food, for pure air as well as light promotes digestion and assimilation in a most remarkable manner."

Napoleon in a New Rôle.

Napoleon Bonaparte appears in the March *Century* in a new rôle, — that of a temperance advocate. In Dr. O'Meara's "Talks with Napoleon" at St. Helena, it is recorded that, having a pain in his side, the ex-emperor asked his physician to show him where his liver was situated; and the latter, in remarking on the causes of inflammation of that organ, mentioned intoxication as one of them, whereupon Napoleon remarked: —

"Then I ought not to have it, as I never was drunk but once in my life, and that was twenty-four years ago, at Nice. . . . I drank three bottles of Burgundy, and was completely drunk. O, how sick I was the next day! I wonder how a man who gets drunk can ever think of doing it again. Such headache, vomiting, and general sickness! I was nearly dead for two days."

Sponges in the Bathroom.

The day has been, and gone, when sponges in the bathroom were considered a necessity. A more enlightened age has banished them, to make place for the cleaner, more wholesome linen cloth. Sponges, as is their nature, are absorptive, and it is very difficult to clean them properly. Hence the body wastes which were rubbed off by them during the bath were retained, to be passed on to the next

bather or the next bath, with all their bacteria and possible contagion.

Little by little we are finding the sources of infection that have been lurking so innocently about our homes, our persons. It is a wonder our grandmothers' children ever lived to tell the tale to us. It is but another evidence of the degeneracy of the race, that they were so much better able to withstand the attacks of germs and microbes than we are to-day. Humanity is growing weaker, more subject to disease of every form, less able to cope with the influences that do not make for health and happiness.

Testing the Drainage Canal Water.

St. Louis, Mo., as a precautionary measure, is making a series of chemical and bacteriological tests of the water of the new drainage canal. The water for testing is taken from the canal twice daily, at different points and as far up as Grafton, Ill., and shipped to St. Louis. So far, the tests have disclosed great numbers of the bacillus coli communis, the normal inhabitant of the intestinal canal of man, proving the presence of human sewage. Should full proofs confirm this fact, St. Louis will be justified in her opposition to the opening of the canal.

Sharp Pictures with the X-Ray.

Professor Rieder and Dr. Joseph Rosenthal report to the *Munchen Medical Wochenschrift* that they have succeeded in making snap pictures of the thorax with the X-ray so sharp that the outlines of the heart and the vaulting of the diaphragm are clearly defined, a thing impossible to do with the old method, on account of the impossibility of holding the breath long enough to make the necessary long exposure.

Sight Restored by the X-Ray.

A little girl, Harriet Heilbuth, three years old, fell from a porch six feet high, striking on her head. She was soon out of danger as to her life, but her sight was gone. Two years passed, when by means of the X-ray a suspected tumor was found pressing on the center of sight in the brain. An operation was performed, the tumor removed, and the child's sight restored. The first words of the delighted child were, "Mother, I can see you!"

A Lilliputian Tree.

The midget of the whole tree family is the Greenland birch. It is a perfect tree in every sense of the term, and lives its allotted number of years (from 75 to 130), but its height, under the most favorable circumstances, does not exceed ten inches. Whole bluffs on the east and southeast coast of Greenland are covered with "thickets" of this diminutive species of tree, and in many places, where the soil is uncommonly poor, and frozen from eight to ten months of the year, a "forest" of these trees will flourish for half a century without growing to a height exceeding four inches.

Celery a Source of Infection.

Celery as a source of infection is receiving some attention from the medical journals. One case of tetanus, or lockjaw, was traced directly to the eating of raw celery. In one of the Eastern States an epidemic of fever was supposedly traced to celery grown on some sewage-fertilized ground. As soon as the use of the vegetable was stopped, the epidemic diminished, and finally ceased altogether.

The usual practice of banking up the stalks of celery, and their corrugated

stems, makes this vegetable an easy hiding place for germs. If it were cooked before eating, the germs would be destroyed; but being usually eaten raw, it is readily seen how it may become a source of serious infection.

Disposal of Kitchen Garbage.

The disposal of the waste and refuse which accumulate after meal getting in most households is often quite a problem, particularly with people who live in city flats and other places where no provision is made for this common need.

Mrs. Lincoln, in the *American Kitchen Magazine*, tells of a simple plan within the reach of every housekeeper, so admirable and withal so sanitary that we quote it for our readers:—

"For several years I have burned every kind of kitchen refuse in the range, between the top of the oven and the middle covers. Here it comes in direct contact with the flame or the hot air from the fire, and does not check the fire as when put directly on the coals. It burns without odor if the draft is opened, and is more quickly reduced to ashes than in any other way. Apple parings, corncobs, watermelon rinds, and other things which contain much water, and which would deaden the fire if put directly on the coals, disappear like magic, leaving in some instances a perfect skeleton, which betrays at once the nature of the article burned. In the corncobs the rows of kernel cups were distinctly marked in the ashy roll. I have never found that it interfered with the baking, or injured the stove in any way. I am careful to put on only a little at a time, and by attending to it after every meal, during the dish washing, it is soon all out of the way. Any portions that have simply charred may be used as kindling the next morning, and once a week, or whenever necessary, the ashes are removed and saved with the wood ashes for use in the garden."

CHILDREN have a right to demand that the same intelligence be directed toward their physical development as toward their mental and moral good. When we realize that seventy-five per cent of the deaths that occur among children under five years are preventable, and directly due to errors of diet and improper clothing, we can understand how important it is that the child, from the day of its birth, be fed with proper food, in proper quantities, at the proper time, and that it be properly protected against exposures and chilling of the surfaces by proper clothing. Indeed, if the child can be physically fed,—and it can be long before it is born,—is it not our duty to do it? If a child does not die from a cause directly produced by cold or by improper food, these conditions place it in a position to be more susceptible to the disease germs ever scattered broadcast. The illy fed, the poorly clothed, have a starved nervous system and an impaired equipment, so that their power of resistance is lessened. —*The New Crusade.*

A FAMOUS oculist once gave this advice to a lady who consulted him about her eyes: "Use much cold water in washing the eyes. It is a tonic to them. One's sight begins to fail as the eyeball begins to flatten, so when you bathe the eyes, gently squeeze them from side to side,—the forefinger at the side of the nose, the thumb at the opposite side of the eye,—and thus the convexity will be preserved. When the eyes are weary, give them rest, and if they smart, bathe them with a weak salt water, allowing it to go inside the lids."

THE following are the modes of greeting used in different countries: "How are you?" Swedish. "How do you find yourself?" German. "How do you stand?" Italian. "Go with God, señor;" Spanish. "How do you live on?" Russian. "How do you perspire?" Egyptian. "How do you have yourself?" Polish. "Thank God, how are you?" Arabian. "May thy shadow never grow less;" Persian. "How do you carry yourself?" French. "How do you do?" English and American. "Be under the guard of God;" Ottoman.

A RUG is undoubtedly the only healthful floor covering. The sensible custom, so long prevalent abroad, of using rugs that are easily carried from the room when in need of shaking and sweeping, has at last found a deservedly firm footing in our own country. The number of rooms covered with woolen dust-gathering and dust-hoarding carpets nailed fast to the floor is fast diminishing in newly established homes, and erelong the older ones must fall in line.

SIR ISAAC HOLDEN, the inventor of the lucifer match, died recently in England at the age of ninety-one years. He set out comparatively young in life to live as long as possible. For exercise his rule was to spend at least two hours a day in the open air, and it is told of him that on first going to work in his youth, he agreed with his employer that, instead of having a yearly vacation, he should have an hour every afternoon in which to walk.

CHARLES DUDLEY WARNER is quoted as saying that the difference between "faith-cure" and "mind-cure" is that mind-cure does not require any faith, and faith-cure does not require any mind.

THE New York *Medical Times* tells a good story of Charles Delmonico. A woman in his employ as laundress had her leg crushed in one of the elevators of the Delmonico building, and was taken to Bellevue hospital for treatment. Every day a liveried man drove to the hospital in a cab with an immense basket containing a Delmonico dinner for this woman. She eats all she desires, served by the Delmonico waiter who brings it, and then distributes the remainder among the other patients. Would that there were more such humanity among God's children.

"REFUSE to live on a damp soil," is the advice of Sir Richard Thorne, an eminent London practitioner. He believes that consumption runs in houses, not in families; and that until people cease to live under unfavorable conditions, they need hope for little diminution in the consumption death-rate.

THE rubber heels now coming into use are a hygienic appliance, in that they save the jar to the spine and brain of heavy walking, especially if the person has a habit of bringing his weight down chiefly upon the heel. Many a busy housewife would find this rubber cushion a great help when she must be much on her feet.

I LIKE not only to be loved, but to be told that I am loved; the realm of silence is large enough beyond the grave.—*George Eliot.*

"THE older I am," said Habit, "the longer I shall live."—*Scott O' Connor.*

WE are shaped and fashioned by what we love.—*Goethe.*

KEELEY, of the famous gold-cure fad, is dead.

EDITORIAL.

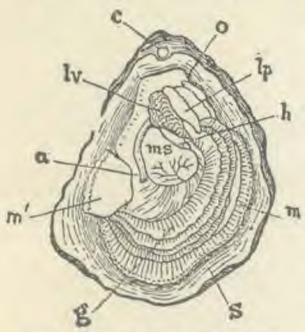
A PEEP INSIDE.

ACCORDING to a New York paper, one million oysters were conveyed into the mysterious recesses of an unknown number of New York stomachs on the opening day of the present oyster season, and an equal number are regularly consumed every week in that city, and half as many in the city of Chicago during every month which is spelled with a letter "r." The number of oysters, some dead, some alive, and kicking as lively as an oyster can kick (the oyster is certainly deserving of sympathy, as his means for remonstrance are so limited), daily swallowed by the whole country, must be something enormous. Doubtless of this vast multitude who voluntarily and without protest surrender their bodies to become the burial places of these scavengers of the sea, scarcely ever one stops to consider what he is doing when he swallows the beast whole, like an anaconda swallowing a rabbit,— claws, ears, eyes, and all. Some time ago a traveler wrote an account of seeing a big snake swallow a small animal, and recorded that for some time after the beast was swallowed, he could easily see through the oscillations of the snake's skin the movements of the poor creature, scrabbling around, trying to find its way out. The reflections of an animal under such circumstances must be anything but pleasant.

Gentle reader, before swallowing another oyster, either alive or dead, imagine yourself in the stomach of some great Cyclops. Unaccustomed to living under water, or miraculously preserved as was Jonah under similar conditions, imagine yourself being slowly dissolved by the caustic gastric juice, boring out your eyes, melting off your nose and ears, skinning you alive, reducing your muscles to jelly, then penetrating your interior, slowly corroding your liver, eating holes in your stomach and intestines,— your colon, jejunum, ilium, appendix,— burning into your brain like oil of vitriol, scalding along down your spinal cord like a drench of hot water, eating your kidneys out by piecemeal, and finally destroying your bones, leaving at last, of all your noble frame, nothing but a handful of teeth, and finger and toe nails! Try to think of yourself all the way through such a process as this, and then you may begin to realize something of how an oyster feels when he is taken alive from the half-shell, after having had his back broken, and his feelings badly hurt by a dose of vinegar and a sprinkle of pepper. Perhaps you say the oyster hasn't any feelings. This is a question on which no one can speak understandingly except the bivalve himself; and until an oyster has been heard by competent witnesses to say that he really enjoys the process of being salted and peppered, swallowed and digested, we are bound to believe that an oyster's nerves, nerve-cells, and nerve centers are capable of sensation, and that this poor, modest, uncomplaining dredge of the sea, which quietly and unobtrusively pursues, so long as allowed to do so, his legitimate calling of cleaning the sea bottom, licking off the slime-covered stones and seaweeds, collecting and consuming typhoid fever and cholera germs, and other dangerous microbes, suffers most excruciating agony, veritable torments, tortures indescribable, in the process of being served, swallowed, and digested, even though the eater in whose anatomy he is sepulchered be a maiden with the kindliest disposition.

One more word: If you do not feel disposed to spare the oyster for his own sake, because of the evident abuse of confidence and violent invasion of individual rights involved in eating him, pray give the matter a moment's consideration from the standpoint of your own feelings and interests. Did you

ever stop to think that the oyster has an anatomy as well as yourself? that he has a stomach, intestines, big and little, heart, lungs, nerve centers, muscles, tendons, alimentary canal with both inlet and outlet,—the usual outfit of internal and external arrangements common to beasts? There is the big brown end of the oyster, for example, that to some tastes is so sweet and toothsome; it is the liver and kidneys combined in one organ. A man's liver weighs about three and one half pounds. If it were as large in proportion to his size as an oyster's liver, it would weigh forty pounds at least, and be five or six times as large as his head. Why is it, do you suppose, that an oyster has such a big liver? Evidently because he is by nature compelled to live upon such a filthy diet. When a person eats tripe or sausage, he doubtless consoles himself with the idea that these fragments of offal have at least been washed; so if the pig's last meal consisted of another pig who had died a natural death, the undigested remnants may have been washed away. But oyster men take no such care in preparing these slimy bivalves for the market. The oyster's last meal — big and little germs, diatoms, all sorts of sea vermin — is still in the stomach and is swallowed with him, together with all his belongings except his shell.



An Oyster lying in the shell.

s, Shell; *m*, lower half of mantle; *m'*, a piece of the upper half; *g*, breathing gills; *h*, heart; *lv*, liver; *lp*, lips; *o*, opening of mouth; *a*, anus where refuse is thrown out; *ms*, muscle holding shells together; *c*, elastic cushion forcing them apart.

For the benefit of our readers who may be in the habit of consuming oysters, we present herewith a cut showing an oyster's internal apartments and apparatus, a careful study of which will assist greatly in an understanding and full appreciation of this much-swallowed beast. If there is one of our readers who still finds himself possessed of a longing to consume these scavenger creatures, we suggest that the next time an opportunity offers for eating one, before swallowing it make a careful study of its anatomy, internal and external, locate its liver and kidneys, its mouth, stomach, heart, intestines, muscles, and other organs; and as each one is located in this antemortem examination (vivisection would be the proper name if the creature is served on the half-shell), try to associate with it its proper and characteristic flavor, and then in the act of eating endeavor to identify each particular subtle visceral essence. Here is a great field for gustatory exploration, and opportunity for enormous extension of the pleasures of the palate!

The study of the oyster can not be considered complete without a microscopic examination of oyster juices, a drop of which may be aptly compared to a silver mine in Colorado, because it has millions in it,— swarming, wriggling, multiplying, hungry microbes, which the oyster has gathered about him in his quest for food among the decaying ooze and slime of the ocean floor.

ANTICIGARETTE AGITATION.

THE cigarette habit is one of the most insidious and potent enemies of health and morality indulged in by the young men of the United States. It undermines both the health and the morals in a most certain and effective way. Many a young man finds himself as old at twenty or twenty-five years as he ought to be at sixty or seventy. His constitution has evaporated at the end of a cigarette or cigar. His lungs, liver, kidneys, and other internal organs are as completely saturated with smoke as is a ham from a smokehouse. The "bouquet" of such a man has a whiff of perdition in it.

Adam Clarke said on one occasion that if he were going to make a sacrifice to the

devil, it should consist of a pig stuffed with tobacco. An old cigarette smoker would certainly be the proper sort of person to officiate as priest on such an occasion. The number of men, and women, too, we are sorry to add, who are burning up their lives along with the tobacco they consume, and the resulting disease, degeneration, and death, are simply appalling.

We are glad to see the good work which is being done by Lucy Page Gaston, of Chicago, and others in opposing the use of cigarettes by boys. If the intelligent men and women of the United States could be made to appreciate the evil done by the poisonous weed, they would rise *en masse*, and cast away the dirty thing with all its belongings, and would see that the promoters of this awful curse were tried, convicted, and sentenced to hard labor at some useful employment for the balance of their lives, as the only proper means of at least partially expiating the crimes they have committed as public poisoners.

ANSWERS TO CORRESPONDENTS.

Tic Douloureux.— G. H. W., Iowa, asks what will cure facial neuralgia.

Ans.— Bad cases of this sort require most careful and thorough treatment. In general, the patient must place himself in a good sanitarium, where he can have proper regulation of diet and suitable local applications. Fomentations to the painful parts will usually afford considerable relief.

Pastry — Lentils — Goiter — Prolapse of the Uterus — Opaline Suppositories.— A subscriber asks: "1. What is pastry flour? and where can it be obtained? 2. What are lentils? 3. What causes goiter in a girl of thirteen? 4. Will the application of iodine do any good? 5. Can you give me a simple home remedy for prolapse of the uterus? 6. Are opaline suppositories of any value?"

Ans.— 1. Flour prepared with baking-powder or in some way lighter or finer than other flour. It is obtainable at any grocery.

2. Leguminous seeds allied to peas and beans in chemical composition and nutritive value.

3. The cause of goiter is not well understood. It is probably due to disturbance of the sympathetic system, arising from imperfect nutrition.

4. Probably not.

5. No. You should place yourself under the care of your home physician. The hygienic advice given in the "Ladies' Guide," published by the Modern Medicine Publishing Company, Battle Creek, Mich., would be of service to you.

6. We have no confidence in the remedy named.

To Purify the Blood.— S. A. C. wishes to know the best way to purify impure blood; also how one should live who has to inhale a great deal of paint odor.

Ans.— Pure food, especially a diet of fruits, grains, and nuts, eaten dry; an abundance of water drunk between meals; out-of-door exercise for two or three hours daily to the extent of producing perspiration and gentle fatigue; the daily cold bath, and a sweating bath once a week.

Always Hungry.— H. M., Nova Scotia, says that he is in good health, but is always hungry, so much so as to make it annoying. What is the cause? and what will correct this abnormal craving?

Ans.— Persistent hunger is a sign of a disturbed condition of the solar plexus. The cause may be an irritated state of the stomach, and excessive secretion of gastric juice, or some deeper seated nervous affection. Copious water drinking will often afford relief. Abstinence from flesh food and coarse vegetables, and adherence to a simple dietary, eaten dry, taking two meals a day, are the measures most to be commended.

Yeast vs. Salt-Rising Bread.— L. D., Michigan, queries which is the more healthful — yeast or salt-rising bread.

Ans.— There is no essential difference.

Rheumatism.— Mrs. D. J. Mc D., British Columbia, asks the best treatment to eliminate rheumatism from the system of children. Would a change of climate be beneficial? also massage, and soda in the bath?

Ans.— Give the child a diet of fruits, grains, and nuts eaten chiefly dry. Avoid meats and animal fats. If milk is used, it should be taken sparingly. The child should be encouraged to use fruit freely and to drink water between meals. A dry climate with few changes is beneficial in such cases. A warm bath two or three times a week at bedtime is useful.

Water.— Mrs. C. A. G., Illinois, thinks that the statement that "pure water is a poison" is absurd, and asks our opinion of it.

Ans.— The recent statement made by a certain Dr. Koppe and published in the newspapers, asserting that pure water is a poison, is wholly without scientific foundation. Pure water is absorbed much more quickly than water containing saline or mineral ingredients of any sort, and is the kind of water nature furnishes us in the rain, in the limpid juice of watermelons, and in many other fruits.

Milk with Lime-Water.— Mrs. S. M. W., Wyoming, asks if milk with lime-water added is hurtful; also why she can not drink milk without this addition.

Ans.— The long use of lime-water in milk is harmful. The digestion of infants is often damaged by the continued use of an alkali in this way. Temporary advantage is gained by the fact that it prevents the formation of the large hard curds characteristic of cow's milk, and so facilitates the liquefaction of the milk in the stomach; but the lime-water at the same time neutralizes the action of the gastric juice, and after a time seriously and sometimes permanently injures the digestion through this action.

Dropsy of the Head.— Z. B. T., Georgia: "1. What causes a baby fourteen months old to have dropsy of the head? 2. Can it be cured? 3. What will cure obstinate constipation in such a child?"

Ans.— 1. Malnutrition.

2. Such cases rarely recover.

3. The introduction of two ounces of olive-oil into the rectum at night and the use of granose, granuts, or malted nuts. The moist abdominal bandage at night, and rubbing the abdomen with cold water every morning, may also be found beneficial.

Foods — Calomel.— A. B. C., Canada: "1. How should eggs be cooked to be most digestible? 2. Most nutritious? 3. How should almonds, filberts, and peanuts be cooked? 4. What articles of diet besides eggs and fish are rich in phosphorus? 5. Does zwieback lose its nutriment by overbaking? 6. Does granola contain oats? 7. Is there any stronger alterative than calomel? 8. If so, what is it? 9. Can its equivalent be found in any food?"

Ans.— 1. Place the eggs for half an hour in water at 180°. Another plan is to take the boiling water off the stove, drop the eggs in, wrap the vessel up in flannels, and place on the sideboard for half an hour or an hour.

2. Raw eggs well beaten are more digestible than eggs cooked in any way.

3. By boiling or steaming. They are best combined with other articles of food. "Every-Day Dishes" and "How to Live on a Dime a Day" (Good Health Publishing Company, Battle Creek, Mich.) contain a number of valuable recipes.

4. Granose, granola, and granuts, all whole-meal preparations, nuts, peas, beans, and lentils.

5. Yes, if baked until burned and bitter, not otherwise.

6. Yes.

7. Yes.

8. Cold water employed daily, followed by vigorous rubbing and exercise.

9. No. Foods, medicines, and drugs are entirely different. The free use of fruits and the proper use of water will accomplish any good thing that can be accomplished by calomel, and a great deal more. The practice of resorting to calomel whenever there is a little disorder of the stomach or bowels is exceedingly pernicious, and finally results in producing an enfeebled and disordered state of the liver.

Mushrooms vs. Meat.— W. S., Pennsylvania, asks our opinion of mushrooms to take the place of meat.

Ans.— The writer does not consider the mushroom a fit article of food.

Constipation.— A. W., New York: "1. Why should a strict vegetarian suffer from constipation? 2. What is the best remedy for it? 3. Is kneading of the bowels injurious?"

Ans.— 1. Lack of exercise, and too concentrated a diet, a dilated colon, a feeble condition of the nervous system, and other causes may induce an inactive state of the bowels in a vegetarian. The disuse of meat is not a panacea for all human ills, nor a substitute for the observance of other rules of health.

2. The cause must be ascertained and removed. The free use of granose flakes with fruits and nuts, especially granuts, is of great value in dealing with these cases. Substitute malted nuts for milk.

3. No; it is beneficial.

Flesh.— J. A. T., Missouri, would like to know what nut foods are best to produce flesh, the emaciation being caused by dyspepsia.

Ans.— Any of the nut food preparations except roasted peanuts and preparations of roasted peanuts may be advantageously used. Malted nuts and maltol are especially beneficial. Granuts and malt honey are also to be commended.

Congested Liver — Peas and Beans — Water-Free Food.— F. C. T., Michigan: "1. What are the symptoms of a congested liver? 2. On drinking water three hours after a meal, why should perspiration appear on the forehead? 3. Do peas and beans cause kidney trouble if used in large quantities? 4. Are griddle-cakes baked with

soda injurious? If so, what is a substitute for the soda? 5. What is meant by water-free foods? 6. What will reduce the hydrochloric acid in the stomach when treatment and careful diet only increase the acid?"

Ans.— 1. Pain in the region of the liver, and slight enlargement.

2. Increased activity of the skin is the natural result of water drinking. In some persons the effect is more intense than in others.

3. No.

4. Yes. No substitute is required. Griddle cakes can not be made a wholesome article of diet.

5. In the analysis of foods the food substance is subjected to a drying process by which every particle of water is removed. The amount of water driven off from food substances in the ordinary form is indicated in the tables showing the analysis of various foods. In estimating the amount of food a person requires for twenty-four hours, the solid part of the food substance, or the portion which remains after the water is evaporated, is taken as the basis of figuring. In some foods the amount of water is so great that gross error would be committed if this fact were not taken into consideration in estimating the weight of food to be consumed in twenty-four hours, thus necessitating the use of the term "water-free food."

6. Twenty to thirty grains of bicarbonate of soda may be taken just before or soon after eating. Ordinarily, however, this is not necessary. It is sufficient to drink a glass of hot water just before eating, and apply a fomentation soon after, if pain is present. Fomentations are generally of more value before the meal than after it, as they have a tendency to diminish hydrochloric acid production.

Fruits.— A. S. L., Pennsylvania: "1. Are prunes and oranges beneficial for flatulence and insomnia? 2. Do any of the following cause gas in the intestines — raisins, oranges, beans, peas, and lentils?"

Ans.— 1. Yes, but they should not be eaten with vegetables or meat.

2. Beans and lentils eaten without removal of the hulls are exceedingly productive of gas, in both the stomach and bowels.

"Pigeon Toe" Walking.— A subscriber asks if we would put braces on a baby two years old, who is strong, but who walks "pigeon-toed."

Ans.— A suitable appliance is necessary in cases of this sort, unless the child can be taught to walk properly by gymnastic training.

Electricity — Cane-Sugar.— A. P., Iowa: "1. What is the difference between faradic and galvanic electricity? 2. How should electricity be employed for nervous exhaustion? 3. How long does cane-sugar remain in an empty stomach?"

Ans.— 1. The faradic electrical current is an interrupted alternating current produced by passing a current from a galvanic cell through an induction coil. In galvanic electricity the current is used directly from the cell, or rather cells, as a number of cells are required to obtain a current of sufficient strength.

2. Numerous applications may be made advantageously, according to the indications of different cases. The querist will find his questions thoroughly answered in the "Home Hand-Book of Domestic Hygiene and Rational Medicine," published by the Modern Medicine Publishing Company, Battle Creek, Mich.

3. In a dilated stomach, even soluble substances are retained for a long time, for little or no absorption takes place from the stomach, and the organ empties itself very slowly. Fluids pass quickly through a healthy stomach into the intestine, where absorption takes place.

"Spots" before the Eyes.— M. B. C., Massachusetts, asks the cause and the cure of dark spots before the eyes, and flashes of light at night. The right eye is most affected.

Ans.— This symptom indicates the possible presence of a serious disease of the eye. A competent oculist should be consulted at once.

Eggs.— L. M. K., Ohio: "1. Are eggs useful for one with hypopepsia? 2. If so, should they be soft or hard boiled? 3. Should a healthy person eat eggs once a day? 4. Do eggs ever cause biliousness?"

Ans.— 1. Eggs properly cooked, slightly boiled, poached, curdled, or taken raw (well whipped), are much to be preferred to meat, and by many persons can be eaten better than milk. Those suffering from hypopepsia, however, are unable to eat them in any form, because of the deficiency or absence of gastric juice. Eggs decay in the stomach, giving rise to biliousness, and often to other symptoms.

2. Soft boiled.

3. Eggs are not a necessary article of diet. Nuts are more than a complete substitute.

4. Yes, in persons suffering from hyperpepsia, especially when the stomach is dilated.

Massage.— Mrs. M. E. C., Missouri: "In giving massage, should the operator always laugh and talk, or would it be better for nervous patients and those suffering from insomnia to have quiet?"

Ans.— In the application of massage or any other treatment it is of the utmost importance that quiet should be maintained, so that the nervous system of

the patient may not be disturbed and the action of the treatment interfered with.

Gluten Flour.—Mrs A. H. J., Illinois, wishes to know if she can buy gluten flour outside of Battle Creek.

Ans.—The writer knows of no reliable gluten flour manufactured by other parties than the Battle Creek Sanitarium Health Food Company. The best of the so-called gluten flours manufactured elsewhere are simply fine middlings, or ordinary spring-wheat flour, or simply ordinary flour.

Dropsy — Bronchitis — Worms.— W. R., Michigan: "1. What do you consider a good remedy for dropsy? 2. I have had bronchitis for twelve years; have used a nebulizer for four years, but with no relief. What remedy would you advise other than change of climate? 3. What remedy is efficient for worms in a baby two years old?"

Ans.—1. The cause must be ascertained. This question can not be answered without further information. Dropsy is due to a variety of causes, especially disease of the heart or kidneys and liver.

2. The neutral bath, temperature 92° to 95°, for one to two hours just before retiring at night, three times a week. The chest pack (see GOOD HEALTH, October, 1897) will be found a most excellent remedy. Copious water drinking will aid expectoration. The cold friction bath should be employed every morning (see page 211 in this number).

3. The nature of the worms must be ascertained in order to determine the remedy.

Bananas.—E. D. B., Pennsylvania: "1. What do you think of bananas as an exclusive diet? 2. Is any element present in so small a proportion in them as to necessitate the supplement of some other food? 3. Do they contain levulose? 4. Will not the sugar take the place of fat? 5. How many bananas or what weight of them are necessary for one's daily food, if used alone? 6. Does it affect their nutritive value to pick them green? 7. Do they contain acid? 8. Is the albumin in them as nourishing as that of meat?"

Ans.—1. It is possible to live on bananas, but for a thoroughly satisfactory diet nuts should be added.

2. The banana does not contain fat.

3. Yes.

4. To some extent, but not wholly.

5. It would be necessary for a person to eat five pounds of bananas daily, in order to sustain life.

6. Green bananas contain less sugar than those which have matured.

7. No.

8. Yes, and more digestible, but the amount is small. Bananas and nuts constitute a perfect diet, provided the bananas are ripe and the nuts well masticated.

Hypochondria.—G. McK., Vermont: "1. I am nineteen years of age, and have had stomach trouble with extreme nervousness for three years. Would a vegetarian diet strengthen my nerves? 2. What else would help?"

Ans.—1. Yes, if suitably adjusted to the case.

2. A cold friction bath taken every morning. A description of this bath will be found on page 211.

Stomach Trouble.—Mrs. A. C. P., Colorado, asks what will cure a condition producing excessive gas in the stomach and bowels, accompanied with pain under the right shoulder-blade.

Ans.—A dry diet of fruits, grains, and nuts, avoiding meats, vegetables, and animal fats. Avoid drinking at meals. In very bad cases, cleansing of the stomach by means of gastric lavage may be required.

Nuts — Prune Pits — Tomatoes — Catarrh — Disinfectant for Sinks.—L. K. W., Ohio: "1. How should common walnuts be prepared to make them digestible? 2. Are the meats of prune pits of any food value? 3. Is the tomato a fruit or a vegetable? 4. If fruits and vegetables should not be eaten at the same meal, why are they recommended in GOOD HEALTH in 'Seasonable Bills of Fare'? 5. Is any good derived from drinking sassafras tea? 6. If an egg is rendered indigestible by being cooked at too high a temperature, how can it be healthful to eat baked dishes containing eggs, recipes for which are given in GOOD HEALTH? 7. How are milk and butter sterilized? 8. What is the cause of neuralgia of the face when the teeth are all sound? 9. When oil of eucalyptus does not help, what combination of oils do you advise for nasal catarrh? 10. Please name a good disinfectant for sinks."

Ans.—1. They may be eaten fresh, if well chewed, or crushed into a paste and used as butter or combined with other foods.

2. No.

3. A fruit.

4. The use of fruits and vegetables at the same meal is not necessarily injurious to a person with sound stomach, but with a person whose digestion is slow, or who has a defective stomach, it is often productive of much disorder.

5. No, except for the water which it contains.

6. When the albumin of the egg is thoroughly mixed with cereals in the form of a dough, the objection to cooking at a boiling temperature is to a large extent removed, for the reason that the albumin is spread out in thin flakes, which are quickly

dissolved by the gastric juice. When hard-boiled eggs are eaten, the albumin is swallowed in hard lumps, which are very slowly dissolved by the gastric juice. However, it is well to dispense with the use of eggs, and to use nuts instead in pastry and with other cereal foods.

7. By boiling.

8. There are various causes, such as exposure to cold, impairment of the general health, an impoverished state of the blood, injuries of the nerves of the face, the growth of small tumors pressing upon the nerves, etc.

9. The combination of menthol with oil of eucalyptus may be found beneficial.

10. Chloride of lime, two pints to the gallon, freshly prepared. Half a gallon at least should be poured down the drain every day.

Tomato — Breathing — Air for Lung Trouble — Air at Night.— J. K., Sweden: "1. Are tomatoes a good food? 2. Should they be eaten raw? 3. Should one breathe through the mouth when speaking or singing? 4. Is dry, moist, cold, warm, dense, or thin air best for a person with lung trouble? 5. Does one need more fresh air at night than during the day?"

Ans.— 1. Yes.

2. Yes, if well masticated.

3. Yes; but ordinarily, when not singing or speaking, it is preferable to breathe through the nose.

4. Different conditions of the lungs require different atmospheric conditions. Dry, cold, rarefied air appears to be best in tuberculosis, while warm moist air is preferable in chronic bronchitis.

5. No.

Vegetarian Restaurant.— E. G., Illinois: "Is there a vegetarian restaurant in Chicago?"

Ans.— Yes, the Pure Food Café, Cor. State and Washington, Stewart Bldg.; and the Health Food Restaurant, 178 Wabash Ave., Chicago.

Drinks.— An "old lady" asks what we may drink besides water; and if a weak decoction of cocoa shells is injurious.

Ans.— A weak decoction of cocoa shells might not be especially harmful, but drinks at meals are not necessary. Some liquid food, as malted nuts, is preferable to cereal coffee or any other substitute for tea or coffee.

Children of Tobacco-Users.— A reader of GOOD HEALTH asks if the children of tobacco-using fathers are apt to inherit any disease as a result.

Ans.— No actual disease is inherited, but the tendency to nervous affections and general constitutional weakness, especially disorders of the heart, liver, and kidneys, is inherited.

LITERARY NOTICES.

Current Literature for March makes this announcement: "Beginning with the next (April) number, *Current Literature* will be changed in size to that of the standard magazines, but with a slightly broader type page. An increase will be made in the number of pages, although the appearance of the old magazine will be retained as far as possible. This change has been forced upon us by a rapidly growing circulation, and by demands of advertisers. No less good reading will appear in the magazine in the changed form, but if anything it will contain a greater amount, and we shall study to make it even more varied and useful than in the past."

When we remember that this magazine now contains nearly one hundred pages of solid reading matter, and that of the best, culled from all possible sources, we feel that the effort of the publishers to meet the ideas of the public should receive a hearty appreciation. *Current Literature* is an indispensable adjunct of the library, whether home or public, if one wishes to keep up with current thought; for it is impossible to read everything that is printed nowdays.

Current Literature Publishing Co., Bryant Building, 55 Liberty St., New York. $3.00 a year.

Health-Culture for March opens with an article by Dr. W. R. C. Latson, on the "Composition of Foods," including a table showing the percentages, which will be read with interest and with profit. Dr. James H. Jackson shows that health is from within as well as subject to external conditions. "The Holocaust of Brain Workers," by James Leonard Corning, Sr., is a warning against the high pressure under which so many Americans are living. "A Study in Diet," by Chas. E. Page, M. D., considers the matter of eating from a practical standpoint. Dr. Felix L. Oswald considers the "Relation of Perfumes to Health," showing that these may prove helpful. "Liver Troubles and Their Treatment," by Dr. S. W. Dodds, shows what to do for this sometimes troublesome organ. "The Home a Gymnasium," by Mrs. O. V.

Sessions, is a very fully illustrated article, showing that work in the home may take the place of a gymnasium if proper carriage and position of body is observed in doing it, and this will certainly prove suggestive and helpful to many women. The editor considers some new ideas as "Danger Signals." There is a variety of miscellaneous matter presented in this number, making up a very excellent issue of a periodical which ought to have a wide circulation, and the reading of which will certainly contribute to a better physical condition. $1.00 a year or 10 cents a number. *Health Culture*, 503 Fifth Ave., New York.

No personal article about John Ruskin has so largely been inspired by intimate knowledge and sympathy as that written by Canon Rawnsley and printed in the Magazine Number of the **Outlook** for March. Dr. Rawnsley is the vicar of Crosthwaite, Keswick, and knew Brantwood and its master for many years. He writes with many details and anecdotes of Ruskin's services to his neighborhood, and especially to the village of Coniston; of the great writer's friendships, and of the simple and touching services at his funeral. The article has several illustrations. Mr. W. S. Harwood has made a special personal study of conditions of industrial life in Rochdale, England — the ancient Lancashire city in which industrial co-operation was born. He furnishes an illustrated article on the subject for this number. *The Outlook Company*, New York, $3 a year.

The **Forum** for March contains its usual array of timely and interesting articles. No dull contribution graces its pages. Among the twelve papers to be found in this number are "Government Deposits in Banks," by George E. Roberts, director of the United States Mint. Mr. Henry O. Dwight discusses "Our Mohammedan Wards;" George F. Becker, United States Geologist, portrays "Rights and Wrongs in South Africa;" F. Cunliffe-Owen writes entertainingly of "Englishmen in the United States;" William Ordway Partridge, the celebrated sculptor-author, contributes an article on "The True Relation of Sculpture to Architecture;" Ho Yow, Chinese Consul-General to the United States, gives his views concerning "Western Benefits through China's Development;" and Prof. W. P. Trent furnishes a review of "Mr. Stephen Phillips's Play."

The Home Journal, of New York, is a weekly newspaper of literature, art, music, and the drama, containing poems, short stories, translations, letters of travel, correspondence from Paris and London, excerpts from the foreign press, essays, book reviews, and gossip of fashion. It is the exponent of that literary and art culture which gives grace and refinement to social intercourse. It is an international journal, and by its foreign correspondence and essays brings its readers *en rapport* with the social life of the great European centers. The *Home Journal* addresses its editorial and advertising columns to people of culture and fashion. It is essentially a paper for the home. Price, $2 a year; single copy, 5 cents. Morris Phillips & Co., 231 Broadway, New York. Send for specimen.

The **Training-School Advocate** is a monthly journal of 32 pages, just beginning its second year. It is devoted to the interests of Christian education, being a staunch advocate of manual training and all branches of learning that conduce to the upbuilding and development of a true Christian character. It is the exponent of the principles upon which the Battle Creek College was founded, and gives every month reports from teachers who are conducting schools along these lines all over the United States. Price, 50 cents a year. Address the *Training-School Advocate*, Battle Creek, Mich.

H. J. Whigham, the correspondent of **Scribner's Magazine**, who is now with Methuen's division at the Modder River, has had very good fortune in getting his articles and photographs to this country promptly. *Scribner's* has been the first of the magazines to publish articles written on the field of battle. Mr. Whigham's article in the March number describes three fights. All the illustrations are from his own films, which were developed after they reached this country.

Pamphlets Received.

"The Climate of Colorado for Respiratory Diseases;" "The Tuberculin Test, and the Need of a More Complete Diagnosis of Tuberculosis," Charles Denison, A. M., M. D., Denver, Colo.

"Hygiene of the Nose." W. Cheatham, M. D., Louisville.

"Alcoholic Gastritis," by J. A. Hofheimer, M. D., late attending surgeon, Harlem Hospital Dispensary, New York. Reprint from the *Medical Mirror*, St. Louis, Mo.

"Imperfect or Deficient Urinary Excretion as Observed in Connection with Certain Diseases of the Skin," and "How Far Has Specialism Benefited the Ordinary Practice of Medicine?" by L. Duncan Bulkley, A. M., M. D., New York.

"Prognosis of Laryngeal Tuberculosis;" "Sinus-Thrombosis: Cure without Opening the Sinus." Robert Levy, M. D., Denver, Colo.

PUBLISHERS' DEPARTMENT.

THE WORLD'S TEMPERANCE CONGRESS.

THE Archbishop of Canterbury, as president of the National Temperance League, issued a circular from Lambeth Palace dated the 1st of November, 1898, convening a congress of the World's Temperance Workers, to be held in the Medical Examination Halls, London, from June 9 to 18, 1900.

The program of the congress will include every aspect of the temperance question, which will be dealt with by experts in their various departments; historical papers will present the exact position of the temperance movement throughout the world at the date of the congress. Addresses will be given by the president of the congress, and by the presidents of the several sections; official sermons will be preached, and social receptions of the delegates and various public demonstrations will take place. Arrangements are being made for foreign delegates to visit such public institutions as the experience in connection with which bears upon the temperance question.

The adoption, it is proposed, of an address to patriots and philanthropists of all nations; of an appeal to parents and guardians in behalf of the training of the young in the principles and practice of abstinence, and of a call to temperance workers in view of the new century, will be an important feature of the congress.

Application for further information and membership enrollment forms should be made by every society or individual who can become associated with the congress, either by sending delegates, or attendance, or by becoming corresponding members. Address Robert Rae, Secretary of the National Temperance League, 34 Paternoster Row, London, E. C., England.

The doctor (to patient, approvingly) — "Well, Patrick, you look greatly improved. I judge you have adhered strictly to my advice, and have taken plenty of animal food."

Pat (earnestly) — "Oi hov, docthor. The corn an' oats seems to agree wid me, but Oi honestly t'ink hay is bad fer me shtummick." — *Ex.*

A non-poisonous antiseptic mouth wash,

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LITERATURE UPON DEMAND.

LAMBERT PHARMACAL COMPANY, St. Louis,

SOLE MAKERS OF LISTERINE.

CHRONIC DYSPEPSIA SUCCESSFULLY TREATED WITH PEROXIDE OF HYDROGEN AND A CAREFULLY SELECTED DIETARY.

GEO. A. GILBERT, M. D. (*New England Medical Monthly*, December, 1899), calls attention to a method of rational measures used by him in the treatment of a persistent case of chronic dyspepsia.

The patient, aged forty, was a robust-looking man, and would not have been considered ill were it not for the prominent dark rings under his eyes, his injected conjunctivæ, and a drawn expression of the face, indicative of some serious disorder. Six years ago he suffered from an attack of acute gastritis, after which he never felt as well as previously. He gave the typical symptoms of one suffering from severe chronic gastritis. The patient had tried all sorts of medicines, with the result that he was in a worse condition.

On examination, the author found the patient to be slightly feverish, pulse rapid, tongue flabby and heavily coated, while the teeth and cavity of the mouth were covered with a foul-smelling, sticky mucus.

The case was one in which antiseptics were clearly indicated. Ozonized water made of one part hydrozone to four parts water, was prescribed as a mouth wash. In order to combat the fermentative changes which were taking place in the stomach, a mixture of one ounce of hydrozone and two quarts of sterilized water was made. The patient was directed to drink half a tumblerful half an hour before meals. A dram of glycozone diluted in a wineglassful of water was ordered to be taken half an hour after meals. Directions were also given as to the selection of proper foods and the manner in which they should be eaten.

These simple procedures gave satisfactory results, and at the end of a fortnight the patient reported that for the first time in six years he was able to eat his meals without dread of subsequent distress and eructation of gas.

NOME CITY, ALASKA,

Is twenty-four hundred and fifteen miles from Seattle, via ocean, thirty-three hundred and eighteen miles overland. It is said to be the richest gold field discovered up to this time. The first steamer will leave Seattle on or about May 20, 1900. For full particulars, maps, etc., address Harry Mercer, Michigan Passenger Agent, Chicago, Milwaukee & St. Paul Railway, 32 Campus Martius, Detroit, Mich.

THE LAND OF BREAD AND BUTTER

Is the title of a new illustrated pamphlet just issued by the Chicago, Milwaukee & St. Paul Railway, relating more especially to the land along the new line it is now building through Bon Homme and Charles Mix counties in South Dakota. It will be found very interesting reading. A copy will be mailed free on receipt of 2-cent stamp for postage. Address Geo. H. Heafford, General Passenger Agent, Chicago, Ill.

THE Chicago & North-Western Railway, in connection with the D. S. S. & A. Ry., put in a new schedule to "The Copper Country" of Northern Michigan on Sunday, January 21, whereby the service between Chicago and Calumet and Marquette, Mich., is greatly improved.

The through drawing-room sleeping car to Calumet, which had been leaving Chicago at 10:30 P. M., arriving in Calumet at 2 o'clock the next afternoon, now leaves Chicago at 8 P. M. daily, arriving at Calumet at 11:50 the next forenoon, with dining car, serving breakfast *à la carte*.

Marquette is reached at 8 A. M., instead of 10:40. The south-bound schedule was also correspondingly shortened. It will be noted that this arrangement affords the earliest arrival in "The Copper Country" and Marquette via any line.

"HOW are you, Mr. Mc Garrey, and how are all your folks?" said I, as he came into the office one morning, "They 're well, they are, all but ma 'm, and she 's not well." Looking at my watch, seeing it was nearly noon, I asked him to have dinner with me. "I don 't mind if I do," said he, and we walked across the street to my hotel. He talked of crops; I listened. As he placed a piece of rare beef on his plate, I pushed a dish of Chile sauce toward him. "What is it?" he asked. "Chile. Put some on your meat; you 'll like it," I replied. He covered the meat liberally, and took a big bite. "What is it?" said he, as he wiped the tears from his eyes, and took huge swallows of water, while I laughed. "Chilly, is it? I think you've forgotten the name; it 's not chilly, it 's hot."

ON one side of a ditch lay a pig with a ring in his snout; on the other lay a drunken man with a ring on his finger. Said a passer-by, "A person is always known by the company he keeps," upon which the pig arose, and walked away.— *The Vineyard.*

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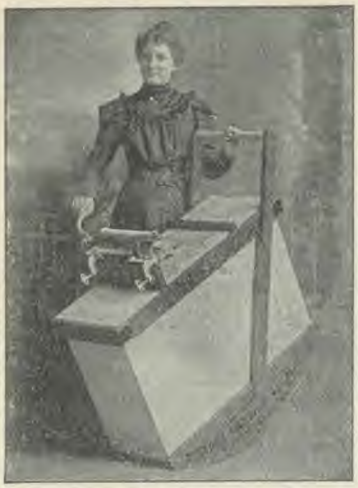

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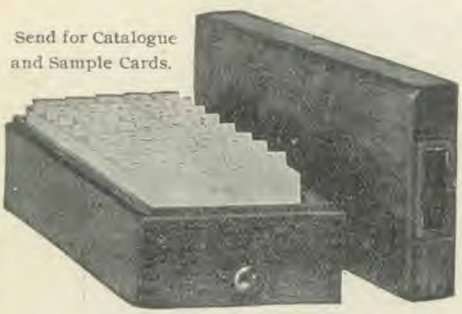

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Our cooking is done upon scientific principles. Oatmeal and other cereals commonly cooked for ten or fifteen minutes are properly cooked in our steam cookers. Our *chef* was educated at the Battle Creek (Mich.) Sanitarium, and has had an extended experience in vegetarian and hygienic cookery. **Guests are invited to visit our kitchen.**

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Delicious Food,
Excellent Service,
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Excellent facilities for giving Electric-Light Baths, Water Treatment of all sorts, Massage, Swedish Gymnastics, and other Rational Treatments. The work is in charge of skilled physicians and nurses from the Battle Creek Sanitarium.

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BUT IT WAS NOT!

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IT resembles meat in flavor.
IT has the consistency of meat.
IT has twice the nourishment of meat.
IT does not contain disease germs.
IT is an easily assimilated, predigested nut and grain food, peculiarly adapted to a weak stomach, and to persons of sedentary habits.

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All Other Pianos Are "Single-Tone" Instruments.

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give brilliancy, variety, and scope, which extend capacity, increase capability, and carry it above and beyond all single-tone pianos.

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Superior to wall paper, better than paint.

Ready for use by mixing with cold water. Any one can apply it.

Write for circular and copy "Alabastine Era."

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Guadalajara, Mexico.

THIS elegant and commodious modern building stands on its own extensive grounds, surrounded by lovely semi-tropical gardens. It is situated in the highest part of the city of Guadalajara, the western capital of Mexico, and known as "The Pearl of the West," on account of its beauty and its magnificent climate, which is specially beneficial to persons affected with throat and lung troubles. Guadalajara has a population of 100,000, and is second only to the City of Mexico as a place of interest. Its climate is simply perfect all the year round, the temperature ranging only from 65° to 85° F. in the daytime. Its elevation is 5,000 feet above the sea-level. The Mexican Central Railroad runs through Pullman palace cars, via Irapuato. Round-trip excursion tickets good for nine months from date of issue, allowing stop-over at all points in Mexico, are on sale every day at the following rates:—

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The Sanitarium is fitted up with all modern appliances for rational curative treatment. First-class resident physicians and trained nurses from the Battle Creek Sanitarium, excellent service, home comforts, moderate terms. Apply for information to—

GUADALAJARA SANITARIUM, Guadalajara, Mexico,
or to the BATTLE CREEK SANITARIUM, Battle Creek, Mich.

$2.10 FOR $1.00

Six Elegant Rose Plants

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AND ONE YEAR'S SUBSCRIPTION TO—

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This offer is limited, owing to the florists' trust now formed, which will cause an immediate advance in prices. However, we are pleased to say that through contracts made with leading greenhouses prior to the formation of the trust, this company will be in a position for a limited time to secure plants at the old prices. This enables us to make so exceptional an offer, and **it should be taken advantage of at once.** Roses will be shipped now, or later in the spring, subject to your instructions.

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If you are a subscriber, send us one new subscription, and we will send you the plants and "How to Grow Flowers."

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2,600 feet elevation. Delightful climate. 300 days of sunshine per year. Finest hotel accommodations in the South. The world's greatest sanitarium and place for recreation.

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Has a genial climate and the greatest variety of medicinal springs on the continent.

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Has business advantages superior to any other part of the nation, because the field is not crowded, competition is not so brisk, and there are greater opportunities for the development of new enterprises.

The entire Pacific territory is now experiencing a great industrial revival. Good openings for all classes.

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ROUND-TRIP TICKETS to Principal Pacific Coast Points that read going via any of the Southern Pacific Company's THREE ROUTES,

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EDWIN HAWLEY, Assistant General Traffic Manager, 349 Broadway, New York.
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In reading and seeking "GOOD HEALTH," do not overlook Mexico, and the fact that the **Mexican Central Ry.** is not only the best but the most popular route through that country.

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Weak Lungs,
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Tickets through to Havana on sale via the Queen & Crescent Route, Southern Ry. and connecting lines, include meals and berth on steamers. We have a very interesting booklet on Cuba and Porto Rico now in press. We will gladly send it to you.

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into the best sporting interior of Maine, Quebec, or New Brunswick, or the Atlantic Seaside Resorts;

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across the Upper Lakes, Huron and Superior, in our Clyde-built steamships from Owen Sound;

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across the continent, over the vast prairies and magnificent Rockies;

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across the vast Pacific, to Japan and China, the Philippines, Hawaiian Islands, Fiji, and Australia — our Empress steamships are the finest afloat — to

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around the world by various routes, but all of the best. Write, and say which you will take and we will send you descriptive pamphlets.

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Or any of the Company's Agents in the United States, Canada, Great Britain, Australia, New Zealand, etc.

MICHIGAN CENTRAL

"The Niagara Falls Route."

Corrected Nov. 19, 1899.

EAST	8 *Night Express	12 †Detr'it Accom.	6 †Mail & Express	10 *N.Y & Bos. Sp.	14 *East'n Express	20 *J'n Accm.	36 *All'tic Express
Chicago	pm 9.35		a m 6.45	am 10.30	pm 3.00		pm 11.30
Michigan City	11.25		8.43	pm 12.08	4.40		am 1.20
Niles	am 12.40		10.15	1.00	5.37		2.30
Kalamazoo	2.10	am 7.30	pm 12.10	2.08	6.52	pm 6.00	4.10
Battle Creek	3.00	8.10	1.00	2.42	7.28	6.43	5.05
Marshall		8.38	1.30	3.09	7.51	7.10	5.30
Albion	3.50	8.57	1.50	3.30	8.11	7.30	5.52
Jackson	4.40	10.05	2.35	4.05	8.50	8.15	6.40
Ann Arbor	5.55	11.10	3.47	4.58	9.43		7.48
Detroit	7.15	pm 12.25	5.30	6.00	10.45		9.15
Falls View					am 5.02		pm 4.13
Suspension Bridge					5.17		4.33
Niagara Falls					5.30		4.40
Buffalo				am 12.20	6.14		5.30
Rochester				3.13	9.50		8.40
Syracuse				5.15	11.50		10.45
Albany				9.05	pm 4.15		am 2.50
New York				pm 1.30	8.15		7.00
Springfield				12.16	6.19		7.40
Boston				3.00	9.05		10.34

WEST	7 *Night Express	15 *NY Bo. & Ch. Sp	3 †Mail & Express	5 *News Express	23 *W'st'n Express	13 †Kal. Ac'm.	37 *Pacific Express
Boston		am 10.30			pm 3.00		pm 6.0
New York		pm 1.00			6.00		am 12.10
Syracuse		8.10			am 2.00		pm 12.25
Rochester		10.00			4.05		2.2
Buffalo		am 12.05			5.20		3.50
Niagara Falls					6.02		4.32
Falls View					6.34	pm	5.05
Detroit	pm 8.20	am 7.20	am 8.25		pm 12.40	4.35	11.25
Ann Arbor	9.43	8.18	9.40		1.38	5.45	am 12.30
Jackson	11.15	9.20	11.05	am 3.30	2.40	7.30	1.5
Battle Creek	am 12.40	10.30	pm 12.25	4.35	3.50	9.08	3.0
Kalamazoo	1.40	11.05	1.20	5.15	4.28	10.00	3.55
Niles	3.15	pm 12.22	2.55		6.05		5.05
Michigan City	4.26	1.20	4.10		7.05		6.01
Chicago	6.30	3.00	6.05		8.55		7.50

* Daily. † Daily except Sunday.

Trains on Battle Creek Division depart at 8.05 a. m. and 4.10 p. m., and arrive at 12.40 p. m. and 6.10 p. m. Daily except Sunday.

O. W. RUGGLES,
General Pass. & Ticket Agent, Chicago.

R. N. R. WHEELER,
Ticket Agent, Battle Creek.

The Cincinnati Northern Railroad Co.

TIME TABLE NO. 3.

IN EFFECT SEPT. 24, 1899.

Trains Pass Battle Creek as follows:

WEST-BOUND.

No. 21, Mail and Express	6.58 P. M.
No. 23, Accommodation	2.07 P. M.
No. 27, Local Freight	8.25 A. M.

EAST-BOUND.

No. 22, Mail and Express	8.25 A. M.
No 24, Accommodation	1.45 P. M.
No. 28, Local Freight	5.30 P. M.

Direct connections are made at Toledo with all roads diverging. Close connections for Detroit and Cincinnati.

J. L. READE,
Ticket Agt., Battle Creek.

E. R. SMITH, City Pass. Agt., 6 West Main St.

E. W. Meddaugh and Henry B. Joy, Receivers.

Chicago & Grand Trunk R'y.

Trains arrive and leave Battle Creek.

Time Card in Effect Nov. 19, 1899.

WEST-BOUND FROM BATTLE CREEK.

No. 9, Mail and Express, to Chicago	12.15 P. M.
No. 1, Chicago Express, to Chicago	9.00 A. M.
No. 3, Lehigh Valley Express, to Chicago	3.40 P. M.
No. 5, Pacific Exp., to Chicago, with sleeper	1.10 A. M.
No. 75, Mixed, to South Bend	8.20 A. M.

Nos. 9 and 75, daily, except Sunday.
Nos. 1, 3, and 5, daily.

EAST-BOUND FROM BATTLE CREEK.

No. 8, Mail and Express, to Pt. Huron, East, and Detroit	3.45 P. M.
No. 4, Lehigh Express, to Pt. Huron and East.	8.27 P. M.
No. 6, Atlantic Express, to Pt. Huron, East, and Detroit	2.25 A. M.
No. 2, Lehigh Express, to Saginaw, Bay City, Port Huron, and East	6.50 A. M.
No. 74, Mixed, to Durand (starts at Nichols yards)	7.15 A. M.

Nos. 8 and 74, daily, except Sunday.
Nos. 4, 6, and 2, daily.

A. S. PARKER, Ticket Agent,
BATTLE CREEK.

A Marvel of
Strength and Lightness

The Carriage of the
NEW MODEL

Remington

Standard Typewriter.

It moves steadily—that promotes lasting good alignment. It moves quickly—that means an easy touch and great speed. SEND FOR CATALOGUE.

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1 Package **PEARLINE.**
2 Packages **QUAKER OATS.**
1 Bar **FAIRY SOAP.**
1 Package **ALLEN'S FOOT-EASE.**
1 Large box **TALCUM POWDER.**
1-2 Pound **PROTOSE.**
1-2 Pound **NUT BUTTER.**
1 Package **GRANOSE BISCUIT.**
1-4 Pound **FIG BROMOSE.**
1 Package **GRANOLA.**
1 Can **PROTOSE** and **BEANS.**
1 Pound **CARAMEL-CEREAL.**

1 Copy Healthful and Artistic Dress System Pamphlet (Illustrated).

THE articles listed are among the home necessities for daily use. Boxes will be furnished only to new subscribers to GOOD HEALTH, and every application must be accompanied by the subscription price, $1. If you were to purchase these articles, they would cost you more than $1.50; thus you effect a saving in purchasing goods you must have, and also get a year's subscription to GOOD HEALTH free.

No more than one box will be furnished to the same person. We will send by freight, or express, collect.

If you are already a subscriber, one new subscription will entitle you to the FAMILY BOX.

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