GOOD HEALTH

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THE RELIGION OF THE BODY.

BY J. H. KELLOGG, M. D.

THE idea that there is anything religious in giving attention to the rules of health is perhaps a novel one to many; nevertheless, it is by no means a modern idea. The ancient Greeks made health-getting and health-keeping a part of their religion. It is said that Lycurgus placed this illustration before his subjects: He obtained two spaniels, both of the same breed and age, and subjected them to different kinds of education and treatment. One of these dogs he fed every day from his own table; he brought him up on dainty tidbits, and gave him the benefit of all the luxury that it is possible for a young dog to enjoy. The other dog the king subjected to various hardships, and employed him in hunting. After a year of training he brought the two dogs out upon the public square before several thousands of people, and placed before them a dish of tender, choice morsels of food and a living hare. One of the dogs immediately plunged into the dish of tidbits, while the other chased the hare, caught him, and brought him to his master's feet. "Now," said the king, "you can see, in the behavior of these two spaniels, the influence of education upon a dog; and if education has this effect upon a dog, how much greater effect will it have upon a human being." The dog which had been brought up in a luxurious way had respect only to the gratification of his appetite, while the reverse was true of the other.

It is unfortunate that in civilized lands there is altogether too much attention given to the gratification of the appetite and the satisfaction of what we might term the propensities of the body — the animal appetites; while, on the contrary, there is too little attention given to the development of the hardier and higher elements of character. Indeed, it is a very serious question, in our time, how we can develop hardy and strong traits of character in our children, and at the same time give them the comforts which we desire them to have. The boy who is brought up under circumstances in which he has to endure hardships and difficulties, and the girl who has to encounter various perplexities, amount to a great deal more, when they come to manhood and womanhood, in doing the world's work, than do those who are brought up luxuriously.

Disregard of the body and its health seems to have come in with the darkness of the Middle Ages. When the fanaticism of the early ages destroyed the magnificent baths of Rome, constructed under Nero and Caracalla, which we now see in ruins, — when the fanaticism of the early church laid low those most civilizing of

agents, the public baths,— it was the beginning of a deteriorating process which developed to its grossest phase in the Middle Ages. A most eminent historian tells us that for a thousand years of that period, not a man, woman, or child in all Europe took a bath except by accident. Even at the present time, among European nations we find relics of this neglect. In certain portions of Spain it is impossible to get an ordinary bath. Indeed, but two hundred years ago the archbishop of Paris actually issued an edict prohibiting the members of the church from visiting public baths; and as the result, at the present time one can scarcely find a public bath in Paris. There are two or three floating baths along the Seine, and one or two others; but if you want a bath, you must order a bath-tub by telephone, and they will come trundling one up on wheels or a vehicle of some kind, and you can take your bath up-stairs in your room. This neglect of baths was carried to such an extent at one time that it was considered to be a mark of devotion to be dirty, it being believed that the purest soul was to be found in the dirtiest body.

What is so valuable to a man as his health? All that a man hath will he give for his health,—this is good Bible doctrine. A man has no legal right to take his own life. Now what is the difference between a man's taking his own life by cutting his throat, by shooting himself, or by the rope? And what is the difference between a man's shortening the term of his natural life by cutting his throat, or by constricting his breathing capacity. One method shortens life at one end of the lungs, and the other shortens it at the other end. The constriction may be so regulated as to cut a man's life off in a minute, in a year, or in five years; but the principle is the same. There might, however, be this difference — one might destroy his life ignorantly, and another knowingly. In such a case there would, of course, be a difference in the moral responsibility.

The excretory organs are the means by which the poisons of the body must be eliminated, and this process is the only way by which these impurities can be kept out of the blood. Now the man who saturates his body with nicotin or tobacco in any form, or with alcohol or other intoxicating drinks, — the man who does that, necessarily imposes upon his excretory organs an amount of labor which nature has not designed them to do, and which they ought not to do, as it is an addition to their normal work in eliminating the poisons formed by the necessary wear of the body. The consequence is that these organs wear out sooner than they otherwise would, as a locomotive made to draw against the brakes, would wear out sooner than it would ordinarily. These extra poisons are to the body what brakes are when applied to the wheels of the locomotive; they paralyze the delicate nerves of the body, and in every way interfere with the bodily processes, compelling the liver, for instance, in addition to its ordinary work, to destroy the poisons of nicotin when it should be engaged in destroying the poisons of the body. If a large part of its energy is used in that way, there is not enough left to destroy the poisons of the body, and hence they accumulate.

No wonder the man who chews tobacco has a sallow complexion. It is not because the tobacco accumulates, but because the poisons produced by it cannot be removed fast enough by the overtaxed liver and excretory organs; hence they accumulate. When poisons thus accumulate within the body, the brain becomes tired, because the poisons paralyze the brain structures so that they cannot continue their work. The same is true

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THE LATE SIR BENJAMIN WARD RICHARDSON, OF LONDON, ENGLAND.

(See page 42.)

of every structure of the body. Every movement of every organ and tissue of the body produces poison, and it is the duty of the excretory organs to carry these poisons out of the system, so as to enable the various organs of the body to perform their work properly and normally. If these poisons cannot be eliminated, the organs of the body cannot properly perform their function; and consequently the life of that person is less efficient than it ought to be.

I want to make this point clear, that in order to live the best and highest life we must live a pure life; we must eat what is good for us to eat, and drink what is good for us to drink. It is singular that so many people imagine that it is possible to make good bones and muscles out of garbage. It has been found that even dogs are subject to jaundice when fed upon garbage. It has been pointed out by Bouchard, a most eminent French physician, and also by Vigoroux and Professor Dana, of New York, that nervous diseases are due to the poisons produced in the stomach and other parts of the body. A large share of the cases of Bright's disease, the organic changes of the body, and the various degenerations of the tissues, are really induced by the poisons set up by fermenting and decomposing food in the stomach, and are at the foundation of almost all the diseases from which Americans suffer.

People frequently say to me, "I am suffering from overwork." "What have you been doing?" I ask. "O, I've been doing this, that, and the other thing,"— really only just enough to serve for a pastime. People are often weary after doing work enough to represent mere recreation —just enough work to keep them from getting "rusty in the hinges." The fact is, the work is hard because the body is laboring under so many disadvantages. It is almost impossible to injure the brain by normal, healthful work; but the brain is injured by work when it is not thoroughly supported by a healthy stomach. The brain can endure as much hard work as it is possible for one to do, without receiving the least possible damage, so long as it is supported by a healthy stomach, so long as the system makes pure, healthy blood. When the brain has worked so long that it is getting into a dangerous condition, nature's great remedy for work, balmy sleep, steps in, and renders it impossible for the brain to work longer without rest. Now suppose a person goads himself on with tea, coffee, or spirits, so that he compels his brain to do a little more than it ought to do; then he is making drafts upon his constitution; he is introducing a larger quantity of poisons into his system than it is able to eliminate.

There is another reason why it is our sacred duty to care for the body, and that is because these bodies of ours are so marvelously constructed,— they are such wonders of skill. Any one who has examined the muscles through the microscope must be impressed with the wisdom, the infinite skill, displayed in the construction of the human body. The little cells of which the body is composed are so minute that three thousand of them might be arranged in a row, and the row be only an inch long. The body is a community; it has different elements, each being set apart for doing its own work, and all working together in the most perfect harmony. In this wonderful arrangement of the human body we have an evidence of design. Herbert Spencer says (and I quote him because he is not a theologian): "After we have done our best to solve the secrets of nature, and after we have made all possible allowances for the automatic operation of law, back of it all there is an unknown Intelligence at work." This Intelligence shapes every

crystal and every rain-drop, and is at work in every fiber of our bodies. If it were not for that infinite intelligence and power working in our fibers, causing the lungs to act, your heart and my heart would not make another beat. And so every function of the human body is working under intelligent direction.

Things are not going by chance. There is no such thing as automatic law; there is no such thing in the universe as a law operating itself. These bodies are commonplace to us, but they are the most wonderful and admirable things in all the world. They are so commonplace to us that we frequently neglect them, and too often treat them like a toy with which a child is delighted to-day, and to-morrow tears to pieces and throws into the fire. There is no reason for such treatment; it is incomparably absurd, the way in which we treat these wonderful bodies of ours, in which we have the highest expression of unknowable intelligence.

During the Middle Ages, and even since that time, very erroneous ideas were held in regard to the value of the body. The body was considered worthless, a thing to be trodden under foot, a thing to be despised. This was in part due to the theological teaching which represented the body as merely "the husk" — "the shell." This led people to undervalue their wonderful bodies; and was the means of introducing wrong practises in regard to them. I am glad to see that these ideas are now giving place to more rational views, and a more wholesome theology is being taught the pupils of this generation. There are also being introduced into our public schools systems of exercise, and instruction is given in respect to the care of the body which is antagonizing these old ideas. As a result, better habits are becoming established; and I believe an appreciation is growing for the conception of the ideal man, so well expressed by Shakespeare: —

> "What a piece of work is man;
> How mighty in reasoning;
> How infinite in faculties;
> In form and moving, how express and admirable;
> In action, how like an angel;
> In apprehension, how like a god;
> The beauty of the world, the paragon of animals!"

"God created man in his own image." In this respect man is divine, and in this respect he is an image of Him who created him. This is the greatest of all reasons why it is the duty of every human being to care for his body, — so to relate himself to all the conditions of life that he can have the best possible body and the clearest possible brain, the strongest muscles, the best physique, and the best heart and stomach, so that he can be in every way the best man physically, mentally, and morally.

COMMONPLACE THINGS.

"A COMMONPLACE life," we say, and we sigh.
But why should we sigh as we say?
The commonplace sun in the commonplace sky
Makes up the commonplace day.

The moon and the stars are commonplace things,
And the flower that blooms, and the bird that sings;
But dark were the world, and sad our lot,
If the flowers should fail and the sun shine not;
And God, who studies each separate soul,
Out of commonplace lives makes his beautiful whole.

— *Susan Coolidge.*

THE MARCH OF CIVILIZATION AND ITS EFFECTS ON SOME NATIONS.

BY MAUI POMARE.

It has been a subject for discussion whether the end of another half-century will see the Maoris of New Zealand still in existence. Already men gifted in foresight have declared that the aborigines of the land of the Southern Cross will soon pass into history as an extinct people. It is a lamentable fact that wherever the foot of civilized man has trodden, the poor natives have disappeared. Indeed, the sun of civilization, wherever it shines, dries up the streams of the dusky races. The Indian no longer hunts o'er the vast prairies, but the iron horse of the pale-faces goes thundering across his former hunting-grounds. The Indian's buffalo has disappeared, and he is following fast in its footsteps. The Hawaiian's voice is gradually being hushed into silence. The native Australian is on the verge of extinction, and the Tasmanians are no more.

Being myself a native of New Zealand, and a lover of my country and race, it is my object in this article to bring out a few of the causes which have been silently at work in reducing my people to their present number of but forty-two thousand. I will not censure civilization altogether as being the cause of our decay, but will endeavor to present a few facts showing how the nation at large has helped to hasten its own decay.

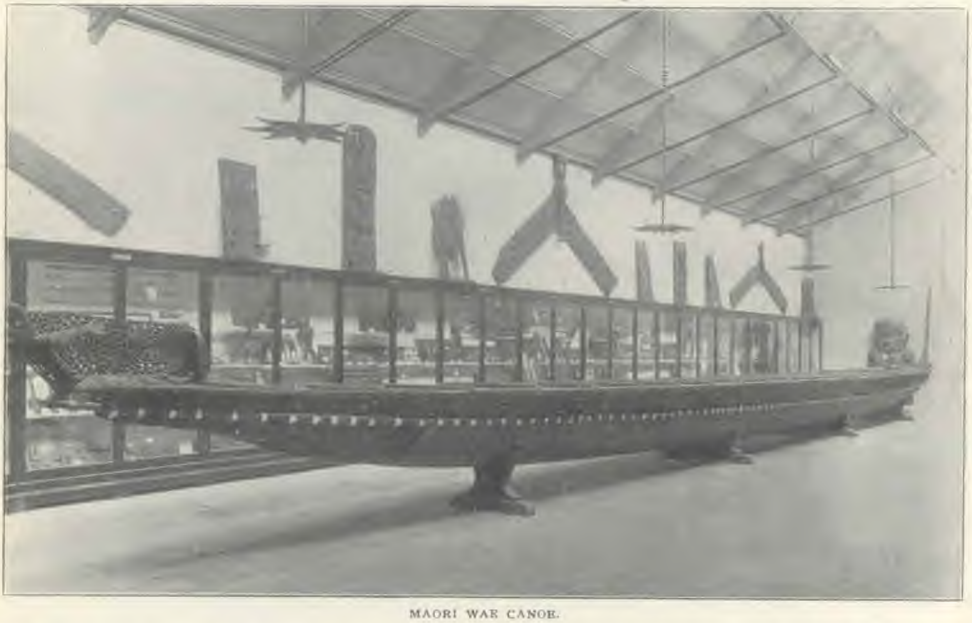
Let us take a glimpse of the Maori as he used to be, when the ocean and lakes saw his face, and the valleys and rocks answered his voice. In the times when the people were numberless, they were engaged more or less in war; consequently they lived in fortifications, which were always on the tops of the hills. This gave them plenty of fresh air, and sanitary conditions favorable to health. During the day they left their forts, and sallied forth, armed, to their cultivations, or farms, which were in the lowlands. This gave them plenty of exercise, besides the training in arms which they received. Furthermore, they ate sparingly, their food consisting of fish, fern-root, sweet potatoes, birds, taro, *karaka*, and various kinds of berries. Certain species of the dog and the rat peculiar to the country were also eaten. Fern-root was the bread of the land, and in fact the starchy portion of it resembles wheat flour. Good fern-root, when cooked, tastes almost like whole

MAORI GIRL IN NATIVE DRESS.

wheat crackers. Taro is the plant from which the Hawaiians make their nutritious *poi*. Besides these there were many other kinds of berries and roots which were not eaten so commonly.

The people formerly used no stimulants of any kind, the universal beverage being pure water. They had no drinks of an alcoholic nature, as did some of the more northern South Sea islanders.

garment thus hung from the shoulders, giving perfect freedom to the arms, and no constriction at the waist. They wore also a kind of kilt at times, called a *piu-piu*. Sandals made from different plants served as boots, but the head went uncovered, except for its rich adornment with feathers. But now our women are becoming "civilized" very rapidly; for you will find even those with tattooing on



MAORI WAR CANOE.

This canoe, now in the Auckland Museum, where the picture was taken, is seven feet wide, one hundred and twenty feet long, and capable of carrying eighty paddlers and about fifty fighting men.

The native tunic was made principally from the fiber of the flax woven very nicely together, and of so soft and fine a texture did they make the *kaitaka* garment that it resembled silk. There were some ten or a dozen different kinds of garments made from this useful plant. They also made clothing from the feathers of different birds, the most valuable being the kiwi (*Apteryx australis*) mat, or robe, and then there was the dog-skin mat also. These garments were fastened on the right shoulder by the men, and on the opposite side by the women. The

their chins and lips, bearing patiently the pains of a constricted waist. I hope that in time my native sisters may become uncivilized again, at least in this respect.

In the good old days the people were very fond of athletics, jumping, running, throwing spears, climbing trees, hunting, wrestling, swimming, and various other out-of-door pastimes being engaged in. Swimming, wrestling, and hunting were the favorite sports. In swimming we have had heroes and heroines whose names are not written on the pages of history; and were their exploits to be related, I

have no doubt that the critical eye of a Captain Webb would not believe it possible to achieve such feats. The story of Hinemoa (the lady of the moa) probably seems but a beautiful legend or myth in European eyes. That great chieftainess, inspired by love, in the calm of the night swam the sea, a distance of three miles, to her lover, guided alone by the melodious tones of his flute. Another lady of the South, with her child on her back, fled from her enemies on an island, swimming to the shore, a distance not less than six miles. These are examples of the capabilities of the Maori women; I need not mention the feats accomplished by men.

The natives were great lovers of the water; and perhaps the fact that they do not swim at all now, except in a few places, has had its influence in their decay. The times are changed. There is no more war. The dream of the dying chief is becoming true, "Behold, I see my race drying up as a stream before the summer's sun." The people do not live up in the highlands any longer, but in valleys and plains close to their cultivations. They do not take so much exercise. They must drive into town now, in a nice rig, or have some one drive for them. They have become infatuated with horse-racing and gambling. They let their lands to the English. Max O'Rell says, "There is humor in English people's having Maoris for landlords." The Maoris also drink grog and smoke to excess. In short, they have become "civilized." I do not altogether believe in the aged chieftain's dream; for though I know the Maoris as a people are destined to die out, yet the race will not really be extinct; for —

> Our Maori blood shall still flow on
> In a new coming race,
> That when the old is passed and gone,
> We still may find its trace
> In noble types of human kind
> With traits wherein there blend
> The white man's more prosaic mind,
> The poet Maori trend.

Such, indeed, is the case. The paddle of the Maori canoe no longer keeps time to ancient songs; but already the blood of Rauparaha, Ranjihaeta, Pomare, and other illustrious chiefs flows in the veins of children bearing a foreign name. Our customs are fading away into the pages of history, and we are gradually being welded with that great nation of Europe, the English.

MUSIC AS MEDICINE.

THAT music has taken its place among the therapeutic measures of the present day is acknowledged by many physicians; and its soothing effects on nervous patients, especially on mental cases, have been frequently tested.

That the sweet strains of Beethoven, Mozart, Handel, and Chopin may lull to sleep the weary "insomnolent," drive away the knowledge of pain, and lead the wandering mind back to the peace and joy of sanity and reason, at least for a brief period, has been often demonstrated. The following is a brief résumé of the facts presented in several of the late magazines and papers in regard to this subject: —

The power of music over disease has been known from the earliest times. Pythagoras held that it was highly serviceable in the treatment of various disorders. Plato and Aristotle regarded it as a valuable prophylactic. In the eighteenth century, Esquirol and Pinel, the great French authorities on insanity, gave ample proof of its value in cases of mental

trouble. It was found useful in the case of Philip, king of Spain, who had been suffering for months from profound melancholy. He absolutely refused food, and his morbid fancies broke out in incoherent utterances, or in commands to his officers, which they refused to obey. The queen, with the quick intuition and resource of a woman, thought of Farinelli, the tenor. She summoned him, and gave orders that at certain hours he was to sing from the favorite operas in the room adjoining the royal bedchamber. At the end of three days the spirits of the king revived, and at the end of a week he was restored to his normal condition — active, alert, and able to be about his business, which he transacted with rather more than his usual promptitude. There was no relapse. The story of David playing on his harp before King Saul furnishes one of the best-known instances of the effect of music as a remedy for insanity.

Music as a regular feature of treatment was first used in the asylums of France, but its value as a remedial agent was recognized as early as 1809, a magazine of that date stating that several medical literati of the Continent were then making experiments as to the influence of music on mental cases.

Florence Nightingale, after her long and varied experience in hospitals, took the initiative in forming the London Musical Mission, or Guild, whose services should be at the disposal of hospitals and asylums of the city when special cases of mania and melancholia were to be treated. She had long been convinced of the power of music and color to calm excitement, reanimate hope, diffuse joy, and dispel perversion of thought, results which, within her own observation, had frequently been followed by the re-establishment of sanity. She concluded that such agencies have power to reach consciousness and overthrow diseased action.

The London Guild of St. Cecilia has taken the most notable step in introducing music into hospital practise. It has organized a permanent choir, consisting of three vocalists — soprano, alto, and baritone — and three instrumentalists — first and second violins and harp. The guild proposes, among other things, to provide a large number of musicians, to be ready at any moment to answer the summons of the physician, and specially trained to sing and play the most quieting music, which should be administered to those whose nerves are weakened by illness. It will also obtain the best advice about the classes of illness liable to find music beneficial.

Canon Harford, director of this guild, says it is difficult to find vocalists who can sing very softly, but he proposes to have them trained for this purpose, as it is thought that such music is most likely to accomplish the desired end.

A recent issue of the Chicago *Times-Herald* contained a lengthy report of some experiments made on a few of the most stubborn chronic cases at the insane asylum on Blackwell's Island, New York. The effect was good in all cases, the patients becoming more quiet and tractable under its influence, and the temperature and pulse-rate being notably diminished.

If music can succeed in banishing, even for an hour, the melancholy of insanity, it deserves a place of honor among those beneficent agencies which procure temporary oblivion to pain and sorrow for the most helpless and hopeless of human beings.

CONSUMPTION: WHAT IT IS, AND HOW IT MAY BE CURED.

BY W. H. RILEY, M. D.,

Superintendent of the Colorado Sanitarium, Boulder, Colo.

ONE hundred thousand lives are lost yearly in the United States alone as the result of pulmonary tuberculosis, or so-called consumption of the lungs.

It is now established beyond all doubt that consumption is caused by a microscopical plant, or germ, the so-called bacillus of tuberculosis. This germ is usually taken into the lungs with the inhaled air; and, finding there a suitable soil, it grows, multiplies, and produces disease of the lung tissue. It does not grow, with any success at least, outside of living animal tissue, and will not thrive even there if the tissue is in a healthy condition.

Consumption of the lungs is, in nearly every case, preceded by some other disease. Frequently indigestion, la grippe, a hard cold, or some other disorder so lowers the vital resistance of the lung tissue that the germs of tuberculosis may easily take up their abode there, and grow and multiply in great numbers, and by the irritation which they produce, cause consumption.

One preventive measure against this disease, then, would be to take good care of the general health, and when the body is attacked by any disorder, such as indigestion, a severe cold, la grippe, or malaria, to give it prompt and careful attention and thorough treatment.

Another preventive measure is to keep the germs of tuberculosis from entering the body; but under the present social and sanitary regulations it is almost impossible always to do this. If the proper sanitary precautions were taken, and the sputum of every tubercular patient were destroyed, the lives of hundreds and perhaps thousands of individuals might annually be saved in this country alone.

Attended as it usually is by such fatal results, consumption of the lungs has always been regarded as among the diseases most to be dreaded. But with our present knowledge of tuberculosis and the modern methods of treatment under favorable climatic conditions, if taken in hand in its earlier stages, it is quite as amenable to treatment as typhoid fever or malaria.

The great difficulty with most people who have contracted this disease is that they do not make use of proper climatic conditions and rational methods of treatment at the very incipiency of the malady. Frequently it has run its course for a long time and become well fastened upon the individual before it is discovered that he has tuberculosis; and in the advanced stages of the disease much less can be accomplished than when properly treated at the beginning.

The Colorado Sanitarium offers exceptionally good advantages for the treatment of this class of invalids. Situated as the institution is, at an elevation of over five thousand feet above the sea-level, in the Rocky Mountains, and in a dry atmosphere, with an abundance of sunshine, the climatic conditions of the place are such as are universally recognized by the medical profession to be the best.

These advantages, with every appliance and remedy that science has proven to be useful in the treatment of the disease, beautiful scenery, careful and conscientious attention by physicians and nurses, offer to those who are suffering with any form of lung trouble the very best pos-

sible means of regaining their health in the shortest time and most comfortable manner. As the result of making use of these advantages and methods, many are now rejoicing in renewed health and vigor, who without them would certainly have met an untimely death.

The improvement of this class of sufferers after a few weeks' sojourn at the Colorado Sanitarium is very apparent, even to the most casual observer, and is along the following lines: —

1. The temperature, which in many cases is high, gradually decreases, and after a time, in cases not too far advanced, reaches the normal.

2. The cough, which is often a troublesome symptom, very soon lessens, and in a large number of cases entirely disappears.

3. The patient gains in strength and flesh. At present there are those in the institution who have gained twenty-five, eighteen, sixteen, twelve, and ten pounds in flesh since they first came under treatment. The general appearance of improvement in these cases is often very striking.

GOOD-BY TO THE JUICY BIVALVE.

THE issues of the *British Medical Journal* for September 12, 19, and 26, contain the special report of G. E. Cartwright Wood, M. D., B. S., on this subject. The report shows that the work has been done in a thoroughly scientific manner, and the results obtained are what one who is acquainted with the life history of micro-organisms and the habitat of shell-fish would naturally expect.

At one time it was thought that there was a special idiosyncrasy on the part of the individual in cases of poisoning from eating shell-fish; but this theory is no longer tenable, for it is a well-known fact that in many instances where some form of shell-fish has been served at large gatherings, every one who partook of them was poisoned.

It has frequently been stated that the symptoms were due to metal poisoning by copper. "One of the facts which has undoubtedly supported the belief in the copper-poisoning theory has been the frequent association of the place of origin of the mussels with shipping, as in the case of docks and harbors; but this, as we shall presently see, is capable of quite another interpretation. The whole history and symptoms of such cases of mussel poisoning are very similar to those cases of meat poisoning (so-called 'botulism') which have been frequently observed and described in recent years. That this is not a merely superficial resemblance has been shown by the researches of Brieger and Schmidtmann on the Wilhelmshavn epidemic which occurred in 1885." They were able to extract from the suspected mussels a very active poison, which they named mytilotoxin. This poison, the author stated, was the product of a special microbe, and was found by Wolff to be produced chiefly in the liver of the shell-fish.

It has recently been observed by Lustig, of Turin, that mussels found in the stagnant waters of harbors and canals are infected with two microbes, "the one innocuous, the other highly pathogenic." The highly pathogenic microbe, when injected into the intestinal tract of animals, rapidly causes death. "The lesson to be learned from these and numerous similar observations is, as we shall show, that no mollusks should ever be used as articles of diet, which have been obtained from waters subject to contamination,

since this alone apparently (without the presence of specific infective disease germs, such as those of typhoid fever or cholera) can give rise to most dangerous disturbances of the general health."

The old idea that oysters were free from the danger of producing the poisonous symptoms which had been observed to follow the ingestion of other forms of shell-fish, is no longer held. On the contrary, poisoning produced by the ingestion of oysters is of common occurrence, and accounts of such cases are frequently reported. Besides containing a poison which when taken into the system pro-

TYPHOID FEVER GERMS.

duces severe gastro-intestinal disorders and in many cases death, the oyster may be a means of conveying infectious diseases, such as cholera and typhoid fever.

M. Chantemesse (*La Presse Médicale*) recently reported the results of an investigation made by him in several cases in which the patients had contracted typhoid fever after eating oysters. A bacteriological examination of the oysters revealed the presence of both the colon bacillus and the typhoid bacillus. The author states that "the contamination of oysters occurs in oyster beds at the mouths of rivers; the more heavily the rivers are charged with organic matter, the fatter the oysters become, and the more dangerous."

Within the last few years, American physicians have reported a number of similar cases; and the thoroughness with which the work has been done proves quite conclusively that the oyster is another of the means by which pathogenic and other germs find their way into the human organism.

From the experiments that Dr. Wood has carried on, he has shown that the germs of typhoid fever and cholera live for months in sea-water. He found that sea-water inoculated with these germs contained on the first day 100,000 to 120,000 germs in each c.cm.; at the end of three months each c.cm. was found to contain 80,000 to 90,000 germs. Experiments were made with sea-water obtained from a large number of places, but the results obtained were practically the same in all cases, "showing clearly that large numbers of these persist over as long a period as three months."

It frequently happens that before the consumer obtains his oysters they have been in the shop some days. A bacteriological examination of such oysters reveals the presence of large numbers of germs, these, in the majority of cases, producing ptomains which, when injected into animals, produce deadly effects.

The following table shows the result of a bacteriological examination of oyster juice. These oysters were kept in tap water to which some salt had been added. The water was changed daily during the course of the experiment, and the basin was kept in a cool, well-ventilated room.

AVERAGE NUMBER OF COLONIES DEVELOPING FROM ONE CUBIC CENTIMETER (ONE-FOURTH DRAM) OF OYSTER JUICE.

First Day.	*Second Day.*	*Third Day.*
60 to 80	500 to 600	1700
Fourth Day.	*Fifth Day.*	*Sixth Day.*
2000 to 3000	5000	12,000 to 14,000

From this table it will be seen that the longer the oyster is kept out of its natural surroundings, the more dangerous it becomes to the consumer.

The following tables give a brief summary of the facts obtained from the examination of oysters obtained from different sources : —

FIRST-CLASS RESTAURANTS.

Description of Oysters.	Average Number Organisms per dram of Oyster Juice.	Toxicity of Broth Cultures on Animals.
Natives	44,000	toxic
Dutch	560,000	
Natives	300,000	toxic
Best Seconds	140,000	toxic
Dutch	720,000	toxic
Best Seconds	880,000	toxic

OYSTER SHOPS.

Whitstable Natives	7,200	toxic
Scotch Natives	240,000	toxic
Anglo-Dutch	180,000	
French-relaid	120,000	
Scotch Natives	280,000	toxic
Anglo-Portuguese	64,000	toxic

Examinations of oysters from various other sources were made with practically the same results as shown in the preceding tables.

"The results of the examination of oysters from various sources, as they are supplied to the public for immediate consumption, show that the mollusks at that time frequently contain almost stupendous numbers of bacteria."

"From the experiments recorded in this report, it must be accepted that the disease germs (cholera and typhoid fever bacilli) with which we have here to deal, can probably exist in sea-water for at least two months, and that these would possibly, or even probably, still remain more or less virulent and infective in their character. The laboratory experiments carried out with infected oysters, have shown that the cholera germs do not disappear as rapidly as stated by Giaxa, and we have every reason to believe from comparative experiments that other pathogenic microbes would persist in a similar fashion."

The results of Dr. Wood's experiments show clearly that the oyster is a dangerous article of diet, and a study of its structure and its natural surroundings substantiates this conclusion. It thrives best in sewage-polluted water, its food

CHOLERA GERMS.

consisting chiefly of the organic matter and débris found in the water.

The oyster is a complex organism, and possesses two labial palps which overhang the mouth, an intestinal tract, and liver, kidneys, gills, heart, and nervous ganglia. Professor Huxley says of it that "when the sapid and slippery morsel, which is and is gone like a flash of gustatory summer lightning, glides along the palate, few people imagine that they are swallowing a piece of machinery (and going machinery, too) greatly more complicated than a watch."—*Chas. E. Stewart, M.D., in Modern Medicine.*

EXPECTORATING IN PUBLIC.— Dr. Paul Gibier, a scientific authority, says: "If this habit of expectoration in public could be stopped, I am sure that in time tuberculosis would die out altogether. This seems a very sweeping statement, but it is not an ill-considered one. There is no question in any mind that the spread of tuberculosis is due largely to the habit of spitting. A great many people have tuberculosis without being aware of the fact. They do not know of the danger that comes from ejecting their sputum where it will dry and become pulverized and then fly about in minute particles, to be inhaled by healthy persons, who are thus inoculated with the disease. This random expectoration is a crime."

This subject is receiving a good deal of attention from the municipal authorities at the present time. New York already has an ordinance prohibiting the nuisance, and — what is still more to the point — enforces it; and Chicago is just beginning a vigorous campaign against this evil. The Commissioner of Health has decided to placard the city, and the police will be called upon to enforce the law, which provides that a fine of not more than two hundred dollars nor less than ten dollars for each offense shall be imposed on "any person who shall commit any indecent or filthy act in any place in the city,"— a provision which is construed to cover the filthy and dangerous habit of expectorating in street-cars, on the floors of public buildings, and on the sidewalks.

THE PNEUMOGASTRIC NERVE.

UPON an average, twice a week,
When an anguish clouds my brow,
My good physician friend I seek
To know "what ails me now."
He taps me on the back and chest,
And scans my tongue for bile,
And lays an ear against my breast,
And listens there awhile.
Then is he ready to admit
That all he can observe
Is something wrong inside, to-wit —
My pneumogastric nerve.

Now when these Latin names within
Dyspeptic hulks like mine
Go wrong, a fellow should begin
To draw what 's called the line;
It seems, however, that this same,
Which in my hulk abounds,
Is not, despite its awful name,
So fatal as it sounds;
Yet of all torments known to me,
I 'll say without reserve,
There is no torment like to thee,
Thou pneumogastric nerve!

This subtle, envious nerve appears
To be a patient foe —
It waited nearly forty years
Its chance to lay me low;
Then like some blithering blast of hell,
It struck this guileless bard,
And in that evil hour I fell
Prodigious far and hard.
Alas! what things I dearly love —
Pies, puddings, and preserves —
Are sure to rouse the vengeance of
All pneumogastric nerves.

O that I could remodel man!
I 'd end these cruel pains
By hitting on a different plan
From that which now obtains;
The stomach, greatly amplified,
Anon should occupy
The all of that domain inside
Where heart and lungs now lie;
But first of all I should depose
That diabolic curve,
And author of my thousand woes,
The pneumogastric nerve.

— *Eugene Field.*

TOBACCO AND THE WILL.

So much has been said about the evil effects of tobacco upon the body that its influence upon the will is often forgotten. Not long ago the newspapers contained an item in regard to the boys of a Pennsylvania town, which, if true, does not promise well for their future. According to the statement of the principal of the schools, five out of six boys in attendance smoked cigarettes. The danger is not merely that those boys will grow up with what is now known as "the tobacco heart,"— a disease induced by early smoking, which makes weak and unsound men,— but that they will grow up morally weak, slow in decision, and with little resisting power in times of temptation. Tobacco leads men to postpone decisions and to prefer the easy way, while it intensifies every morbid craving of the body.

It is interesting to notice what is said on this point by Jacob A. Riis in a recent article in the *Century* magazine, describing a farm-school which is maintained for the training of large boys from the slums of New York: —

"It is noticeable that there is no scratching of matches and no lighting of pipes in the hall. Tobacco is as firmly tabooed on the farm as bad language; why, those comprehend easily who have gone among the young men, half boys yet, many of them who fill our jails and penitentiaries, and have listened to their incessant pleading for 'some tobacco, boss.' The weed certainly bears a direct relation, if not to the wickedness of the street, at least to the weakness of it, which is its characteristic symptom."

The same aspect of the matter strikes John Ruskin, who calls tobacco "the worst natural curse of modern civilization," adding in a significant foot-note, "It is not easy to estimate the demoralizing effect on the youth of Europe of the cigar in enabling them to pass their time happily in idleness."

We are sent into the world to make decisions. Every boy will have to choose a thousand times, and will become at last what his choice makes him; and often there is no time given in which to consider slowly what the choice should be. No one can be prepared to reach swift and wise decisions if he has lamed his will by idle indulgence, or accustomed himself to study the world through a cloud of tobacco smoke.— *The Congregationalist.*

DR. NANSEN'S TESTIMONY AGAINST TOBACCO.

WHILE science and physiology long ago exploded the idea that whisky keeps out the cold, there are still those who hold to the notion that spirits are adapted for cold climates and seasons. To all such we commend the testimony of Dr. Nansen, whose experience abundantly confirms science and physiology. Let it be borne in mind that the explorer is no teetotal fanatic, but a strong-minded, clear-headed, practical man, who is a total abstainer because he believes if he took alcohol he never would succeed.

Before the doctor started on his long and trying voyage of discovery, he had an offer of two cases of old Scotch whisky from a gentleman who evidently believed in its virtues. In his reply to the person who conveyed the offer, Dr. Nansen said: —

"As you know, I am of opinion that the use of alcoholic drinks, especially in arctic regions, is to be prevented [avoided], so I cannot accept the kind offer of Mr. J—— to supply me with very fine old Scotch whisky."

This was dated May 13, 1893, from Lysaken, Christiania.

On a previous occasion Dr. Nansen had to cross on foot the cold region of Greenland, and, along with several companions, spent several weeks on floating ice. For forty days they tramped over frozen snow, with eighty degrees of frost, and in referring to this journey the doctor said: "The only spirits we took were for fuel for our stove, to melt the snow, that we might have water to drink. I believe the use of stimulants to be a mistake."

So on this greater journey he took no alcohol with him for drinking purposes; only methylated spirits for the purpose of cooking in a region where no firewood could be obtained. — *National Temperance Advocate.*

HOW AUSTRIA DEALS WITH DRUNKARDS. — Austria proposes to deal with persistent drunkards by treating them as mentally incapable, and detaining them in special retreats for a term of two years. They may go in of their own accord or on compulsion, but cannot leave at will until their term has expired, except in certain cases on probation. Persons may be sent to the retreat either by order of the magistrate or on the petition of the parents or children, or of the husband or wife, or trustee, or of the chief of a lunatic asylum in which a drunkard may be detained. Inebriates may further be assigned to retreats by the action of the public prosecutor, or by the mayor of the town or village in which the habitual drunkard resides. In all cases the inebriate must be legally tried and convicted, the court being bound to hear witnesses, including the drunkard himself, as well as the doctors, more especially experts on mental diseases. The term of detention will be generally for two years, but the patient may be released on leave after one year, but will be confined again in case he relapses into his former bad habits. — *New York Medical Recorder.*

IF the observer will but go into a Chicago newspaper alley and chat with the boys who distribute the dailies of our great cities, the facts he will find written on their faces will be convincing. The bright, active, rosy-cheeked boy who is wrestling and romping is not a cigarette smoker. His garments show it, as well as his face; his childish look and good-natured way tell it. But take the lad who is sallow-faced, cranky, irritable, slovenly in dress, — and, the boys say mean-tempered, tricky, and unreliable, — and you can tell he smokes; and if you want proof, ask him, or look at the first and second fingers of his right hand for the evidence, which will bear out the appearance each time. He cannot sell papers on certain corners or in certain office buildings, say the boys, because of his appearance, and he does not seem to be trusted in the brotherhood. — *Harper's Weekly.*

CIGARETTE-SMOKING is daily leading its victims down to death. December 16, a young man died at Long Branch from the effects of an abscess in the brain, caused by excessive cigarette-smoking. December 18 another young man died from heart-disease, caused by this terrible habit; and the same day a man in Philadelphia committed suicide, having become insane from the effects of excessive cigarette-smoking.

DEACON G. T. D. PAINE, a very successful Sunday-school teacher in Boston, Mass., has estimated that he has saved $8882.61 in thirty-three years by not using tobacco.

MIND AND MUSCLE.[1]

THERE is an important relation between the mind and the muscles. The popular idea seems to be that there is a moral relation existing between mind and muscle; that people must have hard hearts if they have hard muscles; but that is not necessarily true. Strong muscles are just as necessary as a good brain and a sound mind. "A sound mind in a sound body" was one of the maxims of the ancient Greeks; it was written over the temple of Hygeia. They understood that it was impossible to have a sound mind without a strong nervous system, strong muscles, and a healthy body. They understood the fact that a healthy brain and a healthy mind depend upon physical conditions, and that these conditions must be right in order to have a good mind.

Captain Cook reported that at the time of his visit to the Sandwich Islands, he found every male islander an Apollo and every woman a Venus. They had never been subjected to any treatment calculated to deform their bodies, and had been allowed to grow up naturally. And the natives, at that time, were accustomed to active physical exercise every day. The little ones were out in the air, and in the water swimming about, as soon as they could walk. They were almost constantly in the surf. Some of their most exciting sports were of such a nature, and carried on in such a manner, as would result in almost instant death to people who were not so strong, vigorous, and agile as they had become by means of their vigorous exercise.

Let us trace a few of the means by which it may be seen that there is a close relation between the mind and the muscles. As previously remarked, the idea that the mind and the muscles are closely associated, when considered from a moral standpoint, is an error. But there is a very close relation between mind and muscles from another standpoint. It is strange that people should have such absurd notions concerning the results of physical training. I told a young lady at one time, that if she would do a little more earnest work in the gymnasium, she would have a much better developed chest and waist, with the power to breathe more freely; and that her muscles would develop and become hard. I asked her to feel my muscles. She said, "O! I would n't have such muscles for anything. If I had such a waist and muscles as you have, people would say, 'How masculine she is!' Why,—the idea of breathing like a man!" This young lady had such false esthetic ideas that it was absolutely impossible to reform her,—she was a spoiled girl.

There are many of these spoiled girls. Their unwise mothers have spoiled them both by their example and by the wrong ideas which they have instilled into their minds. It is no wonder that this is so, for we find these false notions permeating our literature. You can scarcely read a Sunday-school book whose hero or heroine is not physically deformed in some way. For example, if there is a very good woman pictured, she is always sickly — troubled with some lingering disease, as consumption or something of a like nature. If the heroine is a very good girl, she has red hair and a freckled face; and if the hero is a very good boy, he is always hunch-backed or deformed in some other way. All the good people of this style of literature have some physical blemish, as though a person could not be

[1] Gleanings from a lecture by J. H. Kellogg, M. D.

good and be large, strong, beautiful, and healthy at the same time.

There is no necessary connection between deformity and goodness, and no moral association between muscles and hearts, but there is a very close association between muscles and hearts from a physical standpoint. A man cannot have a strong heart without having strong muscles as well. I recently examined sixty young men and seventy young ladies, all college students. I found that all but three of the young ladies had curvature of the spine; but I found only three or four young men out of the sixty so deformed. I found most of the young men had deep and broad chests; most of them had round shoulders, because they had not learned to stand up straight and maintain a correct poise; but their muscles were strong, and when I made them stand up, they had good figures. Most of the young women had poor figures, in consequence of the wrong positions assumed in sitting and standing, and particularly of their incorrect dressing and compression of the waist, to which they had been subjected ever since they were children, in order to "cultivate a good figure," as was supposed.

If these young ladies had been allowed to grow as nature made them, they would have been all right. But their mothers, not understanding this fact, put them into a sort of mold when they were twelve or thirteen years old, and thus they had grown up, like cucumbers in a bottle. In consequence of this kind of cramped growth, their muscles had become so weak that they could not stand up straight alone. The moment their artificial support — the outside skeleton — was taken away, the internal skeleton, for want of sufficient support, dropped out of place. The object of the muscles is to brace up the skeleton, just as the rigging of a ship holds up the masts and the framework of the ship, and exactly as the ties which are put across the timbers of a building, for the support of the boards and the siding and the sheeting and the lath, hold the frame of the house together. Now the body is supported even in a more complete sense than this by the muscles, for the frame of the house will stand alone, but the framework of the human body will not stand alone without the aid of the muscles; and the framework of a woman is no better able to do this than that of a man. The muscles act as stays and braces to the body, and hold the different parts together.

In modern times we do not have such wonderful physical development as was to be found among the ancient Greeks and Romans. Perhaps you will remember reading of that Spartan who made a running jump of fifty-two feet; and I think it was a lady of Crotona who exceeded that by three feet, flying through the air fifty-five feet at a single leap! Just think of it! I do not know what our modern soldiers would do if they should encounter some of those Teutonic freebooters who crossed the Alps and passed over into Italy some three hundred years before Christ. When they met the Roman army, they found a solid line of spears confronting them. The Roman soldiers were arranged in three rows, one behind another, with their spears interlaced so that the Teutons could see nothing but a solid line of spears. The weapons that they had were not sufficient for coping with such an enemy as that, so what do you suppose they did? They did not try to break the ranks of the enemy, but having their leaping-poles with them, they ran back and made a spring, clearing the whole three lines of spears.

This superior physical development is not peculiar to ancient times. It is simply because of our neglect of proper exercise

that we are not capable of such achievements. When the muscles are fully developed, we find that there is stamina at the present time sufficient to compare favorably with the ancients. There is no record of ancient times which tells of any one's walking so far in so short a time as Weston and some other famous walkers have done in modern times.

Why should we not all be strong? Why should we not all have good muscles? Why should we not all have strong hearts, so that we could run, leap, and walk long distances, and have a good "wind," so that we could run up- and down-stairs, if we want to, and not be all out of breath by such exercise? Many consider it a dangerous exercise to run hard. They have probably read of some man who had been taken with a fit of apoplexy and died while trying to catch a train, or of some one who died of heart failure after a rapid run. But such things happen to people because they are not accustomed to such exercise; they do not practise running every day; if they run at all, it is only seldom, not enough to accustom their bodies to the strain. Such exercise should be taken frequently, in small doses, until the body becomes used to it.

It is impossible to have a good heart without having good muscles. The heart itself is a muscle, and there is muscular contraction of the heart with every heart-beat; and every time the heart beats, it exercises other muscles of the body, just as the motions of the fingers in opening and contracting, exercise the muscles of the forearm. So, exercise which corrects and strengthens the heart is good for the body also.

On the other hand, exercise of the body has a stimulating effect on the heart, causing it to beat more vigorously, and thus increases its efficiency in circulation. It sends the blood coursing through the arteries and veins, washing the tissues of their accumulations of poisonous substances which have collected as the result of the exercise, and thus cleansing the body from impurities.

After exercising, a person should rest awhile, to allow the muscles to become strong and vigorous again.

Exercise of the heart is also good for the nerves; every time we exercise the heart, we exercise the nerves as well as the muscles. In fact, the nerves control the muscular exercise. This is one of the most valuable things in exercise,— the exercise of the nerves. But it is not only the nerves that are exercised, but the nerve centers, the spinal cord, and the brain. When there is vigorous and unrestrained exercise of the muscles and bones, there is also a wonderful play and activity of the lungs; and when the lungs act rapidly, they act more fully. Notice how the sides of a dog or a horse move out and in after exercise. It is exactly so with the long-distance runner; the ribs, muscles, and lungs form a sort of breathing bellows, of which the ribs are the handles, and it is by means of the movements of these handles (worked by the muscles) that the tide of life is kept going in and out with every breath.

It is just as much the duty of every human being to take daily exercise as it is to take daily food. It is our duty to keep our hearts and muscles strong, and our lungs in full play, ready for any emergency, so that we can run up- and down-stairs without being all out of breath; or run half a mile to catch a train without feeling half dead for days afterward. There is no reason, as we grow older, for allowing our joints to grow stiff and our muscles weak and to fall into a state of decay, so that by the time we have reached the age of forty-five or fifty years we are

poor, tumble-down wrecks of humanity. Why should we not keep our muscles and hearts well developed, so that we can carry heavy loads gracefully and easily? I know the ability to do this is generally referred to a moral state, but I think it may be referred to a physical state as well. Why should we grow old with a bent back and shoulders, and find ourselves in a state of decrepitude? Why not walk up straight, with broad, deep chests, sparkling eyes, a pleasant expression of countenance, and a dignified air, instead of being bent over with age — why not?

Let us cultivate health just as we would cultivate any accomplishment, and consider it just as important to be well as to have any luxury of life; indeed, there is no luxury that can compensate for the loss of health; there is no comfort like that of being well. And almost every one can have that degree of health which will make life a luxury to him if he will only cultivate simple habits of life, and conform to all the laws of health.

THE PHYSICAL TRAINING OF WOMEN.

[Now that women are golfing, cycling, cricketing, etc., the following extracts, translated from a paper in the *Deutsche Revue, Breslau,* by Professor A. Mosso, may be perused with benefit by principals of schools and others in charge of the youth of the nation: —]

The physical training of woman is, in certain respects, more important than that of man. At this moment the question is of peculiar importance to those interested, from the fact that gymnastics in the schools is being actively opposed. There are perhaps fewer difficulties in the way of a reform of female than of male education. No preparation for military service is demanded of women; the only objects of physical training are physiological and hygienic.

Gymnastics is very commonly regarded simply as a means of developing the muscles, without reference to its influence on other organs; its most important purpose, however, is in its bearing on the internal organs and their functions.

It is to be regretted that gymnastics is usually brought to a close at too early a period in a girl's life. It is most beneficial to girls from the fourteenth to the twenty-fourth year, the very years in which girls take the least exercise. Young ladies usually despise gymnastics as something childish.

Gymnasia attract only a few well-read girls or those conscious of exceptional physical gifts. Our duty is to bring the weak under its influence, that they may be trained into strength. Above all things it is necessary to convince the mothers that the design is to secure the healthy physical development of their children.

The fact that poor food, undue mental strain, dejection, or great weakness, all tend to hinder the ripening of maidenhood, should convince us that at this critical period of life our care should be redoubled to provide for the physical development under the most favorable conditions. Many people are of the opinion that a life of repose is beneficial to girls at the age of puberty, but physiologists all tell us that at this period exercise is especially necessary to promote digestion and the circulation of the blood.

Hysteria, of which we hear so much nowadays, is a degeneration of the nervous system. It is a melancholy characteristic of women and feeble men, and a disease which is regarded as a condition of chronic weariness. To avert

it, the organism must be strengthened. Exercise, sunshine, fresh air, strengthen the nervous system, and frequently suffice to dispel the disease.

Many people, and among them self-constituted authorities, appear to think that gymnastics, to be effective, must be conducted with great energy. This is all very well for military training, or for the attainment of rapidity of execution of any special task, but it is not what is required in the training of young women. Muscular capacity depends on muscular contractility, and this condition is best promoted by frequent moderate exercise.

The muscles can even be enlarged and strengthened by the massage treatment without contraction, and this has led to investigations which leave it beyond question that one of the chief benefits of gymnastics is that moderate exercise promotes an independent "kneading" of the muscles, which is more conducive to the accelerated flow of blood and lymph than more violent exercise.

In most gymnasia the training is confined mainly to the development of the muscular system by means of the arms and legs, and the idea is that most energetic exercise is necessary to that end. I believe, on the contrary, that moderate exercise of limited duration, continued daily, is more efficacious in enlarging and strengthening the muscles. Such exercise can be conducted with dumb-bells or clubs. In concert with Dr. Manca, I have carried out a series of investigations in the strengthening of girls of from eight to thirteen years old by means of dumb-bells. Our experience was that fourteen days' training sufficed to double or treble the strength of the arm, but I do not think that a like result would be reached by horizontal strain. In the experiments referred to, the girls stood before a metronome, holding in each hand a dumb-bell weighing three pounds; during the beat of one second the girls raised their arms as high as possible over their heads, lowering them with the beat of the next second, the movements being performed in time-rhythm until the arms were weary. A girl of nine years, during the first three days, raised the dumb-bells daily thirty-three times before she was tired. After two weeks' practise (twice a day) she reached a limit of 137 times. A thirteen-year-old girl averaged 160 times the first three days, and after two weeks' practise, reached 369 times.

Strange as it may appear, Dr. Gruber, of Berne, has shown that training not only increases the strength of the muscles, but results in their working with greater economy; *i. e.*, less gas is exhaled, and consequently less nutrition called for.

Gymnastics for women is not designed for the attainment of extraordinary physical endurance, but for imparting ease and grace of motion.

FATIGUE. — Much attention has been given to the subject of fatigue. Sandow and others have claimed that for perfect physical development a person should never continue to exercise after being completely tired out. Experimentation seems to verify this principle, and further to establish the fact that in order to secure the best results in work of any kind, the worker should know how to alternate rest and exercise in order that his system may function at its best. The teacher who occasionally sits down may accomplish more than the one who continues standing throughout the entire day.

Crepillon was perhaps in a certain sense not so far astray when he said, "Inattention is the salvation of our children." — *School Journal.*

WORK AN ELEMENT IN CHARACTER BUILDING.

BY MRS. E. E. KELLOGG.

ACTIVITY is the normal condition of childhood. It is nature's wise provision for the growth and health of the child. In the constant doing of something, this activity must find vent, and it rests with parents as to whether it shall be guided into right ways — ways that will lead the child step by step to broader and better things ; or whether the child shall be left to his own devices to find vent for his activity in what is generally termed mischief. Mischievous and so-called troublesome children are usually those possessing a superabundance of activity,— vital force that needs to be worked off in exercise, — which, if turned into right channels, would doubtless cause no annoyance whatever. In other words, mischief might be defined as misdirected activity. To keep a child out of mischief, we must guide its activities in some right direction, either in work or play. Play is considered the natural prerogative of childhood, but both work and play are necessary for the formation of a symmetrical character.

The idea is prevalent that work, unless a necessity as a means of obtaining a livelihood, is not a very important factor in the education of children ; that unless they are going to be obliged to work, it is not particularly necessary for them to learn to do so, at least for the first score of years of their lives.

Childhood and youth are looked upon as a period when personal pleasures and attendance upon school are for the time being the things of prime importance. Mothers say : "I want my children to have a good time and enjoy life while they are young ; troubles will come fast enough when they are older."

Mistaken mother! Do you not see that the way to make life burdensome to your children as they grow older is this very plan of allowing them to grow up through the years of childhood and youth with plenty of unoccupied leisure? Much of the danger which threatens the boys and girls of to-day lies in the lack of training in industry. Unoccupied, and largely for that reason uninterested, at home, they drift outside of home for entertainment and amusement. They walk the streets, frequent the parks, depots, stores, and other public places, go anywhere and everywhere where something can be found to occupy their time and attention. Their thoughtless mothers, with their own time fully occupied, do not realize how much the active minds of their children crave occupation, and that if they are not kept busy with that which will do good, they will be busy with evil. Thus they allow them all the leisure and freedom from care which their own self-sacrifice can secure to them, and let them drift about with no aim in life save pleasantly to pass away time. Mrs. Mary A. Livermore says : —

"Lack of industrial training not only makes dependent and inefficient women of our daughters, but it puts them in fearful peril morally. Indolence is always demoralizing. It ruins health, destroys beauty, and enfeebles the will. When temptation comes in a life of ease, although coupled with dishonor, it is potent to lure an indolent, light-hearted, frivolous girl, unless nature has endowed her with superior moral instincts. Out of two thousand fallen women in the city of New York, one thousand eight hundred had been brought up to do nothing, and

all but fifty-one had been religiously educated. Of eight hundred and seventy girls and women who were arrested and lodged in one police station in one month in Chicago, only one hundred and eighty of them knew how to sew or do housework, and none of them had ever learned a trade. In an examination recently made of the girls' department in a house of correction in one of our Eastern cities, it was found that out of two hundred and eighty inmates, all of whom were young girls under eighteen years, but two knew how to sew, and but three how to make a loaf of bread, though all were daughters of the laboring class."

Boys are no less in danger from lack of proper employment. Every one will acknowledge that the corner loafers and street loiterers represent one of the most depraved classes of young men. Idleness is a plain invitation to vice. The child whose time is filled with good and useful occupations will find little temptation to the mischief which, according to the old couplet, "Satan always finds for idle hands to do." Let a love of work for work's sake be instilled into a child's character, and idleness will not be pleasurable. Habit is a controlling force in human nature; if this habit of work be formed early in a child's life, there will be very little inclination toward a love of unoccupied leisure as the years go by, for, as Miss Peabody says, "We can learn goodness by being good, so industry becomes a permanent trait of character by training the little child in this virtue." There can be no question as to the value of a love of work in a child's character; but most mothers overlook the fact that this element, like all other elements of character, must begin very early in the life of the child, and grow with the child's strength and years, being fostered and developed by employments and occupations suited to the condition of the child. It is not from any lack of readiness upon the part of the little child that his training in this direction is not early begun, but from an unwillingness upon the part of the mother to teach him and superintend his crude efforts. Mothers say that it is more trouble to teach the child to work than to do it themselves; and so it is, but mothers need to remember that it is not a question of their own convenience and comfort, but a question of their duty to the child, and of their accountability to God for the right development of his character.

All work which the child can be taught to do well, has an educating influence upon his character. The question so often asked, "Mama, what can I do now?" shows that children tire of purposeless activity; nevertheless a majority of mothers whose children come to them with this question, send them off with some such answer as, "O, run out-of-doors and play," apparently assuming that since the child needs out-of-door air and exercise, that is the best thing for him. Children do need out-of-door exercise, but to send them out day after day with the suggestion of no other aim or purpose than to "run out-of-doors and play," allowing them to follow their own devices, often for the entire day, save the few moments given to their meals, is not always a good or a safe thing. Children will find as much leisure to hang heavily on their hands and to invite mischief out-of-doors as indoors, although it may not annoy their mothers quite so much. Industry is not alone confined to the hours devoted to lessons and tasks. Children may be idle at their play, and it is as important that the time devoted to relaxation be properly employed in hearty, happy, vigorous play, as any other.

If a child is allowed to grow up in a sort of haphazard way, idling and dawdling away the greater portion of his time during his earlier years, the habit of so doing will become firmly fixed in his character, and can never, or only with the greatest effort, be eradicated. "O that mothers would realize that it is safer to form character right than to reform it; that though it does take trouble and time and patience on her part to train a child in right ways in his early years, it takes no more time and no more trouble and no more patience than it will take to untrain him in wrong ways in later years."

It will not do to wait till the child is even of school age before beginning this training in industry. The most impressionable period of a child's life is before the age of seven years. The child who has not learned to love work before that time will very likely never learn to enjoy it. The earlier children are given little duties to perform, the sooner their time is laid out in regular periods of useful work interchanged with play, the more firmly will a love of work become fixed in their characters. Much, however, will depend upon the mother and her methods of training. If she desires her child to love work, she must make work pleasurable to him by patiently teaching him the best methods of accomplishing his tasks; by bright, animated conversation about his work; by providing him good facilities to work with; by making his surroundings while at work as pleasant and congenial as possible; by adapting his work to his physical, mental, and moral ability; by arranging such periods of relaxation or changes of occupation as his age, strength, and the nature of his tasks demand; and by hearty appreciation of his every honest endeavor. She should insist upon the work's being thoroughly done, for there is no real satisfaction in work which is not well done. Habits of promptness and continuity are also essential to a love of work.

Another matter of the utmost importance is to teach the little ones to finish their work. This involves not only the completion of the work in hand, but the putting away in their right places and in good condition, all materials and utensils used in performing the work. "Anything complete, rounded, full, exact, gives pleasure; anything slovenly, slip-shod, unfinished, is discouraging. There is a feeling of content which comes with any task finished. A man who has learned to do anything well, enjoys doing it. This is the lure which wise nature uses to lead us to finish our work."

Both boys and girls should be taught domestic work, and both boys and girls should learn the use of tools, gardening, and similar occupations. Infuse into the children's mind the idea that no honest work is degrading; that it is neither unmanly to wash dishes or darn stockings, nor unwomanly to drive a nail or weed the garden; that their ability to do the work and the need of its being done should determine whether or not they shall do it. Make the distinction of sex as small as possible in the home training of the boys and girls, and there will be less of a feeling of inequality to contend with as they advance in years.

WHOEVER may discern true ends shall grow pure enough
To love them, brave enough to strive for them,
And strong enough to reach them, though the road be rough.

—E. B. Browning.

THE CHILDREN OF SWITZERLAND.

BY P. A. DE FOREST, M. D.

SOME one has said that "children are a nation among nations," occupying, as it were, a little world of their own, with its joys and sorrows, its busy cares and blissful recreations, much the same in kind as those which older people experience. They are actors in what appears to them a drama as real and momentous as that of more mature years.

The plasticity of the child nature, the readiness with which the young mind receives impressions, is shown in a variety of ways, but especially in the domain of play which, being a natural instinct with the child, is unconsciously used as an avenue through which an acquaintance is formed with the things of nature.

The pursuit of happiness begins in the child at a very early age. The instinct which guides the infant does not wholly disappear at the approach of speech, nor at the awakening of the higher intellectual faculties, but continues through life to a greater or less extent. An example of this is seen in the rotation of games which exists in European countries, especially in Switzerland. In that country the children play in a systematic manner; each month has its games, which are entered into in obedience to no known law, unless it be that of custom and instinct. In the training they receive from their teachers, they are of course molded by the ideas of others. The teachers go with their pupils out into the fields, there to study the mysteries of nature. They also are their companions in their games; but in the order in which they are taken up, the children are their own teachers. Being left to follow their own inclination in this respect, one would naturally suppose that the greatest confusion would exist, but such is not the case.

Even in villages which are remote from others, the same games will be found in progress each month. There is no known communication, yet the same toys are seen. It is like the law of the Medes and Persians, which altereth not. As new toys are introduced, they are given their place in the yearly circle; but when that time has expired, nothing will induce the children to play with the out-of-season toy. These games are not always taken up in the order which reason would dictate should be observed; for instance, kites are not flown out of season, no matter how windy the day; nor will they play marbles during the dry weather of summer, no matter how much more favorable the conditions.

Under this system, although it calls for a greater number of toys, there is the greatest incentive to exercise care in their preservation. They are used but a short time at once; hence there is not that destruction arising from a contempt born of too great familiarity with the toy, as under the common methods of play. Order and carefulness are thus inculcated through the avenue of play, to be interwoven in the more responsible duties of later years.

LONGFELLOW'S father once wrote to the young poet: "I am happy to observe that my ambition has never been to accumulate wealth for my children, but to cultivate their minds in the best possible manner, and to imbue them with correct moral, political, and religious principles, believing that a person thus educated will, with proper diligence, be certain of attaining all the wealth which is necessary to happiness." What a blessed heritage did our beloved poet receive.

SOME one who was wise in these matters told me once an unfailing test of a teacher who had control of her pupils. "If," said she, "the teacher's voice is raised as her pupils become mischievous, then you may be sure that she cannot control them. If, on the contrary, her voice gets lower, you may be sure that she can."

Of course the truth at the bottom of this is that no one can control others who cannot first control herself; and, of course, also, the rule applies as much to mothers as to teachers. For my part, I know that when I begin to shout at my children, as in moments of extreme irritation I have been known to do, that is the time for me to go away and leave them to their own devices, for they are quite as fit to take care of themselves as I am to take care of them. For if I do not pluck the beam from my own eye, how can I see to pluck the mote from my child's? Loss of self-control in an adult who has dared to assume the responsibilities of parenthood, is a beam compared with which loss of control in a child is a mote. If, then, the mother, together with her child, has fallen into a passion, let her remove herself, as she would any other temptation.

There are several advantages to such a plan. The mother, in solitude and quiet, has changed her environment and given herself time and opportunity to regain her lost control. She has put herself out of the way of dealing hastily and harshly with her child. Moreover, she has counteracted the evil example of temper that she has set him by the example of a strong and consistent effort at self-control. For the benefit of mothers who fail often in their children's sight, owing either to original infirmity of temper, or to ill health, or morbid nerves, or to financial or domestic worries, I want to say that I solemnly believe that that mother who lets her children see her grow,—admits them into her confidence as to her struggles to attain righteousness,—is to them full as helpful as one who has attained and who seems to her despairing children to be far beyond their power of imitation. She is a million miles in advance of the self-satisfied mother with a rigid system, who never makes any mistakes and whose word is law. There is an odium about this character that even her own children detest and shrink from.

Because you recognize yourself to be a very imperfect being, you are not therefore to give up in despair the effort to be a good mother. Neither are you to allow your annoyances at your state of imperfection to make you irritable and morbid. And, on the other hand, you are not to attempt to cover up your sins of omission and commission from the eyes of your child, thus adding hypocrisy to your other faults; but you are to get good from your imperfection by acknowledging it, and calling upon your children to help you overcome it. Thus will they be encouraged to enter upon the moral struggle.

This is the main point, after all — that our children shall begin of their own free will to attempt the struggle for righteousness. It is not half so important that all their acts be righteous (which might happen from lack of temptation, from desire of approval, or from love of peace and harmony, none of them very righteous motives), as it is that they shall seek the kingdom of God and his righteousness with all their hearts. All these other daily little goodnesses will then be added unto them. The mother who draws them into this seeking by the magnetism of her own daily and hourly search, need not fret if she herself has not yet reached the point of having all other things added unto her.

Her faith, her courage, her constant effort, her honesty of acknowledgment and repentance,— these are things by which any mother, however foolish and weak and overborne, can make sure of helping her child upward, perhaps,— even probably,— to a path higher than that on which she walks herself.

The first step in this direction must be to admit that to speak to a child in anger is wrong, no matter what the provocation. The great tap-root which feeds an ill temper in spite of every effort to kill it, is self-justification, and as long as a mother — or father, either — can permit herself to justify an outburst of temper by saying, "Well, the child deserved it, anyhow!" she might quite as well give up the effort to overcome her temper.

Of course, the truth is that anger is wrong, no matter what the circumstance that aroused it. The wrong of any moral thing does not consist in outward circumstances of whatsoever nature, but in the inner attitude. "He who is angry with his brother shall be in danger of the judgment." The ancient authorities used to say, "He who is angry without cause," but the new version removes these words and leaves the sin of anger unchanged by circumstances. If, then, you have given way to anger, acknowledge your fault to your child, lest he be confused and believe anger to be righteous, because his mother yields to it.

Dante punishes the violent by immersing them in a sea of boiling blood; the sullen are covered over their heads with putrid mud, whence slow bubbles arise as they breathe. This is only the poet's picture of what is the actual state of the angry man, not after death, but now, and as long as he is angry. We recognize the same truthful imagery when we say, "I was so angry that my blood boiled within me." How can any one, while in this state of torment, discern justice or righteousness for himself? How, above all things, can he discern them for another?

There is one practical rule to be deduced from all this: When your voice begins to rise, when your muscles grow rigid and your lips thin, when you feel a hot flush creep over you; or, if you shut your jaws hard, and feel very dignified and silent, and think of yourself as the one righteous and abused person in the room, then leave that room, and leave the thoughts that you are cherishing, and do not go back again until you can feel peace and love return to you. When you take yourself away, you take away one disturbing element which cannot fail, by its presence, to make matters worse. Angry yourself, you cannot quell disturbance except by wrong means. Stay away until you have mastered yourself, or better still, until you have submitted yourself to God and he has mastered you. If the children, on one or two occasions, see you come back in an hour or two, humbled and sweetened and strengthened, it will not be long before the mere fact of your withdrawal will work a moral revolution, and the strong imitative faculty of the children will cause them to strive also for self-control.

The rule is simple and easy to remember, though hard enough to obey. Never rebuke or chastise your child while feeling anger against him. If you feel angry, leave him at once, and do not attempt to set him right until you have first set yourself right. Nine times out of ten, when you return to him, he will have already turned about and begun to do righteously of his own free will. If he has not, at least you are in a fitter state to help him to a victory over himself. — *Marion Foster Washburne, in Chicago Times-Herald.*

THE PRINCESS GOWN.—The half-tones on this page show one of the newest styles of healthful and artistic gowns perfected by the Dress Department of the Battle Creek Sanitarium. For fuller description see page 54.

THE New York Rainy-Day Club has adopted a costume with the skirt from five to eight inches from the floor. In this costume the ladies say they can go on the street with perfect freedom, and without attracting any unfavorable attention. High boots are worn with the dress.

IT chanced that the streets were muddy, frightfully so, and as I contemplated the swish-swash of a voluminous skirt that ascended the bridge stairs in front of me, and marked the varied filth it collected, abbreviated skirts seemed to my male intelligence uncommonly good things; more so, when I contrasted the puffing, panting woman at the top of the stairs with the free, easy swing of her short-skirted sister now going up Broadway. Then I thought of the really attractive appearance of the lady in the gaiters, and how entirely free from vulgarity and mannishness such a costume might be made, and was almost converted. The conversion was completed when I remembered the story of the man who went about showing people what an enormous sum in shoe leather would be saved to the world if everybody in it would only add two inches to the length of his stride from that time on. Think of the economy of a foot less material in all the street dresses in the country! Think of the gain in cleanliness, in comfort, even in picturesqueness; for by adding a factor to the visible woman in gaiters and shoes, the possible combination of effects in a whole costume would be increased a hundredfold. — *Sel.*

AN interesting fact brought out at a late meeting of the Woman's National Indian Association, was that with the Indians, Christianity and civilization showed their power at once in the bettering of the homes. At Aqua Caliente, a medical mission of Southern California, wooden floors have been introduced into nearly every house in the village, a restaurant opened, and profitably managed by an Indian woman; trees have been planted, gardens improved, and a mill for grinding acorns provided, where the men now do the grinding. This is a wonderful innovation. Nearly every house in the village is now whitewashed, and all but one have glass windows. With the coming of the light, disorder disappeared, and cleanliness followed.

FOOTWEAR FOR WINTER. — The question of the ventilation of the foot has been seriously considered, and various plans have been formulated by which air may be admitted to the sole; but nothing of practical value to any large number of people has resulted. There is, however, a shoe in the market with a ventilated sole, arranged so that the air is admitted through small openings in the heel; but though the makers claim that the feet will not get wet, the shoe seems to be hardly the thing to be depended upon in any depth of snow, and would probably be chiefly useful in fair weather. It is to be doubted whether the low shoe that is generally worn by ladies at present, even in winter with a gaiter, is not a more wholesome foot covering than the high, close boot. Every one agrees that rubbers are most unwholesome, yet at present there seems to be no practical substitute for them. The best that can be done is to wear them just as short a time as possible.

The small footholds of rubber, which merely cover the ball of the foot, really protect it almost as much as the regular rubber, and are not as objectionable. A substitute for a rubber shoe is a thin layer of rubber introduced between the layers of the sole. This protects the foot sufficiently from dampness, and if the boot is made of stout calfskin, and properly oiled

before the wearer goes out, it will not be necessary to use the rubber overshoe. We believe most shoemakers make shoes with soles of this kind to order. — *New York Tribune.*

ECONOMICAL SHOPPING. — The Chicago *Times-Herald* reports an interview with a "man modiste," in which he offers the following excellent advice to women: —

"There is really but one way for a woman to shop if she would get good results. At the beginning of every season she should look her wardrobe over, decide what she will have renovated, what she will give or throw away, and what she needs new. Then, bearing all these details in mind, she may go forth among the stores, doing nothing in haste, but selecting judicially, and with definite reason for each article. Of course she will probably see a 'perfectly lovely' coat; but if she gets it, and finds it atrocious with the hat or skirt which is designed to go with it, what advance has she made? Often one article, superb in itself, is meaningless and tawdry when massed with the other garments. These things must be considered. Nothing should ever be bought without definite knowledge as to its ultimate use.

"When people talk of a woman's being such a good dresser, you will generally observe that she simply garments herself appropriately. Her gowns have a definite character. When you get a dress, do not say, 'This will do nicely for church and reception, and even for street wear on fine days,' for it will not. It will be nondescript, and will weary you to the very heart's core. When you get a suit, say, 'This plain-walking dress of definite character is for every day and traveling wear; it cannot be construed into anything else;' and you will wear it and be satisfied.

"Make every garment serve a definite end. Do not try to make a tailor-made gown do for small dinners, with the addition of a silk waist. Have no hybrid dresses. Let them stand for what they are. Have as few as you can at a time, and wear each well out. Do not harbor old things around the house. They grow old-fashioned, and moths do prevail. Buy fewer things, but have them good. Eschew the meretricious 'cheap'!"

POROUS CLOTHING. — It is essential to health that the emanations from the skin pass easily through the clothing. This — which is called "transpiration" — may be interfered with by an excess of clothing, or by clothing of a very close texture. All who wear India-rubber coats know how uncomfortable they are after wearing them a short time. Ordinarily, paper clothing will not prevent transpiration, but an excess will interfere with it; and where too much clothing is worn, it soon becomes foul, because the outside air cannot freely mingle with the gases from the body and dilute them. Some wear the thickest and heaviest undervests which they can buy, and such people are very generally the victims of frequent colds. They would be much safer from the dangers of exposure, and fully as warm, were they to wear two light undervests instead of one very thick and heavy one. — *The Sanitarian.*

A NEW BROOM. — If a new broom be immersed in boiling water until it is quite cold, and then thoroughly dried in the air, it will be far more pleasant to use, and will last much longer than otherwise. Frequent moistening of the broom is conducive to its usefulness, and also saves the carpet.

IN order to enjoy perfect health one should be clean mentally, morally, and physically.

NURSING A CONSUMPTIVE IN THE ACTIVE STAGES OF THE DISEASE.

BY KATE LINDSAY, M. D.

In the last paper some of the sanitary measures were dwelt upon which may serve to prevent the onset of tuberculosis in those predisposed to the disease either by heredity or environment. In the present paper some directions will be given for home nursing in cases where the disease has actively developed.

The patient being properly instructed and provided with the necessary appliances to prevent infection of himself and others, the most important symptom to meet and overcome is the daily rise of temperature; for unless this can be arrested, the patient will lose flesh and strength, and fail rapidly. In all cases of tubercular disease, especially where important internal organs, as the lungs, are involved, when the processes of disease have become active, the patient feels chilly in the morning, and after midday there is a rise of temperature, it usually being highest between four and six o'clock in the afternoon. Digestion is hindered by both the chilly condition in the morning and the fever of the afternoon, and the tissues waste rapidly, because of the rapid oxidation and for the want of food to meet the tissue waste.

To prevent the morning chill means to prevent or greatly lessen the afternoon fever. The best treatment for this symptom is to put the patient on the rest-cure for a few weeks. The chill is always more pronounced if the patient becomes chilled by the damp, cool morning air and sits around the stove, heating the skin in a vain endeavor to get warm; whereas if he keeps quiet in bed, the surface will be more apt to remain warm, and the blood flowing freely to the skin will relieve the internal congestion, and thus lessen the inflammation of the diseased organs. He will thus be in much better condition to digest and assimilate his breakfast. The feet should be kept warm by friction, and a dry rub may be given the whole body; but, as a rule, no water treatment should be administered during the chilly stage of the attack. If the morning chill is avoided, the patient will be much more able to digest and assimilate his dinner.

After the onset of the fever, cool, tepid, or even hot sponging will be very refreshing, and tend to lessen the rise of temperature, often a degree or two. The night sweat which is likely to follow the fever, especially in the last stages of the disease, will be much less profuse if the chilly and fever stages are lessened in intensity. This stage is an effort of nature to eliminate poisons from the body, and should not be suppressed unless it becomes so excessive as to prevent sleep, and leave the patient in a weak and debilitated condition in the morning. There are many astringent and stimulating solutions which may be used to modify and tone up the surface and cause a more healthy action of the skin. A hot saline sponge, made by dissolving a heaping tablespoonful of salt in a quart of hot water, will often check an exhausting perspiration. If care is taken not to chill the patient during the treatment, and the sponge bath is followed by an oil rub, leaving the surface dry, warm, and toned up, it will often be the means of giving a good night's sleep to the sick one; and instead of complete exhaustion in the morning, he will feel rested and ready for his breakfast. Hot water and vinegar,

one part of vinegar to three of water, or fluid extract of witch-hazel in the same proportion, also a weak solution of alum and water, are all useful tonics to the skin in these cases. Alcohol has been recommended for the sponge bath, but it has been the experience of the writer that it often causes the skin to become harsh and dry, thereby hindering its functions, which it is very important to keep as active as possible.

It is very important that nutrition should be kept up; and to accomplish this, the food must be of a kind easily digested, and given in such quantities as to prevent overloading the stomach and interfering with digestion. The amount of food that the stomach can digest at a meal should be ascertained by careful experiment, beginning with small meals, and gradually increasing the amount until the capacity of the digestive organs is ascertained. If but a small amount can be taken at once, meals should be given more frequently than if the stomach could digest a greater quantity. It is best usually to have the patient eat the two principal meals at 8 A. M. and at 2 : 30 P. M., and then in the middle of the forenoon take a glass of warm milk or gruel, if it agrees with him; a beaten egg or malted milk or malted gruel may be substituted if the digestive organs are weak. Sometimes a glass of warm fluid food taken in the evening will promote a good night's rest.

In some cases, when the cough is very persistent in the morning, and the patient becomes very much worn out and the stomach more or less nauseated from the strain and expectoration, a glass of warm milk or gruel taken upon first awakening will modify the cough and render it much less distressing and exhausting, and also make expectoration much easier. After the exertion of coughing and clearing the bronchial tubes of the exudates which have accumulated during the night, the patient should rest for a time, until the nervous system becomes quiet and is in a better condition to furnish energy to the digestive organs. The writer has found that in many cases a patient who had been in the habit of taking his breakfast immediately after the coughing spell, and soon throwing it up again, could retain and digest a fair meal if he first rested for an hour or two out in the open air or in a cool, well-ventilated room. It is best to give but few varieties of food at one meal, but there should not be too much sameness of diet, or the food will not be relished; and that which is not palatable is not usually well digested.

Many physicians prescribe a meat diet for consumptives, but in view of the fact that so much meat is diseased, and also that it has a tendency to derange the liver and kidneys and thus increase the waste products of the blood, it would seem reasonable that a properly prepared vegetable diet would be better for most cases,—unleavened bread, well-cooked grains, and subacid fruits, also a moderate quantity of sterilized milk or cream and butter. The consumptive needs to have a proper amount of the fatty foods as well as the albuminoids and the starchy elements. Whole-wheat flour, well-baked and made into some form of unleavened bread, makes a very nutritious and healthful article of food, nearly perfect of itself, as it combines all the food elements in proper proportions, and is easily digested. It is also, when thoroughly baked, a sterile food, which is very important, as germs in the stomach hinder digestion by setting up fermentation and interfering with the action of the digestive fluids, as well as poisoning the body by the formation of toxic matter in the alimentary canal.

It is best usually for the patient to take the greater part of his food dry, and to take plenty of time to masticate it well.

The following bill of fare is given as a guide to enable the home nurse to plan the daily diet of a consumptive: —

In the morning, on first awaking, he should drink something warm, as a cup of hot milk or gruel; or in cases where the patient has not been used to a vegetarian diet, and craves the meaty flavor, a cup of hot beef or mutton broth may be given. This, however, should be free from fat, and would better be thickened with some form of gruel to increase the nutrition, as most broths contain but little of the food elements.

After an hour or two of rest, the breakfast proper may be taken, and may consist of dry toast; some form of the dry grain preparations, as granose, granola, shredded wheat, or the like, with a moderate amount of sterilized cream, if it can be digested easily; and baked sweet apples or some other cooked, bland, subacid fruit.

The dinner may consist of a cream roll or beaten biscuit, granose cakes, and one kind of vegetable, as a mealy baked potato or some nicely prepared winter squash. A bean or pea purée, if nicely prepared, is also a very palatable dish. One or two nicely poached or curdled eggs are also very nutritious, if fresh and nicely prepared. A moderate amount of sterilized butter may be used with this meal.

In the evening a cup of hot malted milk, gruel, or broth may be taken just before the patient is prepared for bed.

It is well to give the body of the patient a brisk, gentle rub twice a day, and to let him spend a part of the day on a cot in the open air whenever the weather is favorable. Sun baths are very beneficial in such cases, and may be taken either before a sunny window in the patient's room, or, when the weather is fine, out in the open air. No severe treatment should be administered until the nutrition is improved, when massage and different manual movements may be given, with the hope of affording the patient relief by increasing the surface circulation and improving nutrition. The skin should be kept clean and soft by sponging and oiling, and the cough may be relieved by fomentations to the chest followed by a moist tepid cotton pack. A hot bag to the stomach after eating, if the digestion is slow, will often be a great help, but no bath which exhausts the patient or leaves him with a chilly feeling should ever be continued, as the effect of such treatment will be to injure instead of improve the patient's condition. The bowels should be kept active by the use of proper diet and massage to the abdomen; and where the nurse can have access to an electric battery, and apply it under the direction of a physician, much benefit may be derived from the proper use of this very useful agent.

After from three to six weeks of rest-cure, under favorable conditions, the chills, fever, and night sweats have usually abated a great deal in all cases when there is any hope of recovery, and the patient must be gotten out-of-doors. At first it will be best for him still to spend the early morning hours in bed, and delay his out-of-door exercise until after the sun has removed the dampness and warmed the air. Daily, as his strength increases, his time for exercise may be increased, and his time in bed shortened, until, in a favorable climate and in suitable weather, he may spend most of the day in mild out-door exercise. It is often better if he can do a little light work, such as pulling weeds, trimming trees and shrubs, etc.

The consumptive often suffers a great deal from want of sleep due to coughing, and it is not always simply the tubercular condition of the lungs that keeps up the continual irritation; sometimes it is due in part to local irritation of the pharynx, or upper part of the throat, the cough being a constant effort on the part of nature to free the surface of the catarrhal exudates. A spray taken through the nose or the inhalation of some vapor from a vaporizer, will often give relief; or a nebulizer may be used, and the solution inhaled through both the nose and the mouth. The little hand-spray, consisting of a glass bottle holding about an ounce, and having both a nasal and a throat tube of hard rubber, with a rubber bulb attached to it by about four inches of half-inch rubber tubing, is a very simple and useful arrangement. The hard tube is bent at right angles, and has a projection for the attachment of the bulb. One end of the tube is inserted in the bottle, and the other has the throat or nose tube screwed onto it. When it is desired to use it, insert either the nose piece in one nostril or the throat piece far back toward the root of the tongue, press the bulb, and the fluid will be driven back into the pharynx in the form of a fine spray. A solution of warm water and salt — a teaspoonful of salt to a pint of distilled or boiled water — makes a good cleansing solution; and this may be improved by adding to it a teaspoonful of hydrogen peroxide to ten or twelve of the saline solution. Often, after cleansing the back nasal passages and the upper part of the throat, the cough will be relieved for several hours, and the patient get a refreshing sleep.

When the digestive organs are weak, and the stomach is full of fermenting food, a stomach lavage will sometimes give the patient a good night's rest, and he will have a better appetite for breakfast next morning because of the clean stomach and the restful night. There are many solutions which, used in the vaporizer or nebulizer, will relieve the irritation by soothing and disinfecting the mucous surfaces of the throat and bronchial tubes, thus rendering expectoration easier. Half a teaspoonful each of menthol and camphor and eight tablespoonfuls of alboline — a half teaspoonful to be used in either the vaporizer or the nebulizer — will often allay the inflammation; or a few grains of the camphor and menthol may be put into a vessel with half a pint of hot water in it, and the vapor inhaled through a paper cone. Tincture of benzoin may be used in the same way, also turpentine or carbolic acid. Eucalyptus-oil or oil of wintergreen may be added with benefit, and even the inhalation of the simple vapor of water will give some relief.

When the patient is very nervous, hot and cold applications to the spine will often act as a sedative, and keep him from having a restless night from coughing. When there is acute congestion and a great deal of heat in the chest, a hot fomentation followed by a cool compress or an ice-bag for an hour or two will often give great relief. When the cool or cold application is used on the chest, it is well to put a hot bag on the spine between the shoulders. These soothing treatments taken at night just before retiring are most likely to produce the best results.

Sometimes a patient can expectorate with more ease by holding the head and shoulder over the edge of the bed, lying on the abdomen, with the chest lower than the rest of the body. This position is useful where there is a profuse purulent discharge, and should usually be taken in the morning; it should, however, be avoided in all cases of hemorrhage.

Hemorrhage is a complication likely to occur at any time in a case of active tuberculosis. It is always a grave symptom, and usually has a very depressing effect on the patient, even if the amount of blood lost be very small. The writer has seen a patient almost in a state of collapse from fright when the actual loss of blood was not more than a teaspoonful. Sometimes a person who has been feeling a little "out of sorts," and yet not thinking himself sick, is first made aware of the fact that he has tuberculosis of the lungs in an advanced stage by a hemorrhage occurring after an over full meal, or a long, hard walk, or some other overexertion. A hemorrhage, even though quite profuse, is not, however, always indicative of disease of the lungs of a tuberculous nature. Occasionally a profuse bronchial hemorrhage will result from some acute congestion; in the plethoric this may be the result of overeating and the use of strong drink. In such cases, if the patient reforms, he may never suffer from another attack of the kind. But when even moderate hemorrhage of the lungs occurs, it is an evidence that the malady has advanced so far that there is destruction of lung tissue, showing an advanced stage of the disease. Such cases are by no means to be considered hopeless, however, as when the discharge of blood is moderate, and the patient fairly strong, the small cavity may heal up, and under favorable conditions he may live many years.

As hemorrhage is always depressing to the patient, it is important that the nurse should not show that she is discouraged by it. The first thing to do is to cheer up the sick one, and encourage him by telling him that very few cases of hemorrhage are immediately fatal. Place him in an easy reclining position, with the head and chest elevated; see that the feet are warm, and put an ice-bag or cool compress on the chest, and a hot bag or fomentations to the spine between the shoulders. The patient should be kept very quiet, and urged to restrain his coughing as much as possible. Cheerful conversation will help greatly to keep him in a hopeful state of mind. Inhalations of turpentine and also of witch-hazel extract sometimes seem to do good, but should not be persisted in if they increase the tendency to cough.

If the bowels are constipated, a mild laxative should be given, and care should be taken not to overload the stomach. Indeed, such patients should, ever after, avoid all overexertion and excitement of any kind, and should not, under any circumstances, allow themselves to become either overheated or chilled suddenly on the surface, nor submit themselves to anything which will unduly stimulate the heart's action. All stimulants should be avoided; and by stimulants is meant not only alcoholic drinks, but tea, coffee, and all kinds of spices and condiments. Many persons survive even severe and exhausting hemorrhages from the lungs, and live for years afterward; so no one should too easily despond in regard to any case. If the nurse expects to help her patient, she must not only talk but look courage at all times in his presence.

LOVE much. Earth has enough of bitter in it;
Cast sweets into its cup whene'er you can.
No heart so hard but love at last may win it:
Love is the grand primeval cause of man;
All hate is foreign to the first great plan.

—*Ella Wheeler Wilcox.*

A LIGHTED match is but a small and insignificant fire; but drop it in a pile of shavings in a large planing-mill, and the whole building is soon a mass of flames.

Parents commonly count it a small matter when their children overeat, and upset their stomachs at some holiday feast; and if the child is in a normal state of health, and no other disease in a state of incubation in its system, it may escape with a sick-headache and a bilious attack.

But if the child is delicate, or if it has the germs of measles, scarlet fever, typhoid fever, diphtheria, or the like in its system, this overloading of the stomach may be the match which will start a conflagration of fever so intense that it will not stop until life is burned out. Without the extra work of ridding the system of a mass of decaying food, the vital energies might have been able to meet and contend with the original disease successfully; but shorn of their strength and divided in their efforts, they are overcome in the battle.

A CHILD feels somewhat indisposed and languid, and has lost his appetite; and his mother considers it wise for him to remain at home from school. She remembers that he has been exposed to the measles, and fears that he may be coming down with them. In the evening his companions come along from school and invite him to take a sleigh-ride. The mother knows that the child is coughing and ought not to go out; but both he and his little comrades plead so hard for permission for him to enjoy the coveted pleasure, that the mother weakly yields, against her better judgment. Under the stimulus of the excitement the little one forgets that he is ill, and he laughs as loudly, snowballs as fiercely, and gets as wet and chilly as any of the party. When he reaches home, he is so hoarse that he cannot speak, and so chilly that it is impossible to get him warm. Next day the fever is intense, and the physician says that it is a case of black measles, or that the original disease is complicated by an attack of pneumonia, and the case is critical. The disease baffles all his skill, and death soon closes the painful scene, this fatal ending being entirely due to a lack of common sense and firmness on the part of the parent.

A FEW words upon bedsteads and bedding; and principally as regards patients who are entirely, or almost entirely, confined to bed.

Feverishness is generally supposed to be a symptom of fever; in nine cases out of ten it is a symptom of bedding. The patient has had reintroduced into the body the emanations from himself, which, day after day and week after week, saturate his unaired bedding. How can it be otherwise? Look at the ordinary bed in which a patient lies. If I were looking out for an example in order to show what not to do, I should take the specimen of an ordinary bed in a private house: a wooden bedstead, two or even three mattresses piled up to above the height of a table; a valance attached to the frame,—nothing but a miracle could ever thoroughly dry or air such a bed and bedding. The patient must inevitably alternate between cold damp after his bed is made, and warm damp before, both saturated with organic matter, and this from the time the mattresses are put under him till they are picked to pieces, if this is ever done. —*Florence Nightingale, in "Notes on Nursing."*

A DIRTY, neglected head is an evidence of bad nursing, and a serious hindrance to the patient's recovery.

THE HYGIENE OF THE NURSERY.

THE importance of nursery hygiene is made clearly evident by the fact that in all civilized lands in which accurate statistics are kept, nearly one half of all human beings born into the world die before the age of five years. It is not overstating the truth to say that half of these lives might have been saved by good hygiene,—and probably a much larger proportion might be saved by scrupulous attention to all the conditions of health.

To this great mortality resulting from ignorance or neglect of infantile hygiene must be added an enormous, though not easily estimated, amount of disease which originates in infancy or early childhood, although it does not always become apparent until later years. Careful inquiry into the early history of many thousands of sufferers from chronic ailments of various sorts has convinced the writer that in a very large number of cases, the chronic disorders of adult life had their origin in morbid conditions established in infancy or childhood. This is especially true of diseases of the lungs and the stomach.

Frequent colds, resulting from improper clothing and neglect, and from ignorance of the possible injury likely to follow lay the foundation for chronic catarrh, deafness through extension of the disease to the ears, chronic throat ailments, bronchitis, and even consumption. Infantile dyspepsia, resulting in dilatation of the stomach, gives rise to chronic disorders of many sorts in later life, especially nervous headache, nervous dyspepsia, gall-stones, jaundice, so-called "torpid liver," and a great variety of other nervous diseases, possibly including paralysis, epilepsy, and other grave and often incurable maladies.

As an introduction to the consideration of the subject of the hygiene of infancy and childhood, we may profitably devote a few paragraphs to the consideration of the child as it appears in a state of health, and the contrast presented by a sick child.

Early Development.—A child is said to be an infant until two years of age, at the end of which period the eruption of the temporary teeth is usually completed. Childhood covers the period from two years to puberty. The weight of the new-born infant is usually from six to eight pounds, or an average of seven pounds.

TABLE SHOWING AN AVERAGE CHILD AT THE END OF EACH SUCCESSIVE MONTH DURING ITS FIRST YEAR.

First	month	7¾ lbs.
Second	"	9½ "
Third	"	11 "
Fourth	"	12½ "
Fifth	"	14 "
Sixth	"	15 "
Seventh	"	16 "
Eighth	"	17 "
Ninth	"	18 "
Tenth	"	19 "
Eleventh	"	20 "
Twelfth	"	21 "

From the end of the first to the end of the tenth year, the average yearly gain in weight should be four or five pounds. From the tenth to the sixteenth year, the average gain is usually about eight pounds each year. In weighing, allowance must of course be made for the clothing.

[1] From a forthcoming volume, "Home Book of Health," by J. H. Kellogg, M. D. Published by the Modern Medicine Pub. Co., Battle Creek, Mich.

Height. — The height, or length, of an infant at birth is sixteen to twenty-two inches, or an average of nineteen inches. An infant increases in length more rapidly during the first year of its life than during any subsequent period. The gain in length during the first month is a full inch; after this the gain is at about the rate of one-half inch per month for the first year.

TABLE SHOWING THE RATE OF GROWTH AFTER THE FIRST YEAR.

Second year	3	to 4 inches.
Third "	2	" 3 "
Fourth "	2	" 3 "
Fourth to the sixteenth year	1⅔	" 2 "

Girls grow more rapidly than boys between the ages of twelve and fourteen years, the average girl being at this age taller and heavier than the average boy of the same age. This is due to the fact that puberty, which accelerates growth, occurs earlier in girls than in boys.

Children often remain stationary in weight and height for several months, then for a time grow very rapidly.

Strength. — An infant is able to sustain its weight by its hands when but a few days old. It should be able to hold its head erect at the end of the third month, and to sit erect when four months old. At six months it should be able to sit up easily, and to amuse itself with playthings. It should creep at eight months, at eleven months walk with assistance, walk alone at fourteen months, and run at eighteen months. An infant should not be urged to walk at too early an age. A healthy child will teach itself to walk when it has reached the proper stage of development.

If a child is much behind its age in height, weight, or strength, the fact should give rise to a careful inquiry into its diet, the condition of its digestion, and all that pertains to its health. Inability to stand may be due to paralysis. Limping or evidence of pain on standing may be due to hip-joint disease or Pott's disease of the spine.

Symmetry. — The most notable differences in proportion between an infant and an adult are the great size of the head and the shortness of legs in the infant. A child's head is one fourth its length, while that of an adult is two thirteenths of his height. The head is often greatly deformed and distorted as the result of pressure during birth. No anxiety need be felt on account of this, however, and no attempt should be made to change the shape of the head, as nature will restore a normal condition in due time. The so-called "soft spot," or opening in the skull, the *anterior fontanelle*, may be observed in healthy infants under a year old. The fontanelle should be completely closed between the fifteenth and the twentieth months. If closely noticed, the brain may be seen to rise and fall with the beating of the heart.

When the head is abnormally large, due to the accumulation of fluid, or *hydrocephalus*, the fontanelle is larger, and the bones are separated so their edges may be readily felt. Great bulging of the fontanelle is an evidence of disease; when sunken, it is an indication of an impoverished condition of the blood, and general debility.

A greatly distended abdomen indicates disordered digestion. The condition should receive attention, as over-distention of the stomach and intestines may result in permanent dilatation and life-long injury.

Hair and Eyes. — The hair and eyes often change very greatly after birth. The eyes may become either lighter or darker; the hair usually becomes darker.

Secretions.— The secretion of saliva begins between the fifth and sixth months, or about the time of the appearance of the first teeth.

Tears are first secreted between the third and fourth months. Absence of tears with crying after the fourth month is a bad indication, when it occurs during an illness.

The Teeth.— The first, temporary, or milk, teeth are twenty in number. They erupt from the jaw in groups of two or more, a rest of three weeks to three months occurring between the eruption of the successive groups.

Children are sometimes born with one or more teeth; these may fall out and be replaced by the normal temporary teeth, or they may remain until replaced by the permanent set.

Girls usually cut their teeth earlier than boys. Sometimes the teeth appear in girls as early as the third month. This is a favorable rather than an unfavorable indication. Delayed eruption of the teeth is usually an indication of feeble nutrition. It is most frequent in infants which are "bottle fed." A delay in cutting the teeth to the end of the first year indicates very feeble nutrition or rickets.

The teeth sometimes appear out of their regular order; this, however, is not a matter of serious consequence.

The irritation arising from the eruption of the teeth often gives rise to illness in infants. Illness is especially liable to occur in connection with the cutting of the so-called cuspid, or stomach and eye teeth, and the outer incisor teeth of the lower jaw. Special care must be taken of an infant born in such a season that the cutting of these teeth comes during the hot months.

(*To be continued.*)

RAINY-DAY OCCUPATION FOR LITTLE FOLKS.

DURING the inclement days of winter it is often quite a problem with mothers of little children what to provide for their occupation. The following suggestions have been made by one who has had practical experience in this line: —

"Such work as they can do and the mother has time to oversee is very desirable. Among simple occupations suitable for little fingers is the stringing of spools of various sizes on a tape-needle with a cord attached. Buttons of various sorts and kinds may also be used.

"Classifying and sorting is a natural and fascinating work for very little children; and the fingers, eyes, and brains are kept busy picking out from a bottle all the light pebbles into one pile and the dark ones into another; or sorting seeds of a kind into different saucers; or sorting buttons, spools of thread, pretty pieces of silk, or other goods or colored wools; or putting pictures of different kinds into different envelopes. To prepare for this work mothers need to have the stormy days in mind before they come, and keep an assortment of bags and boxes into which can be dropped the stray articles that may be of use on such days.

"A pan of moist sand which, if one has no sand tray, can stand in the center of the play-room on a sweeping cloth, will furnish employment for a whole morning.

"Children love to work with paper, and besides the kindergarten cutting and folding they can make impromptu shawls, napkins, caps, or paper flowers for the sand tray. The simplest materials, transformed by the child's imagination, make a fairyland, and in the end are the best.

"Whittling with a purpose, as well as with a jack-knife, is excellent training, not to make shavings, but to make a tiny wooden saw, hammer, ax, boat, or chair for the dolls, a set of jackstraws, an Indian bow and arrow, a top, a paper-knife, or more elaborate carving. Boys and girls alike can learn to handle a knife, and make something when they need something made. We have too few independent workers among our children to-day, when toy hoes and tops can be bought at the corner grocery for a cent. 'Can I go and buy a penny spade to dig in my sand?' 'Yes,' is an easier answer than — 'Get my knife and that smooth pine stick you laid away, and I will help you make a spade.'

"Drawing and coloring are not to be forgotten. There are flower catalogues for the three-year-old to color with pencils or water-colors, outline drawing-books for older children, or the picture scrap-books and paper dolls to be improved by painting. Then there is drawing from nature, — a teacup, a leaf, a vase, a box, or any simple object, which is a change from the mechanical drawing of the public schools; outlining on paper, leaves from the plant window; smoking a glass, laying on the smoke a leaf, then transferring the impression from the smoked leaf to a sheet of white paper, which makes a delicate tracery.

"For a change of work, children like to knit lines, crochet strings, knit on spools, or braid rag mats for the doll's house. Almost any kind of work which a child can do, even though it is crude, which accomplishes something that he can see, may be turned into a good rainy-day amusement, and save the fretting, quarreling, and noise which is often the only outlet for the activity of a household of children shut off from their usual sports.

"Mothers say, 'This takes time, which I cannot afford to give.' O, if you would but believe it, this saves time. The recipe, in brief, is this: —

"1. A little forethought in saving materials. 2. A little ingenuity in setting the children to find out what they can get out of the given materials. 3. A little assistance, to see that work begun is on some day finished, so they can see their labor was not for naught. 4. A good deal of letting them alone, though not leaving them alone, while they work."

THE CRIB DISPLACES THE CRADLE.— The cradle, familiar through the centuries, is giving way to the crib; and cribs of iron and brass are taking the place of wooden cribs. Of the cradles now sold, only the cheapest are made to rock on rockers in the old-fashioned way; by far the greater number swing between standards. There are now made, however, cradles that rock on platform rockers, like the modern platform rocking-chair.

Various reasons are assigned for the substitution of the crib for the cradle. The crib takes up less room, and is less in the way than the cradle with its rockers. It is better for the child, and it makes less work for the mother; accustomed to a crib, the child is put to sleep there with much less care and labor. The modern baby carriage, vastly more comfortable and convenient than the old-time baby carriage, has in some degree taken the place of the cradle. Taking them altogether, there are still many cradles sold, but the number sold as compared with the number of cribs is very small. Nowadays the child is laid in its crib; the cradle, time-honored and with memories clustering around it, is disappearing.— *Home Journal.*

SABBATH DINNERS.

BY MRS. E. E. KELLOGG.

ONE of the most needed reforms in domestic life is a change to more simple meals on the Sabbath. In many households the Sabbath is the only day in the week when all the members of the family can dine together; and with an aim to making it the most enjoyable day of all, the good housewife provides the most elaborate dinner of the week, for the preparation of which she must either spend an unusual amount of time and labor the day previous, or must encroach upon the sacred rest-day to perform the work.

Real enjoyment ought not to be dependent upon feasting and gustatory pleasures. "Plain living and high thinking" should be the rule at all times, and especially upon the Sabbath day. Nothing could be more conducive to indigestion and dyspepsia than this general custom of feasting on the Sabbath. The extra dishes and especial luxuries tempt to overindulgence of the appetite; while the lack of customary exercise and the gorged condition of the stomach incident upon such hearty meals fosters headaches and indigestion, and renders brain and mind so inactive that the participants feel too dull for meditation and study, too sleepy to keep awake during church services, too languid for anything but dozing and lounging; and thus the day that should have fostered spiritual growth is worse than thrown away. Nor is this all; the evil effects of the indigestion occasioned are apt to be felt for several succeeding days, making the children irritable and cross, and the older members of the family nervous and impatient, — most certainly an opposite result from that which ought to follow a sacred day of rest.

Physiologically, such feasting is wrong. The wear and consequent repair incident upon hard labor calls for an equivalent in food; but when no labor is performed, a very moderate allowance is all that is necessary, and that of easy digestibility. Let the Sabbath meals be simple, and served with abundant good cheer and intelligent thought as an accompaniment.

Let as much as possible of the food be prepared and the necessary work be done the day previous, so that the cook may have ample opportunity with the other members of the family to enjoy all Sabbath privileges. This need by no means necessitate the use of cold food nor entail a great amount of added work in preparation. To illustrate, take the following menu: —

BREAKFAST.

Bananas.
Baked Sweet Apples.
Granose Flakes with Cream.
Prune Toast. Graham Sticks.
Stewed Nuttose with Tomato.
Whole-Wheat Bread.

DINNER.

Vegetable Oyster Soup with Graham Croutons.
Creamed Potato.
Mashed Peas with Tomato Sauce.
Celery.
Nuttose Sandwich. Graham Sticks.
Boiled Wheat with Cream.
Canned Peaches.
Nuts or Fruit.

The baked sweet apples and the prune sauce for the toast, the breads, and the boiled wheat may be cooked the day previous, as may also the mashed peas, the tomato sauce, and nearly all the other foods. The potatoes may be boiled and sliced, and the soup material cooked, and put in the ice-chest or in some cool place where they will keep well. If the table is laid overnight and covered with a

spread to protect from dust, a very short time will suffice to get the Sabbath breakfast. The nuttose, if stewed the day before, will only require to be thoroughly heated. Meanwhile, the prune sauce for the toast may also be heated and the toast moistened.

To prepare the dinner, all that is required is to make a cream sauce and add to it the potatoes, cooking them slowly in the sauce in a double boiler while the other foods are being reheated; the longer the potatoes are thus cooked, the better they will be. To reheat the grain, which should have been previously cooked in the inner part of a double boiler, fill the outer part of the boiler with boiling water, place the inner part within it, and allow it to steam until heated through. Reheat the peas by placing the dish in which they were baked, in a pan of hot water, cover, and put in the oven until hot. Reheat the soup and tomato sauce in a double boiler. The necessary cooking may be done in a half-hour, while the table is being laid.

RECIPES.

Vegetable Oyster Soup.— Scrape all the outer skin and small rootlets from the vegetable oysters, and lay them as soon as scraped, in a pan of cold water to prevent discoloration. The scraping can be done much easier if the roots are allowed first to stand in cold water for an hour or so. Slice rather thin, enough to make a quart. Cook them in two quarts of nuttose broth, prepared by stewing one-half pound of nuttose for an hour, then pressing the same through a colander, and adding water sufficient to make two quarts. Cook the vegetable oysters slowly until very tender; when done, add salt to season, and if desired, a little flour rubbed smooth in water to thicken the soup. Serve hot with croutons prepared by cutting left-over slices of stale bread into small cubes and browning in the oven.

Stewed Nuttose with Tomato.— Cut the nuttose in small cubes. Put into an equal quantity of warm water, and cook slowly for an hour or longer, and season with salt. Add one cup of strained stewed tomato to the pint of nuttose.

Nuttose Sandwich.— Slice good graham bread thin, spread it lightly with nut butter, and place between the slices some fresh, rather thinly sliced, nuttose. Salt may be sprinkled on the nuttose, if desired.

Mashed Peas.— Use the dried Scotch peas. Put a quart to soak in warm water overnight. Cook slowly until tender. Rub through a colander to remove the skins. Season with a teaspoonful of salt and a half cup of sweet cream or a tablespoonful of nut butter, as preferred. Beat well, turn into a granite-ware basin, smooth the top, and bake in a moderate oven until dry and mealy throughout, and nicely browned on top. One-third or one-half toasted bread crumbs may be used with the sifted peas, when preferred. Serve hot in slices in individual dishes. Over each slice turn a little tomato sauce prepared as follows: —

Heat a pint of strained stewed tomato, season slightly with salt, and when boiling, thicken with a tablespoonful of flour rubbed smooth in a little water.

Prune Toast.— Cook sweet California prunes slowly for a long time until tender, and the juice thick and rich. Rub through a colander to remove skins and stones, and if the pulp is thin, cook again for a time until it is about the consistency of marmalade. Moisten slices of zwieback with hot cream, and serve in individual dishes with a large spoonful or two of the prune dressing on each slice.

EDITORIAL.

GOOD HEALTH FOR 1897.

THIS number of GOOD HEALTH appears in a new dress. Fashions change with magazines as well as in houses and hats. The large size of the journal made it somewhat inconvenient for filing with other magazines. The smaller style will be found more convenient, while the larger number of pages offered will fully compensate for the smaller-sized page.

It has ever been the aim of both the editor and the publishers of this journal to keep in touch with the progressive spirit of the age; and the success which has attended this effort is fully demonstrated in the fact that the journal has now entered upon its thirty-first yearly volume, and with brighter prospects before it for future usefulness than at any previous period of its history. Numerous other health journals have enjoyed an ephemeral existence; but at the present time GOOD HEALTH is the only popular health journal in the United States which has for so long a period of time stood before the public as a consistent advocate of temperance and sanitary reform.

When this journal first appeared, the principles of dietetic reform which it advocated were regarded with little favor, and were, indeed, almost universally subjected to ridicule. These reforms, however, have, one by one, won their way into public esteem and general adoption, and it is with no little satisfaction that the managers of this journal now look back over more than a quarter of a century during which it has been earnestly advocating principles which to-day have the adherence and support of the ablest physicians and scientists as well as of the thousands who have experienced the practical benefits derived from their application.

Instead of being almost the sole medium for the presentation to the public of sound and practical hygienic ideas, as was the case thirty years ago, at the present time these very reformatory principles are so generally accepted and so readily grasped by an appreciative public that there is scarcely a popular magazine in the country which does not devote more or less space in each issue to their consideration.

This fact might, at first thought, seem to render unnecessary the further publication of a journal especially devoted to hygienic reform; indeed, we might say with entire frankness that if this were really the case,—if it could be truly said that the battle against the artificial and health-destroying habits which our modern civilization has introduced, had been fought and won,—we should be happy to lay down our pen and suspend the publication of this journal as a labor no longer necessary. But the onward march of progress in scientific research and discovery, especially within the last ten years, has brought forward so vast a multitude of new and pertinent facts relating to the conditions upon which depend the highest degree of physical health and the greatest output of vital energy in useful and efficient ways, that there are still left whole continents of hygienic knowledge to explore, and new worlds to conquer of sufficient interest to enlist our best energies and activities for years to come.

GOOD HEALTH will, in the future as in the past, endeavor to occupy the front rank of periodicals devoted to health culture. Its monthly issues will deal with the various phases of this important and increasingly interesting subject. Especial prominence will be given during the year 1897 to the subject of School Hygiene,—hygiene as related to child culture in the home as well as in the school, and to other hygienic matters of fundamental and practical importance.

A GREAT MAN GONE.

We publish in this number a portrait of the late Sir Benjamin Ward Richardson, of London, England, who died at his home Nov. 21, 1896, aged sixty-eight years. The medical profession has, in recent times, met with no greater loss than that sustained in the death of Dr. Richardson.

The writer has for a number of years had the privilege and pleasure of the acquaintance of this distinguished physician, scientist, philanthropist, and reformer, and, with thousands of others, had hoped that so eminent and useful a man might be spared for many years to come. Dr. Richardson was not yet an old man, and maintained a high degree of intellectual and physical activity almost to the very last.

Dr. Richardson has all his life been devoted to scientific researches and pursuits. He contributed more extensively, perhaps, to the real progress of scientific medicine than any other of his countrymen during the period of his lifetime. His studies were uniformly directed toward the improvement of rational medicine, and he gave special attention to the consideration of sanitary science and preventive medicine. To enumerate the various important investigations which he undertook and conducted to a fruitful issue would require a volume of considerable size. It is sufficient, perhaps, in this connection, to recall the fact that Queen Victoria bestowed upon him, a few years ago, the order of knighthood, as a recognition of his distinguished services to his country and his generation as a scientific investigator.

Dr. Richardson was all his life a reformer. He never hesitated to express his convictions, and had the happy faculty of stating whatever he wished to present, either with voice or pen, in a most felicitous manner. His intense love for right and justice, his readiness to espouse the cause which he considered right, no matter how unpopular, and his enthusiastic readiness to meet an emergency, were well illustrated in an incident which he personally related to the writer, but which we have never seen in print. The circumstance occurred during the Civil War in this country.

The English government was at that time thoroughly in sympathy with the rebellion in the South, and steps intended to lead speedily to the full recognition of the Southern Confederacy by the English government and the formation of a treaty whereby England would join her forces to those of the Confederate States against the North, were at that moment being taken. It was just at this juncture, when the whole question was depending upon the result of the next day's proceedings of Parliament, that Dr. Richardson conceived the idea of creating a public sentiment against this strange coalition of a country which had many years before freed its own slaves, with the rebellious section of this country which was contending for the preservation of slavery. To think was, with Dr. Richardson, to act. He accordingly enlisted a friend to join with him in the matter, and had printed many thousand large handbills bearing a most pathetic and soul-stirring appeal to the people of England to rise in protest against such inconsistent and unrighteous action on the part of their rulers. The whole thing was accomplished secretly and in a single night. The next morning all London was ablaze with indignation. Parliament was cowed into submission to the people, the Confederacy did not receive the aid promised and expected, and the Union triumphed.

Eternity only can tell how great was the influence of this noble act on the part of Dr. Richardson, which, so far as we know, has never before been publicly mentioned or recognized. The incident was related to the writer some years ago by Dr. Richardson himself, in the course of conversation at the doctor's home in London.

Why the English government should ever have been willing to encourage the maintenance of slavery when its own slaves had been freed by legislative action more than half a century before, it is impossible to understand, except by the supposition that it was prompted by the same purblind policy which led it to appropriate a hundred thousand dollars to aid in freeing the slaves of the West Indies at a time when three

hundred thousand of England's own peasant women were dragging plows in the fields, yoked up with oxen, and neglecting to free these domestic slaves from their galling yokes until a quarter of a century later.

During the last twenty-five years of his life Dr. Richardson devoted much time to the propagation of the principles of temperance reform, being for many years the president of the British Medical Temperance Association, and editor of the *British Medical Temperance Quarterly*. He was one of the most active opposers of alcoholic medication in England, and through his trenchant and logical arraignments of the evils of alcoholic medication, has done more perhaps than any other Englishman to lessen the medical use of alcohol in fever, pneumonia, and other acute diseases.

Dr. Richardson was not ashamed to count himself among the diet reformers. For many years of his life he was, both theoretically and practically, a vegetarian. One evening, a number of years ago, as the writer sat at his side, a guest at a banquet of the St. Andrews Society, of which he was president, it was observed that of the numerous sumptuous dishes which were served, Dr. Richardson tasted only a few, and those entirely wholesome and hygienic in character, including not a single one of the numerous meat dishes.

In the death of Sir Benjamin Ward Richardson the world has lost one of the truest friends of reform and progress, and one of the most industrious and successful workers along the lines of useful scientific inquiry, that have lived in modern times. It may well be said of him, as of one in Holy Writ, "His works do follow him." Few men of science have left a deeper mark upon their age than has this much-loved and lamented physician.

Mortality from Pneumonia.—The present is the season of the year in which there is always a great increase in the deaths from pneumonia, bronchitis, and other pulmonary maladies. The mortality reports in a large city for one week recently showed a total of four hundred deaths; the number of deaths from pneumonia was sixty-five, or one sixth the total number; while the deaths from bronchitis and consumption during the same week were in each case about one half the number from pneumonia.

Pneumonia is distinctly a cold-weather disease. This malady, as has been well known for several years, is a germ disease, the actively exciting cause being a small microbe known as the pneumococcus. This germ is to be found in the throats of many healthy persons during the cold season of the year. Slight irritation of the throat, such as is produced by a cold or by chronic inflammation and enlargement of the tonsils, facilitates the retention and development of this germ. The germ by itself, however, is not competent to produce pneumonia. The vital resistance of the body must be somehow diminished before the germ can obtain a sufficient foothold to produce its characteristic effects. Such a diminution of vital resistance may be the result of a severe cold; exhausting labor followed by exposure to the depressing influence of a cold; alcoholic and other excesses; as overeating; excessive use of flesh foods; condiments and so-called rich and stimulating foods; and other similar causes. It is well to remember that the pneumococcus, as well as the germ causing consumption and other allied maladies, is powerless to affect a human being so long as the proper degree of vital resistance is maintained by strict obedience to the laws of health.

THE best way to give the gospel of health to the world is to live it out, and then people can copy from your life. Be well, and be healthy. Live healthfully, so that people will see your rosy cheeks and laughing eyes, and will want to know how you came into this desirable condition. Tell them it is by eating simple food and by careful attention to all of nature's laws, and they will begin to adopt and follow your recipe. People sometimes wonder why it is that disease is contagious and that health is not contagious; but, in reality, there is nothing so contagious as health.

TWO CAUSES OF INDIGESTION.

Irregularity of Meals.— One cause of dyspepsia is irregularity respecting the time of meals. The human system seems to form habits, and to be in a great degree dependent upon the performance of its functions in accordance with the habits formed. In respect to digestion this is especially observable. If a meal is taken at a regular hour, the stomach becomes accustomed to receiving food at that hour, and is prepared for it. If meals are eaten irregularly, the stomach is taken by surprise, so to speak, and is never in a proper state of readiness for the prompt and perfect performance of its work. The habit which many professional and business men have of allowing their business to intrude upon their meal hours, frequently either wholly depriving them of a meal or obliging them to take it an hour or two later than the usual time, ultimately undermines the best digestion. The hour for meals should be considered a sacred one, not to be intruded upon except under some unusual circumstance. Eating is a matter of too momentous importance to be interrupted or delayed by matters of ordinary business or convenience.

The habit of regularity in eating should be cultivated early in life. Children should be taught to be regular at their meals, and to take nothing between meals. This rule applies to infants as well as to older children. The practise of feeding the little one every time it cries, results in most serious injury to its weak digestive organs. An infant's stomach, though it needs food at more frequent intervals than an adult's, — every two to four hours according to its age,— requires the same regularity which is essential to the maintenance of healthy digestion in older persons. The irregularity usually practised is undoubtedly one of the greatest causes of the large number of deaths among infants from disorders of the digestive organs shown by our mortuary records.

The action of the digestive organs, like that of all other organs of the body, is rhythmical. The discharge of the alimentary residue, which constitutes the fecal matters, normally occurs after the first meal of the day. It is the result of the peristaltic movements set up by the introduction of food into the stomach. By this increased activity of the alimentary canal, the fecal matters resting in the upper portion of the colon are moved downward into the rectum, thereby provoking a desire for evacuation of the bowels. By this means the activities set up by each meal, move the contents of the intestine to their appropriate station, resulting, in healthy persons, in the discharge of the alimentary residue from the body at a stated hour each day. If a meal is omitted, or if meals are taken at irregular hours, this rhythmical action is broken up, and constipation is the natural result.

It thus appears that eating at too frequent intervals is not the only evil in the way of irregularity in eating. It is far better, however, to omit a meal than to introduce into the stomach a new supply of food before that already contained in it has been properly digested, and the organ given an opportunity for rest.

It should be remembered that the process of digestion is not complete when the food leaves the stomach. Recent observations made upon a man having a fistulous opening at the junction of the small intestine with the colon, have shown that fourteen hours elapse from the time food is eaten until it enters the colon, when the process of digestion is completed, the colon being chiefly a reservoir where the food is retained for absorption.

Eating when Exhausted.— This is a most certain cause of derangement of digestion, and one to which a very large number of cases of dyspepsia may be traced. The third meal of the day is almost always taken when the system is exhausted with the day's labor. The whole body is tired, the stomach as well as other parts of the organism. The idea that by the taking of food the stomach or any other part of the system will be strengthened, is a mistake. An eminent writer on indigestion says very truthfully, "A tired stomach is a weak stomach." When the

stomach feels "weak and faint," rest is what is demanded, and is the only thing that will do it good; yet many people insist on putting more food into it, thus compelling it to work when it ought to be allowed to remain inactive until rested. The arm wearies by constant exercise, and so does the stomach, which, like the arm, is active through its muscular structure. Both secretion and muscular activity are greatly lessened in a tired stomach, and the habitual disregard of this fact cannot but be disastrous to the best digestion.

Violent exercise either just before or just after eating is a hindrance to good digestion. When the exercise is taken just before the meal, the stomach is left too tired to do its work properly; and when taken immediately after eating, the vital energies are diverted to other parts, and the stomach thus robbed of its necessary share.

An English physiologist performed an experiment which well illustrates the truth of this position. Having fed a dog his usual allowance of meat one morning, he took him out upon a fox hunt, and kept him racing over the country until night, when, having killed the animal, he examined his stomach at once, and found the meat in the same condition in which it had entered the stomach, no digestion having taken place. In another dog, fed with the same kind of food, but left quiet at home, digestion was found to be complete.

The hurry and press of business among Americans is allowed to override every consideration of health. It seems never to enter the mind of the average business man that any time is required for digestion. Rushing to his dinner from the plow, the workshop, or the counting-room, he swallows his food with all possible despatch, and rushes back to his work again, begrudging every moment spent in meeting the requirements of nature. Many years ago it was customary in Edinburgh to suspend all business for two hours in the middle of the day, so as to allow ample time for meals. A similar custom once prevailed in Switzerland; but probably such a sensible custom is now considered too old-fashioned to be tolerated.

It should be remarked that severe mental labor immediately before or after and especially during meals, is even more injurious than physical employment. The habit many business men have of anxiously scanning the newspapers during their meals, and when going to and from their places of business, is a bad one. At least a full hour should be taken for the midday meal; and if an hour's rest can be secured before eating, improved digestion would well repay the time spent in reinforcing the vital energies. For persons of weak digestion, the rest before eating is in most cases indispensable.

Recent experiments have shown that the muscular strength is increased very soon after eating. This must be due to the digestion and absorption of the starch, whereby the muscles are furnished a fresh supply of glycogen, which is their source of energy. It is, therefore, admissible that a very small amount of food be taken by an exhausted person, but it should be of a kind which is easily digested, and the quantity should be very small. Nitrogenous food, such as meat and eggs, is especially detrimental to persons in this condition. Thin, well-boiled gruel or rice-water, a little rice, a crust of bread well chewed, a cup of vegetable broth, a bunch of grapes, an orange, or a little other ripe fruit are most suitable for this purpose.

Cinnamon for Dysentery.— A surgeon in the British army in India writes to the London *Lancet* that he has for several years employed with success in the treatment of dysentery a very simple remedy consisting of one dram of cinnamon bark reduced to a fine powder, and made into a ball with a few drops of water, this to be taken every morning and evening. He has found this remedy a very successful one. He had learned of it from a Persian medical work, the remedy being very popular in Persia. The virtues of this remedy may be due to the antiseptic or germicidal properties of oil of cinnamon.

Peroxide of Hydrogen and Indigestion.— Recent experiments made in the laboratory of hygiene connected with the Battle Creek Sanitarium show that a dram of peroxide of hydrogen administered an hour before eating will cause the disappearance of germs even in a stomach quite badly infected, so that a test meal administered after a dose of peroxide of hydrogen or hydrozone is found to be completely sterile. This is an important and interesting fact, and one which we believe has not been heretofore pointed out. Peroxide of hydrogen, hydrozone, and similar preparations are unquestionably effective germicides when they can be brought in direct contact with the germs.

It must not be supposed, however, that a remedy of this sort could be of any great service in the eradication of the germs causing smallpox, scarlet fever, measles, or similar diseases, although it must be said that no remedy has been shown to be of greater value in the treatment of sore throat and similar maladies. We have for years made use of peroxide of hydrogen and hydrozone manufactured by the Drevet Manufacturing Company, New York, and have found them always reliable, and the results satisfactory, when used in appropriate cases.

Milk and Consumption.— A modern traveler has called attention to the interesting fact that consumption prevails almost exclusively among those nations which make a large use of the milk of cows. It is said to be exceedingly rare in India, China, and other countries in which milk is little used. A native Hindu looks upon the use of milk as a most disgusting practise. The same prejudice exists in many other semi-civilized or barbarous countries.

It cannot be claimed that tuberculosis is propagated among cows and human beings by their mutual contact, though there is abundant reason for believing that cows may contract the disease from human beings, and *vice versa*. A leading Canadian authority states that twenty-five per cent. of Canadian cattle are tuberculous. A London, Ont., correspondent of the *American Medico-Surgical Bulletin* very aptly remarks: "What with hog-cholera, sheep-rot, influenza in poultry, and tuberculosis in American beef, is it any wonder that such large numbers are becoming vegetarians?"

Sterilization of Milk.— The danger of infection by the germs of tuberculosis, typhoid fever, and other maladies, in the use of raw milk is now so generally recognized that it is coming to be regarded as a public necessity that provision should be made for the compulsory sterilization of all milk offered for sale, especially in cities.

The impression generally prevails that for the complete sterilization of milk it is only necessary to place the vessel containing it in hot water, and bring the water to the boiling point for a few minutes. Recent observations, however, have shown that the heat to which the milk is thus exposed is insufficient to destroy the germs of tuberculosis, since the outer portion of the mass of milk may be brought to the boiling point while the inner portion is far below this temperature. It is necessary that the entire bulk of milk should be raised to a temperature of 190° to 200° F., in order that the dangerous germs and their spores shall be thoroughly destroyed.

Milk should be exposed to the boiling temperature for at least twenty minutes, and at least five minutes should be allowed for bringing the whole mass to the boiling temperature. Careful attention to the thorough sterilization of milk would unquestionably result in saving thousands of lives annually.

Salt and Bright's Disease.— Graham and others showed, long ago, that salt is not a natural or an essential addition to human diet. Notwithstanding the fact that salt is almost universally employed by civilized human beings, there seems to be really no good reason for its use. The love for it must, we think, be regarded as a perverted appetite. It is well known that carnivorous animals do not make use of salt, and it has many times been demonstrated that its use is not essential to the maintenance of good health in the case of herbivorous animals, though many of them readily form an appetite for it when it

is given them. It should be remembered, however, that calves rarely like salt at first, but have to learn its use. It is entirely possible that a very small amount of salt may be used without appreciable injury, but we quite agree with the editor of the *Charlotte Medical Journal* that the excessive use of salt, which has come to be so common among civilized human beings, is highly detrimental and dangerous. The editor of the journal referred to remarks in a recent issue: —

"Especially is little salt required when a large amount of flesh is consumed. Carnivorous animals do not require salt at all. There are races of men who live mainly on animal food; and though salt abounds around them, they do not use it. It is the vegetable-eating animals and races of men that seem to require salt as a part of their diet. Bearing this in mind, we ought to be able to compose our food and condiments more scientifically."

The above remarks are well worthy of careful consideration. Numerous cases might be cited in which the excessive use of salt has resulted in serious disturbance of digestion, and in the aggravation of rheumatism, gout, and similar maladies. A good rule in the use of salt is to eat as little as possible.

Milk a Cause of Nervous Headache, or Migraine.— That the free use of milk as an article of food is one of the most prolific causes of migraine (nervous or sick-headache) the writer has had many opportunities to demonstrate in the treatment of patients suffering from this disorder. The simple prohibition of milk has cured many sufferers from this most distressing ailment. Examination of the stomach in these cases generally shows that it is dilated or prolapsed to such a degree as to cause retention of the food beyond the ordinary period.

That milk leads to decomposition in the stomach and the production of poisons, by the absorption of which sick-headache and other distressing symptoms are produced, is doubtless due to the fact that it contains, as ordinarily received by the consumer, such multitudes of microbes. Professor Conn found that the milk obtained at Middletown, Conn., contained, within two or three hours after being drawn, from 330,000 to 9,000,000 microbes per ounce. The milk supply of Boston was found to be infected to a much greater degree, as many as 135,000,000 germs per ounce being found in some specimens. The milk of Madison, Wis., during the months of May and June, was found to contain 60,000,000 microbes per ounce.

The milk supply of European cities has been found infected to a still higher degree, the number of microbes being rarely less than 150,000,000 germs per ounce, and often reaching as high as 600,000,000, and sometimes to the enormous number of 5,400,000,000 in a single ounce.

The number of different kinds of microbes found varies from a half dozen or more to as many as fifty in a single locality. One German investigator found sixty different kinds of microbes in a series of cheeses. These germs give rise to the so-called "ripening" of cheese, as it has been found that cheese cannot be made from boiled or sterilized milk.

The Patent-Medicine Mania. — The Woman's Christian Temperance Union and other worthy organizations have for many years been waging war against the drink habit and other deteriorating influences which are undermining our modern civilization; but, so far as we know, no one has yet taken up a crusade against the patent-medicine mania. The vast quantities of these nostrums which are annually sold, indicate very clearly that the drug habit, or the medicine-taking habit, is a most extensive and growing evil in this country. The amount of patent medicines, "home remedies," decoctions of roots and herbs, pills, potions, syrups, elixirs, extracts, and nostrums, along with regular and irregular drugs of various sorts, annually swallowed by the American people, if collected, would constitute a mass of most prodigious proportions.

Those who swallow these are doubtless unaware of the fact that every drug taken into the stomach, if absorbed, calls upon the liver for extra labor in order to prevent its destructive influence upon the body, as well as upon the skin, the kidneys, and other or-

gans for increased effort to effect its removal from the body. Whatever constitutional effects are produced by drugs upon the body are due, not to any property which they possess whereby the injured parts may be repaired or the weakened vital forces invigorated, but to the resistive action set up against them on the part of the body.

It is thus apparent that those who habitually make use of drugs to produce constitutional effects are simply playing upon the vital forces of the body. The use of cholagogues, or so-called "liver stimulants," as certainly results in a weakened, enervated, or torpid condition of the liver, as does the liberal use of the whip upon a tired horse result in the further weakening and exhaustion of the animal. The use of stomach tonics, stimulants, and the great variety of digestive agents manufactured, such as pepsin, pancreatin, etc., ultimately result in increasing the debility and weakness of the organ; and the same is true of every other class of drugs.

Medicinal agents are often useful, sometimes essential, but it should be remembered that the benefit to be derived from them cannot be more than temporary. The beneficial effects which they may appear to exercise should be recognized as merely palliative. Any lasting curative result must be obtained from the use of some more thoroughgoing remedy,— some agent which is capable of eradicating the cause of the morbid condition present.

Such curative agents are not, however, to be found in materia medica; we must turn instead to materia alimentaria, and to such therapeutic processes as are included under the general head of hygienic or physiological agents, such as hydrotherapy, electrotherapy, massotherapy— or diet, water, exercise active and passive, sunshine, and other natural agencies. A quarter of a century ago the use of such measures was regarded as quackery, but at the present time the most intelligent and advanced members of the medical profession everywhere are recognizing the worth of remedies which cure, and the comparatively small value and restricted utility of those which do not cure, but merely palliate.

An Infamous Scheme.— Mr. Aaron Powell, editor of the *Philanthropist*, New York City, has recently called attention to a new scheme for the legalization of vice. Singularly enough the scheme is promoted by a woman who claims to be at the head of an organization of women. The object of the scheme is to license houses of ill-repute,— to legalize them, to afford them protection, to give them medical care and supervision,— in short, to revive in this country all the machinery of the horrible "Contagious Diseases Act," which, through the efforts of Dr. Kate Bushnell, Mrs. Andrews, Miss Frances Willard, Lady Henry Somerset, and other noble women, has been, for several years, abandoned in England and in India. The intelligent people of America will, we trust, never consent to the grafting of such a cancer upon our social institutions.

The Relief Department.—The publishers of this journal have for several years conducted a Relief Department, the purpose of which is to find homes for orphan children and to secure medical relief for worthy poor persons who may be in need of surgical or other treatment which cannot be readily secured outside of a properly conducted hospital.

As the result of these efforts, several hundred children have been placed in good homes, and hundreds of worthy sick poor persons have been relieved of their disabilities and restored to good health. We invite our readers to co-operate with us in this work by sending us the names of homeless children, together with as full information as possible concerning them, and also names of and information in regard to worthy poor persons who are ill and in need of such medical care as they cannot obtain at home. We do not guarantee that all such children will be provided with homes, or that all sick poor to whom our attention may be called will be placed in a hospital until cured, but in the great majority of cases we hope to succeed in securing the needed relief. Any who may desire to co-operate with us in this philanthropic work may address Good Health, Relief Department, Battle Creek, Mich.

ANSWERS TO CORRESPONDENTS.

TUBERCULAR INFECTION — ASEPSIS. — Mrs. M. S. B., Ill., writes as follows: "1. Last spring I loaned an inhaler to a man who supposed he had consumption. This man is now well, but it occurs to me that perhaps the tube may have become infected with the germs of tuberculosis. It is made of wood; how shall I treat it in order to insure safety in its further use?"

Ans.— Place in the oven along with a piece of paper; bake until the paper begins to turn slightly brown, then remove. Every germ will thus be killed.

ABNORMAL SWEATING OF THE FEET, HANDS, ETC. — Mrs. L. C. B., of Georgia, asks the following questions: "1. My daughter, a child seven years old, has, for the past four years, been troubled at times with sweating of the hands and feet so profuse that her footsteps can be traced for quite a distance over the bare floor, and the thread with which she may be sewing is as wet as though soaked in water, while her body is perfectly dry. Her stomach is sometimes swollen, and she has shortness of breath and a fluttering in the stomach; also pains in the knees and elbows. What can be done for her? 2. Is wheat coffee healthful?"

Ans.— 1. Your child is suffering from indigestion. She should discontinue the use of meats and coarse foods. We recommend granose, fruit, zwieback, nuttose, and other nut products, and what may be properly termed an aseptic dietary, which will necessarily exclude cheese as well as meats. Milk may be avoided with advantage. Kumyss or buttermilk may be used without injury.

2. Yes, if properly made. When improperly made, cereal coffees of any sort are injurious to digestion. They irritate the stomach because of the large amount of pyroligneous acid, or oil of smoke, which they frequently contain. The crude methods employed in the manufacture of the ordinary cereal coffees sold in the market under various names render them unsafe for use. In Detroit, not long since, more than twenty people reported that they had been made sick by the use of cereal coffee of a certain manufacture, which they had purchased at a single store. The only cereal preparation of this sort which we recommend is caramel-cereal; and it should be distinctly understood that in recommending this, we do not recommend it as a food or as an advantageous addition to the dietary, but merely as a substitute for ordinary coffee.

COLD WATER AT MEALS — SLEEPING BEFORE OR AFTER DINNER. — A subscriber in Massachusetts asks: "1. Is it good for a person to drink at any one meal one and one-half pints of cold water? 2. Is it beneficial for a person to lie down and take a short nap before or after dinner? 3. If a person dines at one o'clock, does the stomach need any more food before bedtime? Some people say the stomach must have something to do while the person is asleep."

Ans.— 1. No.

2. Yes, before dinner.

3. No, not if the proper amount and quality of food has been taken. It is a great mistake to suppose that it is advantageous for the stomach to be engaged in the work of digestion during sleep. The digestive processes cannot be properly performed during sleep, since a certain degree of mental activity is required. In addition, it should be remembered that activity of the stomach during sleep interferes with the digestive processes of rest and recuperation which normally take place during sleep, so that sleep under such circumstances is less restful and renovating than when the stomach contains no food. Restlessness and unpleasant sleep following a hearty meal are a common experience.

BRONCHIAL CATARRH. — M. F., of Washington, describes the following symptoms, and asks for suggestions as to treatment: "Short, dry cough; expectoration of yellow pus in large quantities, discharging from the nose; a sickening taste and smell constantly present; loss of appetite; sleep disturbed by frightful dreams; wheezing respiration caused by the pus accumulating in the bronchial tubes."

Ans.— The patient is evidently suffering from bronchial catarrh. We recommend a trip to a dry climate, such as Colorado, and know of nothing better to suggest than a visit to the excellent sanitarium recently established at Boulder. Address Colorado Sanitarium, Boulder, Colo.

GASTRO-INTESTINAL CATARRH. — MRS. L. I. S., Ia., sends the following questions: "1. Can gastro-intestinal catarrh be cured? 2. If so, by what treatment? 3. What is the best diet for a person suffering from this disease? 4. Do apples cause bloating?"

Ans.— 1. Yes.

2. By an aseptic dietary, the use of intestinal antiseptics, and by an increase of the general resisting powers of the body, and by health culture such as can be obtained at a well-regulated sanitarium.

3. Meat, cheese as a rule, milk, except in the form of kumyss, and especially fish and oysters, must be avoided. Pickles, pastries, coarse vegetables, and indigestible foods of all kinds must also be excluded from the dietary. Cereal foods, such as granose, granola, gluten, and other health foods such as are manufactured by the Battle Creek Sanitarium Health Food Company, together with nuttose and other nut products, and well-cooked fruits, constitute the best dietary for a person suffering from this disease. Further directions respecting diet and treatment may be obtained from "The Stomach: Its Disorders and How to Cure Them," a work published by the Modern Medicine Publishing Company, Battle Creek, Mich.

4. Some persons are unable to digest fruit. In such cases the patient is suffering from infection of the stomach or other portions of the alimentary canal.

SANITARIUM HEALTH FOODS FOR DYSPEPSIA.— C. G. P., Minnesota, asks: "1. Which one of the foods prepared by the Battle Creek Sanitarium Health Food Company, is best adapted to a patient suffering from dyspepsia caused by overloading the stomach? There is loss of flesh; heavily coated tongue; burning sensation in the stomach, which is sometimes sour continuously for a week or ten days. 2. Is a complete cure possible? and if so, how long should it reasonably take? 3. Would electricity be beneficial in such a case?"

Ans.— 1. Granose eaten dry, if taken exclusive of all other foods, may be eaten in abundance. Fruit alone might be taken for a day or two; then granose, adding nut cream, nuttose, bromose, and other nut products.

2. Yes; from three or four months to a year, according to the conditions which can be secured. Three or four months' treatment at the Battle Creek Sanitarium would doubtless effect a cure.

3. Yes, if properly employed.

DIGESTIBILITY OF BUTTER — NUTRITIVE VALUE OF TAPIOCA, ETC.— GELATIN.— The following questions are asked by a correspondent: "1. Is butter hard to digest? 2. What is the nutritive value of tapioca, rice, sea-moss, and farina? 3. What are gelatin and 'Cooper isinglass' made of? 4. If cane-sugar will not digest, what kind of sweet should one use? 5. Is coffee made from the products of the cocoa-bean nourishing?"

Ans.— 1. Yes.

2. The nutritive value of tapioca is simply that of starch. From the chemical standpoint it is almost pure nutriment, but from the vital standpoint it is not food at all, for the reason that it represents but one element of food. A person would starve to death if fed upon an exclusive diet of tapioca. The same may be said of sea-moss and farina. Rice is a natural food, having a nutritive value of 86.9 per cent. The proportion of albuminoid, or blood-making, elements in rice differs in different varieties of the grain. In ordinary rice, the proportion of proteid matters is only about half that afforded by oats, corn, and wheat; hence some other substance rich in proteid matters should be used with rice in order to make it a complete and perfect food. Lentils, beans, and peas are excellent for this purpose. These seeds, however, being somewhat deficient in fat, should be supplemented by nuttose.

3. Gelatin and "Cooper isinglass" are made of fish-bones and calves' feet; they are not food, in the proper sense of the word.

4. Cane-sugar is not indigestible; but sugar, when taken in the concentrated form in which it is found in commercial sugar, is likely to interfere with the digestion of starch, producing catarrh of the stomach, and promoting fermentation. It is well to use sweet fruits, such as prunes, raisins, figs, and sweet apples, in the place of sugar. The free use of sugar with grains is uncalled for and detrimental. The combination of sugar and milk is especially to be condemned.

5. No; on the other hand, it is to some degree harmful.

LITERARY NOTICES.

PRINCIPLES OF BACTERIOLOGY. — By A. C. Abbott, M. D. Philadelphia, Lea Brothers & Co.

This practical manual of bacteriology for students and physicians has reached its third edition within four years of its first publication, an evidence, certainly, of the great favor with which it has been received by the profession. The work is not merely a technical description of bacteria, but an elaborate treatise, intended to serve as a complete manual for the laboratory. The descriptions of methods and technique are extremely lucid and complete. The illustrations are excellent. Dr. Abbott has had an extended experience in bacteriology as first assistant in the laboratory of hygiene in the University of Pennsylvania, one of the most amply equipped institutions in the world. This edition of the work has been thoroughly revised and considerably enlarged, and is fully abreast with the present status of the rapidly growing subject of bacteriology. We know of no other work which we can more heartily commend as a student's manual.

THE NORTHFIELD YEAR BOOK FOR EACH NEW DAY.— Fleming H. Revell Co., Chicago.

This book is evidently intended for a New Year's gift. Nothing could be more appropriate as a token of Christian friendship. The book is made up of the most helpful utterances of such men as Bishop Baldwin, Dr. Broadus, Dr. Cuyler, H. L. Hastings, Dr. D. L. Moody, Chas. Parkhurst, Professor Henry Drummond, B. Fay Mills, Dr. Penticost, J. Hudson Taylor, John Mc Neill, and scores of other equally eminent and Christian teachers. The book is beautifully illustrated, the illustrations combining the face or the home of some eminent Christian clergyman or evangelist, with some beautiful floral or rural scene. It is one of the most unique, beautiful, and helpful volumes we have seen in years, and we predict a large sale for it.

WITH possibly one exception, there is no "domestic" magazine more widely or favorably known than the *Housekeeper* of Minneapolis, Minn., and its practical helpfulness to the housewife makes this reputation well deserved.

It is published twice a month, each issue comprising twenty or more large pages. The subscription price is only fifty cents a year.

Here is what the Syracuse (N. Y.) *Herald* has to say about it: —

"No better woman's magazine reaches the *Herald's* table than the *Housekeeper*, published at Minneapolis. It is astonishing that the publishers of this excellent semimonthly can give such good material for the price (fifty cents a year). A woman understands woman's needs better than a man. The *Housekeeper* is edited by women, and the material given within its columns twice a month is just the quality and quantity the housewife and homemaker desire. Women are interested in their sister housekeepers, and the *Housekeeper* is filled with ideas contributed by its readers — ideas that will smooth the path of housekeeping. Covering every branch of home life as it does, the *Housekeeper* is an ideal woman's paper."

The publishers of the *Housekeeper* will send a sample copy of their paper free to any applicant.

WE have heard so much of late years about heredity that to many the word has become but another name for fate — unescapable. A more hopeful and cheerful view of the matter, however, is taken by

Dr. J. J. Morrissey in his learned and suggestive article on "Hereditary Influences and Medical Progress" in the January *Arena*. He says: "Of a particular class of diseases from which our ancestors suffered, by careful living and the judicious use of therapeutics we can eliminate many of the predisposing causes which led up to those diseases, and secure immunity from them. . . . The fact that hereditary diseases change their form in descent from generation to generation shows that they arise from a subtle faulty condition of the constitution which can be, as was observed in the beginning of this article, combated by prophylactic medicine. . . . Constitutional taints of disease may be altogether eradicated by the recognition of certain elementary rules of health." Dr. Morrissey's paper is well worth reading.

THE January number of *Demorest's Magazine* well sustains its reputation as to the practical character of its departments. "Household" treats of "The Weekly Mending," giving excellent suggestions for fine mending; "Sanitarian" has a practical talk concerning the teeth; and "Home Art" gives designs and instructions in the making of several decorative articles. Another very interesting article in this issue is "The Yellowstone Park in Winter." Its glorious beauty is graphically described and pictured.

THE *Youth's Companion* Art Calendar for '97 has just made its appearance, and a delightfully original and artistic one it is, too. The *Companion's* yearly calendars promise to become a feature of every well-regulated household in the country. The one for 1897 is printed in twelve colors, making a true reproduction of the original water-color paintings, 10½ by 24 inches. It is in four panels, each containing the full-length picture of a beautiful maiden most becomingly and appropriately attired for the season she represents. This beautiful calendar is given free to all new subscribers to the *Companion* for 1897, and to all old subscribers who renew and pay their subscriptions for 1897. Illustrated prospectus for the year 1897 sent free on application. Price $1.75. Address the *Youth's Companion*, 205 Columbus Ave., Boston, Mass.

HERBART'S A B C OF SENSE-PERCEPTION. — Translated by Wm. J. Eckoff. New York, D. Appleton & Co.

This work is the first complete presentation of Herbart's educational theories which has appeared in English. Herbart's work was supplementary to that of Pestalozzi. The central thought in Herbart's theory of education is that the chief value of education is to be found in the increased action of the mind occasioned by the stimulation of the senses. In other words, Herbart regards the digestion, or apperception, of what we see and hear the all important thing; while Pestalozzi was chiefly interested in the perception itself.

This is a work that should be in the hands of every educator.

THE *Home Journal*, New York, founded in 1846 by George P. Morris and N. P. Willis, is a weekly newspaper, representing literature, music, drama, and society. It has poems, stories, translations, letters of travel, Paris and London correspondence, and excerpts from various sources. The best life of the metropolis will be found reflected in its pages; while its foreign correspondence and essays bring it into touch with the social life of the leading European centers. It is, in short, what it claims to be, an international journal. Two dollars a year. Morris Philips & Co., 231 Broadway, New York. Send for specimen copy.

PUBLISHERS' DEPARTMENT.

THE Battle Creek Sanitarium is enjoying a larger patronage than ever before at the present season of the year. The large dining-room is well filled with patients at each meal, and a general spirit of contentment and satisfaction prevails throughout the institution.

THE many friends of Dr. Kate Lindsay, of the Battle Creek Sanitarium, will be glad to know that she has arrived safely in London on her way to South Africa, where she goes to take part in the management of the large sanitarium which has been equipped in that country, chiefly through the generosity of Mrs. Wessels and her sons.

THE Chicago Branch of the Battle Creek Sanitarium is enjoying a good degree of prosperity at the present season. It is unusually well filled with patients, and the patronage is growing. The improvements now in progress will greatly increase the efficiency of the institution.

WE are glad to hear that the Colorado Sanitarium at Boulder is well filled with patients, and is in every way prosperous. This splendid institution not only offers a good chance for life to every consumptive whose disease has not yet so far advanced that he is stepping into the grave, but also affords excellent facilities for the successful treatment of all chronic ailments.

THE Nebraska Sanitarium reports the recent addition of an electric-light bath and a new electric bath to the facilities of that institution. We understand that the institution is crowded with patients, and that it has been found necessary to employ a portion of the college dormitory to accommodate newcomers. Fortunately the dormitory is located close by, and is an elegant building. We suspect that Dr. Loper has his eye on this building as a future addition to the Nebraska Sanitarium. There is certainly ample opportunity for the development of a great work in the thickly settled region surround-

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ing the institution. It is only necessary that the excellent advantages of this institution should be known to win for it a large patronage.

We are glad to learn that the medical force of the institution is soon to be augmented by another physician, Dr. D. W. Reed. Dr. Reed, while a student, spent some time at the Battle Creek Sanitarium, and is qualified to render valuable assistance in the work at College View, where we feel sure his services will be much appreciated.

DRS. DAVID AND MARY WILD PAULSON are spending a few weeks in New York City pursuing medical studies in special lines, preparatory to further work in connection with the Battle Creek Sanitarium. They report themselves as enjoying excellent opportunities and good health.

THE Sanitarium Dress Department has recently produced a number of new styles of artistic health gowns, which are most attractive, and have won enthusiastic admiration wherever they have been shown. One of these is represented in the half-tone plates which appear in this number. This department will supply not only patterns, but carefully fitted cloth models, to all who may desire to adopt a healthful mode of dress. For catalogue showing styles and prices, and directions for sending measurements for models, address Battle Creek Sanitarium, Dress Department.

A NEW IDEA.— For some months the managers of GOOD HEALTH have had in mind a plan for introducing into every community the invaluable principles relating to health culture which are represented at the Battle Creek Sanitarium.

A large corps of young men and women have been receiving thorough instruction in various branches of sanitary reform, including rational dietetics, scientific cookery, healthful dress, physical culture, etc.; and it is now proposed to undertake, in connection with the publication of this magazine, an organized effort for the promulgation of health principles in an extended manner. Qualified young men and women, who have had a thorough training in these principles, and many of them also an education and experience as trained nurses, will be sent out to different parts of the country where

there may be favorable openings for their services. They will organize small health associations, to be known as "Good Health Clubs."

We will not undertake to give here a full explanation of the plan to be pursued, further than to say that it is, in general, to group together those who are interested in the study of subjects pertaining to health and sanitary reform, particularly such subjects as healthful diet, hygienic cookery, healthful dress, the development of a good physique and correct bodily carriage by physical training, the ventilation of dwelling-houses, domestic hygiene, the dangers from germs which lurk in food and drink, etc. Cooking-schools will be held, and classes in physical culture will be formed among both the well-to-do and the poorer classes, thus giving all an opportunity for instruction.

Those who may be interested in this enterprise, and who would like to co-operate with us, will please address the editor in relation to the matter. We shall be glad to hear in regard to it from all the friends and patrons of the Sanitarium. The Sanitarium has abundant employment for its well-trained nurses, but it proposes to send out some of those who have had this training and large experience, to conduct brief courses of instruction upon the subjects named and others closely allied, such as, "First Aid for the Injured," "Simple Remedies," "The Uses of Water," etc.

SPECIAL attention is called to the advertisements of the Sanitary and Electrical Supply Company, which offer a large assortment of invaluable appliances and comforts for invalids, all of which have borne the test of long experience, and are extensively used at the Battle Creek Sanitarium, where many of them have originated. Send for catalogue.

RECENT SAVING OF SICKNESS AND LIFE IN MICHIGAN.— The secretary of the State Board of Health has just published (in Reprint No. 472) official statistics on the results of the life-saving work of that board, which show that through the compliance with the recommendations of that board during the five years, 1890–94, there were probably saved to the people of Michigan about 112,843 cases of sickness and about 5261 deaths, from the four diseases — diphtheria, scarlet fever, typhoid fever, and measles. At a very low estimate the

money value thereby saved the State during these five years is $5,097,800, or over one million dollars per year, from these four diseases. If all the dangerous diseases were considered, the saving would undoubtedly be much more.

The basis on which this estimate is made is as follows: For medical attendance and other necessary expenses in each case of sickness, $20; for each funeral prevented, $40; value of each life saved, $500. (Before the late war a slave was worth about $800, for what he would earn over and above cost of maintenance, and now the courts count an average person's life worth about $5000,— ten times the amount used in this estimate.)

The State Board of Health exists for the purpose of guarding the highest interests of every man, woman, and child in Michigan; and if it had the co-operation of all, and its advice were fully complied with, the results of its work would be still more effective. As it is, the money values saved to the people of the State greatly exceed the cost of the public health work, being, in fact, nearly half as much as the entire amount required to sustain the State government and all the State institutions. Michigan is fast becoming one of the most healthful States.

THE change in the style and make-up of this magazine has necessitated its somewhat late appearance this month, but we hope hereafter to be on time. Our friends will, we trust, be especially pleased with the changes made, and condone our delinquency for this once.

WE publish this month an article by Dr. W. H. Riley, superintendent of the Colorado Sanitarium, Boulder, Colo., entitled, "Consumption: What It Is, and How It May be Cured." The Colorado Sanitarium has had unrivaled success in the cure of a class of sufferers whose cases are generally considered hopeless, and it is desirable that a knowledge of this institution, and the life-saving opportunity which it affords, should be extended as widely as possible. GOOD HEALTH has no financial interest whatever in this enterprise, neither has Dr. Riley, nor any one else connected with the institution. It is a purely humanitarian effort to save life. We have no hesitation in saying that there is no place in the world where patients suffering from pulmonary consumption can have so excellent an opportunity for recovery as at the Boulder Sanitarium, and no place where chronic invalids of any class will receive kinder attention, or find better climatic conditions and more skilful treatment.

PREMIUM OFFERS.— We believe no publishing-house has ever proffered more generous inducements for new subscriptions than are to be found in our premium offers presented in this number. Premium lists are often made up of cheap articles which have little intrinsic value, the prices of which are placed far above the amount at which the same or equally good articles could be purchased anywhere for cash. We are sure, however, that the premium list which we offer is not open to this criticism, as not a single article will be found in it which will not at once be recognized as possessing intrinsic merit. And it should also be remarked that the prices named for the several articles are regular cash prices.

Think of it, friends! Every article in the list is offered at its lowest cash value, and on such terms that any person who is disposed to do so can obtain it without cost; for example, Dr. Kellogg's "Home Hand-Book of Domestic Hygiene and Rational Medicine," revised edition, is offered for five subscriptions to GOOD HEALTH, at $1 each; that is, the person who obtains five subscribers for GOOD HEALTH receives $5 from the subscribers, which he sends to us, and receives the whole $5 back in a copy of the above work, which cannot be bought for cash for less than $5. A $100 bicycle is offered for one hundred and twenty subscribers at $1 each. The reader will doubtless ask, "How can you afford to make such a generous offer?" We cannot afford it. The offer is made simply for the purpose of getting this magazine into a large number of homes which it might not otherwise enter, and thus accomplish a good work in the extension of the principles which it represents.

Tell your neighbors about it. If you do not care to avail yourself of any of the splendid offers made in our list, will you not bring them to the notice of some friend who has time to give the matter attention, and also send us his name and address? We are going to make a vigorous effort to get GOOD HEALTH into 100,000 homes within the next twelve months, and propose to induce as many people to help us as we can. The purpose of this magazine is to disseminate the principles of the gospel of health, and we are determined to put into it all the energy and enthusiasm necessary for success. With the co-operation of the friends of these principles in all parts of the country, success will be assured.

GET your neighbors to subscribe for GOOD HEALTH. This magazine has a mission; it is not published as a business enterprise, as a means of propagating a hobby, or as an advertisement for anything or anybody, but for the purpose of disseminating the principles of sanitary living and health culture. For more than thirty years this magazine has been in the field as an advocate of sanitary and hygienic reforms. It stands for the most advanced ideas in rational scientific food reform, dress reform, temperance, and all that pertains to the well-being of the individual and home.

GOOD HEALTH is not a scrap-book, but a monthly publication which presents in each issue a rich and varied fund of original and practical facts and ideas gathered from the great storehouse of experience, contributed by writers distinguished for their scientific attainments and wide opportunities for observation. Such a magazine cannot but be helpful in any home which it may enter. We trust we are not assuming too much when we entertain the belief that it has proved itself useful in the home of every one who has received it at any time during the past thirty years.

Now we wish to ask each one of our appreciative readers to do a little missionary work in the way of introducing the journal to his friends and neighbors, and thereby aid us in our work of propagating the principles of health and sanitary reform, which we believe to be the most effective means of antagonizing the deteriorating tendencies which are at work undermining the constitution of the race in all civilized countries.

We wish, during the year 1897, to raise the circulation of GOOD HEALTH to one hundred thousand monthly. This may easily be done if we can have the thorough co-operation of those who are really interested in the principles advocated by the journal. Note the magnificent offers we make in our premium list for new subscribers.

DO you want a bicycle? Read our premium list, and you will find out how to get a first-class hundred-dollar bicycle for nothing.

WOULD you like to take a trip to Europe this summer? Here is a chance to get a free ticket and expenses paid. See our premium list.

THE business of the Battle Creek Sanitarium Health Food Company is rapidly increasing, notwithstanding the hard times and the fact that numerous imitators have sprung up in different parts of the country. The shipments for three days recently aggregated thirty tons. Hundreds of persons would be glad to make use of the excellent products of this company if they were only acquainted with their merits. Catalogues will be furnished free on application.

MR. BARTON HUFF, who has charge of the Sanitarium Health Food Co.'s business in the East, with headquarters in New York City, reports a growing interest in health foods, notwithstanding much opposition from competitors who offer inferior and deceptive goods. Mr. Huff manages to send in a car-load order every few days, which fact leads to the conclusion that the Battle Creek Sanitarium health foods are finding their way to many thousands of tables in the Eastern States. The output of the manufactory of caramel-cereal alone now aggregates more than a ton daily. This represents two hundred thousand cups of a wholesome beverage which is daily substituted for an equal number of cups of poisonous, disease-producing coffee. This means sixty millions of such substitutions in the course of a year. The full significance of this fact can scarcely be estimated — much less appreciated. It means a saving of thousands of hours of pain, many premature deaths, and an incalculable amount of suffering. The manufacture and sale of health foods is one the most efficient means of propagating health of principles with which we are acquainted.

THE Battle Creek Sanitarium Health Food Company have recently installed a milling establishment, which will hereafter be run in connection with their health food business. Several new principles enter into the construction of this mill, whereby flour and other mill products are produced which possess dietetic properties and qualities far superior to anything which has heretofore been obtainable. The following is a brief description of the leading products of their present output in this line: —

Granose.—This is a new food of an entirely unique character, resembling the finest pop-corn in its delicious crispness, but perfectly soluble by the saliva in the mouth. It is a perfect food, as it contains the whole wheat berry, which is conceded to possess all the elements necessary to the maintenance of life in man. This new food has sometimes been termed "Wheat Chips," from the fact that it resembles the popular but dyspepsia-producing article, Saratoga Chips, in its rich crispness, although in no other respect. "Wheat Chips" contain nothing but wheat, with the exception of a minute quantity of common salt.

Granose is a thoroughly cooked and sterilized food, ready for immediate use, and entirely free from germs. It has proved itself to be a specific for constipation in hundreds of cases.

Granose is put up in one-pound packages, in two forms, as loose flakes, and with these flakes pressed into cakes, or biscuit.

Granola.—This is a farinaceous product, composed of a combination of the most easily digested grains, and containing the largest possible amount of all the elements of nutrition in the proportion needed for complete nutrition.

Granola is an exceedingly valuable and digestible product, much resembling in flavor and mode of preparation the renowned gofio, the staple food of the natives of the Canary Islands, which has attracted to that out-of-the-way place hundreds of invalids by its remarkable virtues as a curative agent in various forms of dyspepsia.

Granola is just the thing for a patient who needs to gain in flesh. It is the food *par excellence* for all persons with weak digestion, defective assimilation, general or nervous debility, brain workers, feeble children, and invalids generally, as well as travelers and excursionists. It is also excellent for those who, while not sick, need to obtain the largest possible supply of nourishment with the least labor on the part of the digestive organs.

This food has been carried by missionaries and other travelers to the interior of India, Persia, to Australia, New Zealand, the islands of the sea, and to South Africa and South America, and has everywhere demonstrated our claim for it, that granola will keep in any climate.

Caramel-Cereal.—A substitute for tea and coffee has for years been manufactured for the use of the Battle Creek Sanitarium, which in its present perfected state is known as Caramel-Cereal. This drink is both appetizing and healthful, and satisfy

ing and comforting to the stomach. While possessing a flavor closely resembling genuine Mocha or Rio, it differs from them in that it never produces headache, biliousness, nervousness, sleeplessness, or a muddy complexion. It contains not a trace of caffein or tannin.

The Sanitarium Health Food Co. also manufactures a full line of graham, oatmeal, and whole-wheat crackers, gluten preparations, besides numerous other food products which have been evolved for the use of the hundreds of patients who visit the institution as a "last resort" in their search for health, and are offered to the public with the confidence of long experience in their beneficial effects, and with the hope that hundreds of sufferers not so situated as to visit the Sanitarium may reap the benefits of their use, in renewed vigor and lessened physical ills.

THE third season of that splendid transcontinental service inaugurated by the Southern Pacific, and known as Sunset Limited, went into effect with the train leaving New Orleans in November, and will be operated semiweekly, as heretofore. The thousands of people who have made this journey to the Pacific Coast upon the Sunset Limited all want to go again the same way. If you desire any information about the route or the train, write to W. G. Neimyer, Gen. Western Agent, Southern Pacific Co., 238 Clark St., Chicago, who will cheerfully send you full descriptive literature.

EVERY-DAY EXCURSIONS to all parts of the world can be arranged for any day in the year, for one or more persons, upon application to any principal ticket agent of the Chicago, Milwaukee & St. Paul Railway. Itineraries carefully prepared for excursions to California, Florida, Mexico, China, Japan, and to any part of Europe. Estimates furnished, including all expenses. Tickets furnished for the complete journey. It is not necessary to wait for any so-called "Personally Conducted Excursion." In these days of progressive enlightenment, with the English language spoken in every land under the sun, one does not need to depend upon the services of guides for sight-seeing, but can go alone or in small family parties, with great comfort and security, and at one's own convenience. Write to Harry Mercer, Michigan Passenger Agent, Chicago, Milwaukee & St. Paul Railway, Detroit, Mich., for details, if you are contemplating a trip.

LETTERS FROM FARMERS in South and North Dakota, relating their own personal experience in those States, have been published in pamphlet form by the Chicago, Milwaukee & St. Paul Railway. These letters are extremely interesting, and the pamphlet is finely illustrated. One copy will be sent to any address, on receipt of a two-cent postage stamp. Apply to Harry Mercer, Michigan Passenger Agent, 7 Fort Street W., Detroit, Mich.

THE CROP OUTLOOK IN SOUTH DAKOTA FOR 1897.— It requires but a small amount of rain-fall in South Dakota to mature the crop. During 1896 South Dakota had, up to September 30, three and seven-tenths inches more rain-fall than during any of the previous sixteen years. Since September 30 there have been added at least three or four inches to the excess, making a gain of nearly eight inches more than the average. Early in November there were heavy rains, depositing over two inches, and since then there have been heavy snows, and about a foot of snow covered the ground on November 25.

Dakota farmers have abundance of hay and great supplies of oats, barley, and corn. Wheat has advanced to about seventy cents a bushel in the local market, and prospects for further advance are good. The ground will come out in the spring better soaked than ever before. The prospect for better prices next year is good.

There are thousands of people in the East who could do no better than to go to South Dakota now and buy their seed and feed for next year, and move out in the spring. First-class farming land in South Dakota along the lines of the Chicago, Milwaukee & St. Paul Railway can now be bought at from $10 to $15 an acre. The creamery industry and stock-raising in South Dakota will greatly increase during 1897.

For further information address W. E. Powell, General Immigration Agent, 410 Old Colony Building, Chicago; or H. F. Hunter, Immigration Agent for South Dakota, 295 Dearborn Street, Chicago, Ill.

The Good Health Premium List.

THE publishers of GOOD HEALTH, as a means of rapidly increasing their circulation, have decided to make the following premium offers. A glance at the propositions made will be sufficient to assure the reader that no such generous offers for new subscriptions have ever before been made by any publisher.

A Trip to Europe Free!

Have you long entertained a desire to take a European trip, but realized that your means were too moderate to meet so great an expense? Here is your opportunity.

For 465 Subscriptions to GOOD HEALTH

at **$1** each we will furnish a ticket, covering all expenses, to **England, Scotland, France, Switzerland, Italy, Austria, Germany, Belgium, Holland, Wales, and Ireland.** This trip will occupy **65 days,** the boat leaving New York **June 26, 1897.**

This offer can be extended to only one person, hence the one who first sends us the necessary number of subscriptions will receive the ticket.

Should the one who has tried for this prize fail to reach the required number of subscriptions in the time given, we have the privilege of offering a shorter trip, which will include a visit to **Glasgow, Edinburgh, Chester, Shakespeare County, London, Rotterdam,** and other points of interest in **Holland, Antwerp, Brussels, Cologne, River Rhine, Mayence, Heidelberg, Baden Baden, Lucerne, Brunig Pass, Interlaken, Grindelwold Glaciers, Berne** (Swiss Lakes), **Geneva, Paris, etc.** The ticket for this trip, which will cover all expenses, will be given for

335 Subscriptions to GOOD HEALTH

at **$1** each. The time of sailing is the same as above, **June 26, 1897.**