

GOOD HEALTH

A Journal of Hygiene.

VOL. XXXII.

NOVEMBER, 1897.

NO. 11.

AIR STARVATION.

BY J. H. KELLOGG, M. D.

How many are there among civilized people who really feel the joy of living—who experience an inward sense of exhilaration that seems to be a well-spring of life? There are causes of deterioration which have been at work among civilized peoples for years, which are so utterly opposed to the natural laws of life and to the normal functions of the body that it is a wonder that any of us are alive; but the fact is, man has more natural endurance, more real constitutional vigor, than any other animal that lives. His deterioration is not so much on account of the bad conditions of life over which he has no control, as by reason of his evil habits.

One of the chief causes at the foundation of the deterioration of the race is the breathing of impure air. At the first approach of cold weather, people proceed to cork their windows and close every crack and crevice in their homes so securely that scarcely a breath of air can find entrance. And then they wonder why they lose their appetite, and suffer from what they call "biliousness" in the spring. It is winter suffocation that causes it. It is indeed a wonder that civilized people survive the smothering process which they subject themselves to every winter. But human beings seem after a

time to become, as it were, vaccinated with bad air, so that they can endure it in a surprising manner, though they cannot enjoy good health under these conditions. How strange it is that people should want to keep the fresh, vitalizing air out of their homes, when it gives pure blood, bright eyes, rosy cheeks, a clear skin, and a clear brain! If we had to buy it at so much a barrel, we should value it very highly, and be extremely anxious lest we fail to lay in a supply sufficient for our needs.

Ventilation is a subject which was of little practical interest in this country fifty years ago. The numerous cracks and crevices in the log houses so common at that period, and the powerful draft of the open fire-place found in every dwelling, made it unnecessary for our fathers to make any special provision for a supply of fresh air. But the air-tight houses and the stove-heating and furnace-heating appliances of these modern times have changed all this, and made careful attention to the matter of ventilation very important to life and health.

There seems to be a sort of aerophobia abroad in recent years, and houses are made tighter and tighter as time goes on. They are built as nearly air-tight as pos-

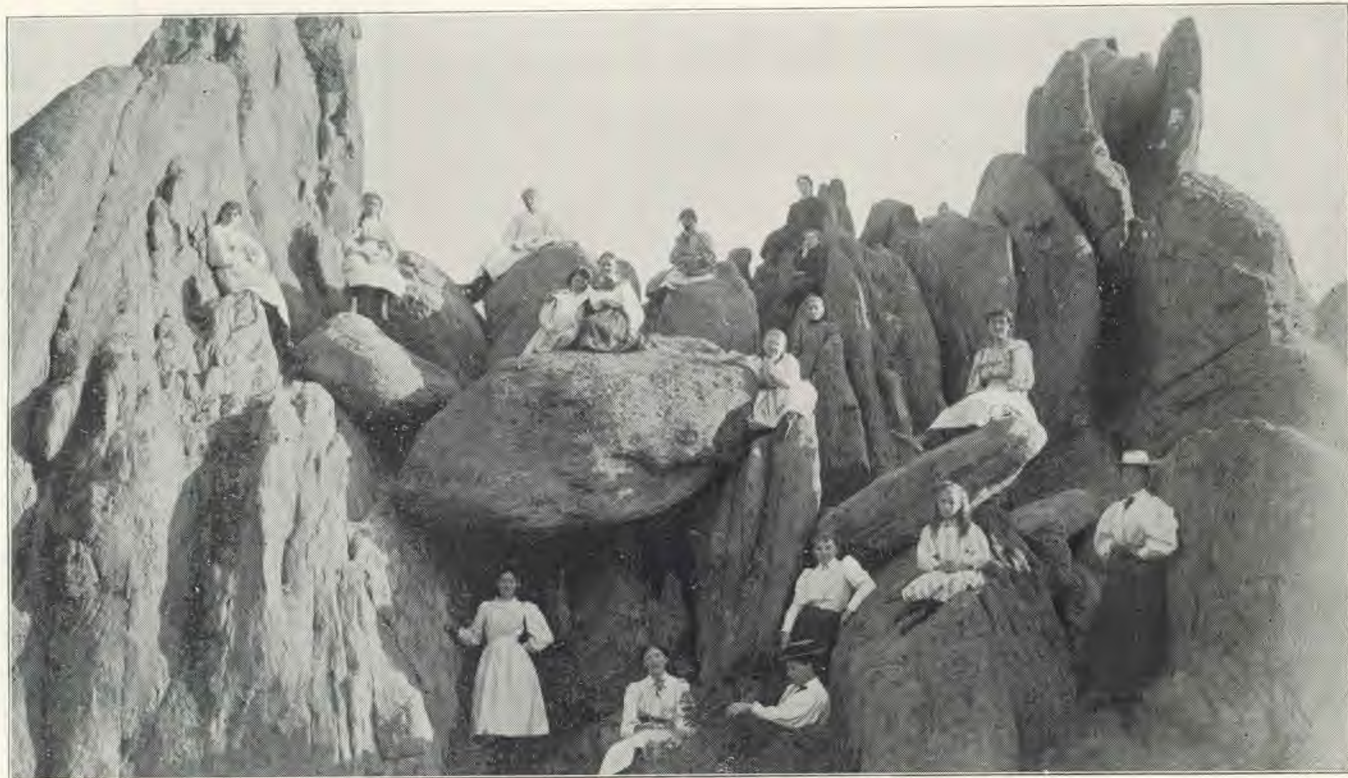
sible, and then made completely so by painting. Simple brick and plaster walls admit some air, so that the house is said to "breathe," an ordinary house furnishing air enough in this way to supply the demand of three or four persons. In such a house one can see plainly, on looking up to the ceiling, the outlines of the laths, the circulation of air between the laths having left the dust upon the plaster. That is the way a house breathes; but when it is painted on the outside and kalsomined within, it becomes impervious, and we must provide artificial ventilation.

Of course every one knows that a certain amount of oxygen is necessary to life, and that we must get our supply of oxygen from the air. The poisons manufactured in the body, if not burned up by a constant influx of oxygen, would speedily produce autointoxication and death. It having been found by experiment that one cubic foot of fresh air will supply one person with oxygen for one and one-half hours, some have taken this as a basis from which to estimate the amount of ventilation necessary. But in this way a very important fact is overlooked; viz., that while we need a liberal supply of the life-giving oxygen, the chief purpose of ventilation is to get rid of the poisons which are breathed out into the air, by exchanging the contaminated air for pure air. There may be an abundance of air in a room to supply the necessary oxygen to the persons present, and yet the ventilation be entirely inadequate to their needs. Every breath of air which has been once used is a source of contamination to our bodies, and by inhaling it we are simply inviting death. If you were to set burning in your room an open charcoal fire such as tanners use in soldering, and close all the doors and windows, it would be dangerous for any one to stay in the room, because of the poisons produced by the combustion of the charcoal.

Now the food which we eat undergoes combustion in the stomach, and the poisons arising therefrom pass out of the body through the lungs—the chimney of the body. Each human being poisons three cubic feet of air with every breath; thus three thousand cubic feet (750 barrels) of fresh air are required for each person every hour. In order to obtain this we must have a stream of pure air constantly passing through our houses.

A house requires two openings for ventilation—one for the fresh air to come in at, and the other for the foul air to go out at. These openings should be so arranged as to avoid drafts. It is impossible to ventilate properly by one opening, unless the whole window is out. In order to have a supply of fresh air, there must be a current constantly coming in and another passing out. The air coming into the room rises to the top as soon as it is heated; and then as it cools, it settles gradually till it reaches the floor, having been, in its descent, naturally inhaled and exhaled by those in the room. A perfectly ventilated room is one in which the air comes up (ready warmed) in the center of the room, and the foul air is taken out at an opening in or near the floor, at the outer side of the room, the outside wall being the point where the air naturally cools and falls.

Many people do not seem to be as well posted on the truths of physiology as a certain schoolboy who was asked by his teacher to write a composition on the subject of "Respiration." He called it a composition on "Breath." He said: "Breath is made of air. If it was not for breath, we could not live a week. The breath keeps the life agoing through the nose while we sleep. The breath contains a poison poisoner than mad dogs, called carbonicide. Boys' breath is very poison; hence boys ought to go out of doors when they want to breathe. Down



RED ROCK, NEAR THE COLORADO SANITARIUM.

in Calcutta once there was some carbonic acid got into a black hole, and killed one hundred and twenty men before morning. Girls can't breathe much because their corsets squeeze their diaphragm. If I was a girl, I would rather be a boy, so I could run and holler and have a big diaphragm."

This boy had mastered the principles of physiology to a remarkable degree. He knew there was something poisonous in the breath (it is not so much the "carbonic acid," as he called it, as it is another poison which is combined with the carbon dioxide, and is of a far more deadly nature), and that we need fresh air to take away this poison, as well as to supply oxygen to breathe. This schoolboy also recognized the fact that we need room for breathing—that we cannot get a good supply of air unless the breathing apparatus has room to act. Nature has so constructed the body that there must be expansion of the lower part of the chest in natural breathing; in other words, the chest is very much like a pair of bellows,—there are handles, and there are certain muscles which take hold of the handles and draw out the bellows. When these handles come together, the air is forced through the trachea. Thus we breathe out and in. Now to undertake to breathe with tight clothing about this part of the body is like tying up the handles of the bellows before undertaking to build a fire, and then seizing the bellows by the belly and wrenching it out and in to get a breath of air against the coals.

This great evil of air starvation should be brought to the attention of the people in every civilized country. It results, in cities and towns, in the production of a poor, weakened, stunted population. That this is not commonly the case in the country is because the children get out of doors more, where they have plenty of fresh, pure air;

hence the bright eyes, rosy cheeks, and vigorous growth of most country children. They walk some distance to school, and have an abundance of outdoor exercise; while city boys and girls go to school in the street-car, and live, when at home, in furnace-heated houses, or else in some poor, unventilated rear tenement house; and the consequence is that city boys and girls have pale faces, languid eyes, and stunted bodies, and the majority of them are growing up to be puny, weakly men and women, who are chronic invalids from the time they are in their teens.

There needs to be a crusade preached against impure air more than against any other one thing. As a race we are deteriorating. We are not living longer than formerly, as is supposed by some. That the average length of life is increasing is simply due to the fact that epidemics of disease are fewer on account of improved sanitation and the vigilance of the health officers. The effect of this is to keep alive those who have but little vital energy; and thus the average length of human life is increased. These feeble people are not only kept alive, but they have feeble children to follow them, and these children have worse stomachs, livers, lungs, etc., than their parents had; so, in reality, the race is all the time deteriorating. It is a proverb that "we are growing weaker and wiser." We are certainly becoming weaker; but that we are growing wiser may be open to question.

It is only by recognizing the fact that this deteriorating influence is at work, and realizing that deliverance from it must come from the cultivation of individual health, that the present condition of things can be remedied. We must learn how to breathe, and how to ventilate our houses; how to dress, how to eat, and how to relate ourselves in every way to the laws of health.

NO DANGER OF TOO MUCH VENTILATION.

IN a sanitary convention held in Los Angeles, Cal., a discussion on house ventilation and the open-air treatment of consumptives led Dr. Norman Bridge, of that city, to say, as reported in the *Sanitary Inspector*:—

“A person will not take cold by reason of cold air or moving air, provided his body is warm at all times; and, therefore, a patient may sleep in a tent, or under a wagon, or in a room with windows wide open on all sides, and he may feel the current of air over his face every moment he is awake during the night, yet he will never take cold, provided his body is warm; and any person who has any considerable proportion of the normal vitality of the human body may keep his body warm by clothing it in wool. Therefore, one of the first steps for the profession to take, I am sure, is to convince the sick, certainly, and the well as far as possible, that in a country like this, where there is such a difference in the temperature of the day and the night air, and where so few houses are warmed in the night, that people should wear woolen night-gowns, and, if necessary, in the winter time, should sleep between woolen blankets instead of cotton sheets; and, if the head is bald or the hair thin, they should wear woolen night-caps. If they will do this, they may be told, without any danger of a mistake, without any danger of accident, without any danger of their demonstrating that we are wrong, that they will not take cold, that they cannot take cold.

“If we could do this for the sick, we would remove one of the obstacles to good ventilation for sleeping-rooms. People who have to live in miserable rooms, therefore, may have good ventilation when they are asleep. There is no difficulty at

all about it. They must be convinced, however, that it is true; they won't believe it at first; I have had a good many patients in the last five years here, who not only have believed it, but have also demonstrated it, and I will relate the experience of one of them—a tuberculous patient.

“He was very much surprised when told that he could sleep in an open room, and that it would be better for him to sleep in a tent; that he might feel a current of air over his face without taking cold. He said he would try it, simply to see whether it was true or not, if for no other purpose. So a year ago last fall, when he went back to his home from his vacation at the seaside, he constructed on the veranda of his house a tent twenty feet long and five or six feet wide; here he put his bed and slept there all winter, sleeping in woolen blankets and woolen night-gown, and a woolen night-cap over his head. The wind blew out one end of the tent, and he never replaced it, but put his bed up to the other end, and let the wind blow and the rain come. He never caught cold, and he came down to me last year, as ruddy and vigorous looking as any person in Southern California or any other place in the world, declaring that he had not only not taken cold, but had had a very enjoyable time.

“Similar experiences have come to a large number of patients, but certainly only a few have made so severe a test as this man did. I am positive that this bugbear of a current of air endangering the life of a person asleep, even if he is warm, is one of the greatest obstacles to the restoration of health, and one of the greatest obstacles to the keeping of health on the part of well people in this part of the country.”

But where could I find such surroundings? The Pacific slope presented many advantages, but with members of my own household seeking relief from the same disease, I had already spent three years in California with but small returns healthwise. The advantages of the pineries of North Carolina were next considered, but the experience of friends who had gone to that section of the country did not justify seeking refuge there. The mountains of the Adirondacks were talked of with like results. But one section of our country seemed to present claims worthy of serious consideration, and that was the great arid region of the West.

But could I leave the East, with its refinement, education, its social and religious privileges, its business opportunities, and the numerous advantages which contribute to make up a successful and pleasant life experience, and isolate myself in a portion of the country where all these things would be denied me? The thought was not a pleasant one. In my mind I had considered the Rocky Mountain region as still a part of the "wild and woolly West," of which we had heard in by-gone days. But "all that a man hath will he give for his life," and so, silencing my doubts and questionings, I closed up my business, and bidding farewell to friends and acquaintances, turned my face toward the setting sun.

Old-time friends, as unfortunate as myself, who had found refuge and a quiet retreat at Boulder, thirty miles from the capital city of Colorado, learning of my condition, invited me to share their hospitality until such time as I could more fully determine where in the great Rocky Mountain region I would make my home. This invitation I gratefully accepted. And so, leaving behind me Chicago and the great lake States of the middle West, on a swift and easy-running train I started for Colorado. I had expected to see in Boulder a mining-camp, composed of shanties and a rough, uncouth population. Judge of my surprise when I found a neatly laid out city of five thousand inhabitants, the architecture presenting as various and pretty designs as any in our Eastern cities, constructed for the most part of red brick, forming to me a most pleasant picture indeed, as the city came into



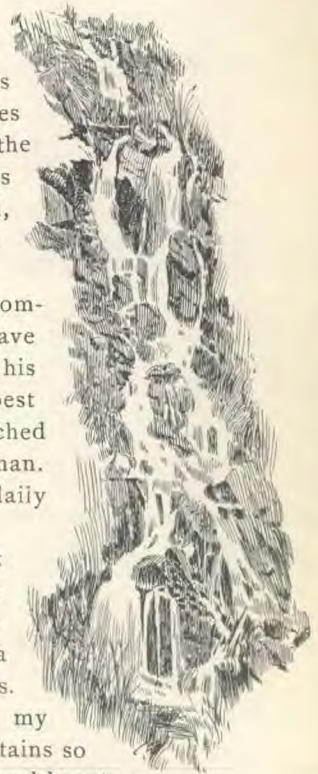
sight from around a ragged boulder. I found the people not so rough and uncouth after all. While they possess the freedom and open frankness of the West, they lack none of the refinement and culture of the East.

I have now spent a number of months in Colorado, and during that time I have learned more than I ever knew before of its wonderful resources and its great possibilities.

Colorado has wonderful agricultural and mineral resources. Situated on the edge of the great American desert, with a porous soil and a dry atmosphere, it is true that the rain-fall is totally insufficient to meet the demands of thrifty vegetable growth, but nature has contributed other means to supply this lack. The mountain has been made to do service to the plain, and sends down into the valleys a most generous and copious supply of snow-water to quench the thirst of nature's organic products. This water, by means of a system of irrigation, is conveyed far out onto the rolling plateaus, so that farms and ranches many miles from the lowest foot-hills are bountifully supplied with the purest of soft water, by means of which Colorado is now producing some of the finest fruits, grains, and vegetables to be found in the world. The quality is unsurpassed, and the quantity is being yearly increased. I have eaten as fine apples here as were ever produced in Michigan, New York, Missouri, or Oregon, and as fine peaches and smaller fruits as can be raised in any State of the Union.

Colorado's mineral wealth is too well known to need comment. Away up in the mountain tops, among the clouds, have the lids of God's caskets of golden gems been torn apart, and his precious jewels been discovered; and away down in the deepest valleys have his hiding-places of precious metals been searched out, and their riches made to do service to the needs of man. Mines already rich are growing richer, and new discoveries daily augment the number of precious findings.

The natural scenery and beauty of Colorado has no just comparison with that of any other State. It may not be quite so delicate as that of the St. Lawrence, the Mohawk, or the Hudson, and it lacks the crudeness and boldness of the Sierra Nevadas; rather is it a happy combination of the two extremes. Every turn is fresh with new revelations. Nowhere else in my experience is the sky so blue, the sun so smiling, the mountains so grand, the rolling plateaus so inviting in their native freshness and beauty; and there is no monotony in the scenes. Each has its own peculiar freshness and characteristics. The artist never lacks a subject for a sketch, nor the lover of nature a theme for contemplation. Hill and dale are decked with a profusion of richest flowers. Mountain, cañon, and plain



are made joyous by the sound of roaring brooks and rippling rivulets, while the balmy air is musical with the notes of birds and merry songsters; and over all, flooding hill and glade, mountain and plain, with a light as clear as crystal, as invigorating as life-giving elixir, and as golden as the precious metal it reveals to the eager eyes of the anxious gold-hunter, streams heaven's sunlight in all its beauty and brightness.

"Every mood of man finds here an answering mood in nature. The valleys smile with gentle contentment; the brooks laugh with jocund glee; the rivers rage with savage fury in their wild race through their rocky channels; the cañons frown with somber gloom; the mountains gaze with majesty upon the placid plains." Joy and sorrow, disappointment and hope, peace and unrest, all find a voice and mode of expression among the hills and valleys, the mountains and plains, of Colorado. With such a variety of attractions, it is no wonder that the tide of tourist travel sets strongly toward the West. Easy of access from all points, with no exorbitant prices for railroad fare or hotel accommodations, surely the Rocky Mountains outrival the Alps, and Colorado stands the superior of Switzerland.

But perhaps even ahead of its mineral and agricultural resources, the climate of Colorado has done more for the upbuilding of the State than any other single feature. In this it excels the world. The atmosphere is bracing and invigorating. It tones up the system better than any tonic. It stimulates the flagging energies better than any dose of chloral or morphine. Its effects are speedy and permanent, and it is not partial in its beneficence. All ills or evils find a help or cure. Dyspepsia, the mother of disease, and the combination and essence of them all, soon takes its departure; and with digestion and assimilation restored, what can resist the efforts of nature to resume her sway?

I was gratified to learn as a result of my investigations after reaching here that fully one third of the consumptives seeking relief in Colorado are fully restored to health. I have found the miner in his pit, the blacksmith at his forge, the carpenter at his bench, as well as the tradesman and the professional man, who were once victims of consumption, now working steadily and faithfully from day to day with no fears of the recurrence of the disease. Still another third of the consumptives coming to this State have their lives greatly prolonged, and the remaining third only die, in the great majority of cases, from having waited too long before seeking relief. I have seen what would appear almost miraculous cures.

One great aid to me in my search for health I feel constrained to mention. Next to the direct influence of the climate, I owe much to the



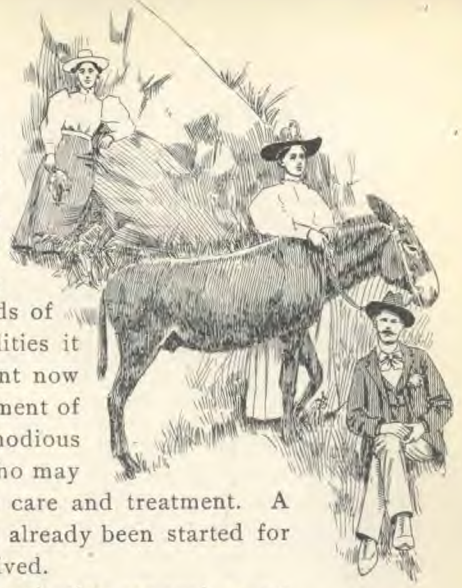
THE GYMNASIUM AT THE COLORADO SANITARIUM.





DINING-ROOM OF THE COLORADO SANITARIUM.

Colorado Sanitarium, an institution located at Boulder. The cut opposite page 661 gives a fair idea of this place, where invalidism is made as pleasant as it can be made by thoughtful care and kind attention. At the present time the building is proving wholly insufficient to meet the demands of those who desire to take advantage of the facilities it offers in the treatment of disease. Its management now contemplate in the near future extensive enlargement of the main building and the erection of a commodious hospital for the treatment of the worthy poor who may be able to pay for only a small portion of their care and treatment. A fund called the Good Samaritan Relief Fund has already been started for this purpose, and a number of contributions received.



The methods of treatment employed at this institution are such as are recognized by the medical profession to be the most rational and the most promising in their results. Every patient who enters the institution is first put through a most thoroughgoing examination. Not merely some one organ that the patient may think is the seat of the disease is examined, but every organ in the body receives a careful examination, and all the different functions of the body are tested with the most approved and modern methods of investigation. In the treatment of chronic diseases it is important that the patient be in complete subjection to his physician. His daily life is therefore carefully regulated; his bad habits, if he has any, are corrected. He is, in short, put through a process of what might be called health culture.

Hydrotherapy in its most scientific and modern applications, and electricity in its various forms, are applied by skilled attendants, the dose of the latter being dealt out to each individual case by the use of certain instruments for measuring the electrical current as carefully and as accurately as a dose of medicine. Massage, manual Swedish movements, and other manual manipulations also enter into the program of most of those who come to the institution for treatment. A commodious gymnasium offers advantages for the building-up of the muscular system, which is an important means of maintaining health after one has acquired it. The whole program, from beginning to end, is conducive to health; and those who come here are kept so busy taking the various treatments that they have no time to indulge in melancholy.

The institution is by no means a hospital. The rooms are private, and the majority of those who visit the institution not only find their health, but also enjoyment while here. An atmosphere of good cheer and contentment prevails, and the kindest courtesy is manifested by both physicians and attendants to their afflicted guests.

I have now been in Colorado six months. My weight has increased

fifteen pounds; while my strength and power of endurance are fully double what they were upon my arrival. My appetite and assimilation have so increased that my food is now enjoyed with the keenest relish. My lungs have cleared up, and give me no further trouble; and I possess a greater degree of intellectual and physical vigor than for many years.

To the poor sufferers from pulmonary difficulties in the East, I can most cordially recommend the State of Colorado as possessing unexcelled advantages in restoring them to health and strength. Here they may find not only happy homes and a pleasant prolongation of their existence, but just as good business advantages and social privileges as they are called upon to leave in the East. Any information which the writer of this article may be able to impart, either on this section of the State or any other portion to which invalids may intend to go, he will most gladly contribute. The satisfaction he feels in the renewed strength and energy which he possesses, and the complete cure of his disease, make him desirous of informing others as to the benefits that come where heaven's pure air and sunlight may be enjoyed in all their freedom and fulness, and where, not by patent nostrums, but by the employment of nature's remedies in pure air, pure water, and pure food, and by the privilege of an out-of-door life the year round, he may build up and perfect physical manhood, and realize in his physical self the freedom which his surroundings infuse into his heart and soul.



NATURE AS A PHYSICIAN.

THERE is probably no other branch of human knowledge about which the popular conception is so vague as the science of medicine. In theory people no longer look upon the physician as a man endowed with supernatural insight and power, but in fact they still regard him in that light. They call him to attend a case, and expect him to see at a glance the nature of the disease, its cause, and its remedy. They confidently trust to him to prepare some mysterious compound that shall by magic work the desired transformation in the weak and ailing body. When he fails, they blame him; when he succeeds, they extol him. All this is merely childish credulity. It is as disadvantageous to the profession as it is unworthy of mature minds. Man is powerless to effect a cure. He can no more change the tissue of the human body than he can add a cubit to his stature. Only nature cures. The utmost the wisest physician can do is to secure to his patients such physical conditions as favor nature's restorative processes. The physician is but mortal, subject to mortal limitations. He knows something of the functions of the body and the effect of certain drugs upon them; but the power of life and death are not his, as suffering humanity would fain believe. Medicine is no charmed agent. Its mission is but to check or straighten some function while nature makes her slow but certain repairs.

It is to nature, then, that we must look for the boon of health. Her remedies are few and simple, but they are effectual. First of the agencies which she employs is the self-healing energy of the human body. By this wonderful provision she performs her surgical operations, now binding a broken bone in gristly splints

and hastening new bone matter to the spot, or again casting out an irritating foreign body by suppuration, or encasing a non-irritating one in a tough membrane, to render it harmless. By this same provision she sends the life-giving medicine to the blood, charged with oxygen, to any diseased or injured part, to tear down and burn waste matters, and replace them with strong, new tissue; and by the same provision she daily renews the cells of the brain, stimulating one faculty to perform the work of another impaired. In short, she repairs and rejuvenates every part of the body, equalizing the physical forces and keeping alive the vital spark. To perform this superhuman work, nature has need of certain fundamental elements. First of these is proper food to supply fuel for the furnace of the body, and to replenish the blood with the constituents of every organ.

Nature demands sleep. Only when the body is relaxed and the functions suspended, can the work of repair actually proceed. Every one knows the importance of "nature's sweet restorer," but there are few who do not take liberties with this prescription of the wise old physician, and then marvel at their weakened nerves and failing strength, and the inroads of old age. Not less essential is exercise. It lights the fires that burn up the refuse of the body. Every contraction of a muscle breaks up tissue and sets free latent heat. Many an indolent hypochondriac acquires ill health and even superinduces disease by the mere lack of exercise to keep the fires of the body burning.

Water is another of nature's prescriptions which is not half appreciated by blind, heedless mankind. The ways in which it may be used to the advantage of

general health are surprisingly many. Of itself, it is a tonic charged with vital principles, and taken in large quantities it is invaluable in its effects in flushing the system. Its value in the bath is also too little understood. Not only is it necessary to the proper ventilation of the skin, but it is a wonderful sedative, and has power to allay fever and pain.

Sunshine is another indispensable element in nature's pharmacopœia. All vigor comes from the sun, and this is not more true in the vegetable than the animal world. It is a scientifically established fact that the influence of the sun's rays upon the nervous system is markedly beneficial. It also develops the red disks of the blood. Sunshine is, moreover, the most successful foe of contagion, and many a substance that would undergo putrefaction in dark and damp places will remain sweet and wholesome under the benign touch of the sun. A sun-bath is the only remedy needed in some disorders. The vital principle of nature's prescription, however, is air. There is no poison so insidious as vitiated air, and there is no tonic so invigorating as pure air. It sweeps into the lungs laden with the life-element, oxygen, and bears out, like a faithful scavenger, the impurities of the system. In many a family, the health of the members is slowly but certainly undermined by air starvation, and the only cure for the variety of scrofulous affections developed is air,—floods of pure, sweet, untainted air.

In addition to these external elements, nature requires a buoyant spirit. A sound mind is necessary to a sound body. These facts are mere axioms known to every school child. All mankind is familiar with them, and all mankind regards them. If we followed the dictates of nature with the same absolute confidence and religious faithfulness with which we follow the superficial prescriptions of frail mortals,

the greater part of the ill health and disease in the world would be summarily cured.—*Sel.*

The Carrion Plant.

A curious plant has been discovered in the Kalahari Desert, South Africa, which, on being disturbed, emits an odor like carrion. It resembles the cactus in appearance, having no leaves, and the fleshy stems growing in a bunch, with a border of flowers about ten inches across. The flowers look as if cut out of purple-brown velvet, and are marked throughout with bright golden hieroglyphics.

Mr. Farini, who discovered the plant, dug up a specimen and carried it some distance in his wagon, but the disturbance caused it to throw out such a sickly odor that he was at last obliged to bury it bodily in the ground. The effect of the odor is narcotic, and was so powerful as nearly to put him to sleep while burying it.

Evidently, Mr. Farini was not accustomed to such comestibles as fin and had-die, limburger and caviar. Otherwise the carrion plant would not have disturbed his olfactory sense at all. Perhaps, as his name suggests, he was a vegetarian.

Death in a Dog's Kiss.

A young girl in Paris has recently died from hydrophobia, contracted from the kiss of her pet dog. The animal one day refused to take his usual food and drink, snapping at his mistress in her efforts to induce him to eat. In some way his tongue came in contact with the mucous membrane of her lips, and as a result she was attacked with the same symptoms, and died in terrible distress. Dr. Chaillon, of the Pasteur Institute, unhesitatingly expressed the opinion that the disease was communicated in the manner supposed.

THE PHYSIOLOGY OF OLD AGE.

BY F. MAGEE ROSSITER, M. D.

(Concluded.)

MUCH has been written at various times regarding the influence of mental activity on the health and upon longevity. There can be no doubt that the continued exercise of the mind tends to prolong youth. Hard study and indefatigable mental action have proved to be the elixir of life to many a noble soul, and it would still add years to the lives of others who are undergoing premature decay and degeneration. Genius is hard work, and life is activity. Worms do not bore into the live tree, they feed upon the wood that is dead.

It is the presence of sad thoughts, dwelling upon the unpleasant pictures of life, with unvarying scenes, the utter weariness of an empty mind, the monotonous repetition to-day of yesterday, to-morrow of to-day, that produces old age. The human mind has been endowed with many faculties, and a diversion of mental work must be furnished it if healthful activity is to be maintained.

Mr. Gladstone is quoted as saying: "What is destructive to nervous force and intellectual vigor is continuous concentration of purpose upon the same object. What the great majority of workers need is not the rest that comes from complete cessation of activity, but rather the rest that comes from change of employment." Mr. Gladstone has never become so deeply engaged in affairs of state as to lose sight of his classical studies, or of Italian literature, of which he is very fond; nor of the leading economic and religious questions of the day, or even of fiction, yet this "grand old man" is in his eighty-seventh year.

A recent writer well says: "It is sad to see how many elderly and middle-aged

women take it for granted that life holds nothing for them but the passive rôle of grandmother. Many a woman has but little time for study while rearing a family; but when the children are married and gone to homes of their own, then comes the time when she needs some outside interest. If she has not something to take her out of herself, she will turn to gossip and fancy work to keep her busy. This is just the time for her to devote herself to some particular study. Let her take up one that was a favorite in her school-days, whether it be one of the sciences, painting, or music. . . . The women who never grow old are the student women, those who daily drink in some new chyle through memorizing, thoroughly analyzing, and perfectly assimilating subjects apart from themselves. Study is development—it is eternal youth. The student woman who makes wise use of her acquisitions has no time to corrugate her brow with dread thought of the beauty destroyer leaping fast behind her. Not considered or invited, Old Age keeps his distance."

Time would fail to tell of the distinction won by people far from being young, and of the years added to their lives simply because of their earnest mental exertion. George Eliot was thirty-five before she began the first of her great works. Ogilvie began the study of Greek at fifty, and made an excellent translation of Homer; Galileo at seventy pursued his studies with unflagging zeal; Michael Angelo designed the re-building of St. Peter's at seventy-one, and had charge of the work until he was eighty-nine. He produced his masterpiece, "The Conversion of St. Paul," at seventy-five, and

died at ninety, still working. Titian lived to be one hundred years old, and produced "The Last Supper" at eighty-seven, and it is called his masterpiece. Stradivarius made his most famous violin at ninety; his eyesight failed at eighty-five, but he still continued to make violins, and lived to be nearly one hundred years old, spending only his last year in idleness.

Lord Brougham lived eighty-nine years; Lord Lyndhurst failed at ninety-one. Epimenides, the seventh of the wise men, lived to the age of one hundred and eighty-four. Hippocrates reached ninety-nine; Pythagoras was eighty when he was murdered; Dr. Franklin lived to eighty-four; Montgomery, the poet, to eighty-two; Sidney Smith to seventy-six; Sir Isaac Newton to eighty-five. Socrates was murdered at seventy; Plato died at eighty-one, and Aristotle at sixty-three. Herodotus lived to be one hundred. Goethe died at eighty-two; Voltaire at eighty-four; Handel at seventy-five, and Haydn at seventy-seven. All these were brain workers, and most of them owe their long lives to their mental activity. They enjoyed their work, as all brain workers do.

Works of benevolence and a life spent in philanthropy react on the physical health in a most salutary manner; for in

such a life, self is held in abeyance, and as a consequence there is less nervous tension, the blood circulates more freely, digestion proceeds with more promptness, and a better quality of work is performed. There is more freedom from anxiety, worry, and care; and associated with this is the consciousness of right-doing. Statistics gathered at different times clearly show the average duration of life of this class of workers to be greater than that of any other. Canon Farrar says: "In the cultivation of a sympathetic heart we do ourselves more good than those we serve. As we grow old, let us cultivate a sympathy for the world at large, for its weakness, for the young; and the returns will come to us in a hundredfold. The world ever gives us freely that which we give to it."

Nothing will keep the heart so young as the cultivation of a spirit of cheerfulness and thankfulness for life and all the good and beautiful things which it brings us. Such a spirit will be a great antiseptic against premature decay and the waste of old age.

"The serene old age which is secured by temperance, sobriety, and the conquest of vicious appetites and passions,—the long, mellow autumn of life, in which are harvested the fruits of useful toil,—is to be coveted and striven for by all."

THE INFINITE ARTIST.

NOT a flower

But shows some touch, in freckle, streak, or strain,
Of his unrivaled pencil. He inspires
Their balmy odors, and imparts their hues,
And bathes their eyes with nectar, and includes
In grains, as countless as the seaside sands,
The forms with which he sprinkles all the earth;
Happy who walks with him! Whom what he finds
Of flavor or of scent, in fruit or flower,
Of what he views of beautiful or grand
In nature, from the broad majestic oak
To the green blade that twinkles in the sun,
Prompts with remembrance of a present God.

— Cowper.

VENTILATION OF SCHOOLROOMS.

R. J. PRESTON, M. D., superintendent of the Southwestern State Hospital, Virginia, has this to say of the necessity of proper heating and ventilation for schoolrooms:—

“Children during their school years are subject to grave dangers to health. Many of these dangers are avoidable, and should be prevented. From unhygienic conditions of the schoolroom and its immediate surroundings may come headache, impaired digestion, severe colds, consumption, nervous disorders, impaired eyesight, and many other serious diseases.

“Proper heating and ventilation are subjects of exceeding importance, both for comfort and for efficient work, and should receive the closest attention. Every schoolroom should be kept at a temperature of about 68° or 70° F. This should be regulated by the use of a reliable thermometer hung in every room, remote from the stove or heater, and about three to five feet from the floor. Where steam or hot water heating is not available, stoves and furnaces in the basement can be made to give good results. The stove or furnace should be large enough to heat the room without being made red-hot, as a red-hot surface generates carbon-dioxide, which is a rank poison. The stove should be placed preferably in the northwest corner of the room, and if a furnace is used, it should be placed under the same corner, and registers placed in each angle to best se-

cure uniform temperature. Means should be provided for drying wet feet.

“Good work cannot be done in ill-ventilated schoolrooms. The teacher will become impatient and petulant, and the pupils dull and listless. The air should be kept pure, free from odors, from dust, etc. While foul air is a slow poison, we must never forget that ‘a blast of cold air may slay like a sword.’ ‘Foul air produces listlessness in schoolrooms perhaps more than any other one cause,’ and ‘vitiated atmospheres are the most fruitful of all sources of disease.’ One thousand eight hundred to two thousand cubic feet of fresh air per hour should be supplied for each pupil. An open fireplace, with a small fire burning in it, is the best means of ventilating yet devised. At stated times daily, when pupils are out, all doors and windows should be thrown open to remove all stagnant air from the schoolroom. Such an atmospheric washing should be secured, if possible, three or four times daily. For constant ventilation, a good plan is to place strips six inches wide under each window; the fresh air can thus come in between the lower and upper sash without the danger of producing a draft on the pupils. Another plan is to enclose the stove with a cylinder of zinc, and have an opening in the floor underneath the stove connected by a pipe with the outside air. A constant stream of external air will thus come in, which, being heated, will rise and be distributed throughout the room.”

Medical Inspection of Boston Schools.

The results reached through the inspection by physicians of the public schools of Boston are such as to prove the efficacy of such measures, as is shown

in the following excerpt from the published report of the State department:—

“This work has been progressing for fourteen months, and it has demonstrated that there are many cases of contagious

diseases in the schools, and large numbers of school children whose illness and disposition by the teacher requires the decision of a competent physician. For the fourteen months ending Dec. 31, 1895, 16,780 pupils were examined, 10,737 of whom were found to be ill; 6,053 were found not to be ill, but 2,041 of these were too ill to remain in school for the day. There were 77 cases of diphtheria, 18 of scarlet fever, 116 of measles, 28 of chicken-pox, 69 of pediculosis, 47 of scabies, 47 of mumps, 33 of whooping-cough, and 8 of congenital syphilis, in children sitting in their seats and spreading these diseases to other children. The remaining 10,294 sick children were suffering from a large variety of diseases."

The Speaking Voice.

Kathryn Leavitt Bissell, in a recent article in the *Outlook* on "The American Voice," makes an earnest appeal for voice cultivation, especially in children. Deprecating the lack of training given in this country, in comparison with some other countries, she says:—

"The artistic, susceptible nature of the ancient Greeks taught them to cultivate and cherish the spoken language, and to estimate its power beyond that of the written language. The speaking voice was trained and guarded from earliest infancy. Yet to-day, in the closing years of the nineteenth century, the most progressive nation on the earth's surface permits itself to be branded the country of disagreeable voices. The youth of America are never taught to love, reverence, and guard our spoken language. The home, school, college, university, platform, and pulpit are permitted to fill the land with nerve-tiring voices and language bereft of its beauty and power.

"Physiology teaches us the sensitiveness of the nervous system, and physicians,

the supersensitiveness of the average American's nervous system. Consider, then, the amount of unnecessary wear and tear upon that system when each sound-wave set in motion by the voice causes an unpleasant sensation on the part of the hearer. Tone, properly emitted, is healthful and strengthening to the physical nature of the tone producer. Wasp waists, cramped chests, diseases of the lungs, bronchial tubes, and throat, may disappear with the knowledge of healthful tone production, in which the muscles utilized are those fitted to perform their labor, and relief is thereby given to the strained, misused, weaker muscles."

Music for the Sick.

Professor C. Howard Young, himself a nervous invalid, expresses the following thoughts on the effect of music on the sick:—

I am fully convinced that music can cure some diseases and help others. Herbert Spencer found in music his chief recreation during the many years when he was a nervous invalid. . . .

Music is sedative. . . . The pulse can often be lowered or increased, according as the time is slow or fast, grave or gay. And this with sick or well; this means control of the circulation of the blood, the river of life.

I oftentimes fasten a looking-glass so that I can see people walk as a band of music goes by. The mirror shows how completely young and old are under the domination of music; the aged striking out their feet in a comically youthful way, irrepressibly and unconsciously. How completely and quietly the street band music chases away unhealthy thoughts, worry, etc.; and, if so with the average healthy person, how much more with the sick, who are most susceptible. . . .

Music can be misapplied like any ther-

apeutical agent. A hypochondriacal patient would need gay and cheery tunes. A feverish patient would need slow, calming and soothing airs played low, etc. People, too, do not always choose what is best for them. Sad people like sad airs, but they need gay, enlivening ones. I look to the near future to see a medical book on this subject with accurate advice.

Any one who has seen a battle will remember what an inciting, encouraging effect the military music has. Just so in the battle of every-day life, and above all, in hospital and home, in palace and tenement, good music should be used. . . .

The wise Professor Colville, in his lecture, says, "Vibrations govern everything." Music is not only the language of heaven, but it should be that of earth, for health—to cure disease. Music produces patience to bear many of the ills of life.

Every child would be better if it had a little harp on which, at an early age, it could easily learn many different tunes. Any one who has watched on the face of a child the amazed expression of joy which ripples over its face as it finds that by following a simple system of numbered strings it can "really and truly make music," will be amply repaid by the small outlay for such a musical instrument.

I have spent a good deal of time trying to calculate exactly the amount of increased or decreased heart beats in subjects, according as the music was fast or slow; the pulse, in a measure, seems to follow the musical vibrations. . . .

I am convinced that music should be a study of every nurse, and in use at every hospital. It can take the place of opium in soothing, or of caffeine in exciting, according to the quick or slow time used—that is, the vibrations.

God speed the day when music shall be

regularly employed to cure or soothe the sick.

Clean Cities.

The *Review of Reviews* says that the two cleanest cities on the continent to-day are Toronto and New York. New York not only employs, and thus directs, all its street-cleaning and garbage-despatch forces, but it has an organized department with an adequate and properly adjusted equipment of horses, carts, brooms, stables, and stations, and it pays its men two dollars a day and upward for eight hours' work.

Toronto, the other of these two exemplary cities, has gone even further than New York in eliminating the contractor. In this enterprising Canadian town, with its 190,000 people, the street commissioner has, during the last seven years, entirely revolutionized the care of the streets of the city. He has not only organized the execution of this work under a distinct department, but out of the margin thus saved from the annual appropriations for caring for the streets, he has actually built and equipped a modest but complete set of workshops, where the entire construction and repair work of the department is executed.

Not only are the sprinklers, rotary sweepers, automatic loading-carts and snow-scrapers, each after a special pattern devised by the commissioner or under his direction, built in these shops, but even the harnesses are made there, the horses are shod there, and it is the truthful boast of the commissioner that every article of manufacture used by the department is produced from the raw material in these shops. But clean as are New York and Toronto, neither city is as clean as the future sanitary city will have to be. Their dust, as well as other dirt, must be, as far as possible, gotten rid of. This can

be done no doubt by washing the sidewalks and sprinkling the streets earlier than is now done. The dust in the air of great cities is a prolific source of evil to the eyes, the skin, the mouth, the nose, throat, and lungs. We must not be content with clean streets, but must demand greater cleanliness of the air also.—*Journal of Hygiene.*

Weeping as a Safety-Valve.

A writer in the *Hospital* says:—

“Crying is so commonly associated with distress that man’s natural instinct is to put a stop to it as soon as possible. We should not forget, however, that it has its uses. Dr. Harry Campbell has recently shown how complex are the phenomena involved in ‘a good cry.’ This does not consist merely in the shedding of tears, but includes so general and wide-spread an action of the muscles that the whole body may be convulsed. In children also a great change takes place during crying in the manner in which the respiration is carried on. Expirations are prolonged sometimes for as much as half a minute, and are interrupted by short inspirations. During expiration the glottis is contracted so that the intrapulmonary pressure rises considerably; and there can be but little doubt that it is the equal distribution of this increased air pressure throughout the whole of the chest, leading to the dilatation of portions of the lung that have become more or less collapsed, that is the explanation of the great benefit which often results from crying, in cases of infantile bronchitis and of the large discharge of bronchial mucus which so often follows. Children may become very blue during the paroxysm, but the deep respirations which succeed quickly restore the circulation to a better condition than before, in consequence of the larger lung space rendered available.

In women the beneficial effect of a good cry is proverbial. In them also this is partly due to the increased depth of respiration and the improvement in the often languid circulation thereby induced; but to a large extent it is the result of the muscular exercise involved, by which the general vascular tension, and especially the blood pressure in the brain, are much reduced. The profuse flow of tears no doubt also acts strongly on the cerebral circulation in still further reducing tension. The sobbing movements, again, have a good influence upon the venous circulation in the abdominal and pelvic viscera, while the exhaustion produced tends to induce sleep, and thus to give the nervous system its best chance of recuperation. We should not, then, too hastily intervene to stop a woman from having out her cry. If we can remove her trouble, by all means let us do so; but if the trouble is to remain, let her cry herself to sleep. This is far better than soothing drafts.”

Diphtheria Spread from a Funeral.

In Maryland, where boards of health are hampered by insufficient means and inefficient laws, such cases as the following, reported in the *Sanitarian*, sometimes occur:—

“A singular case of infection occurred at Powellville, Wicomico county, which is a small village of about twenty families. An epidemic of diphtheria was reported there, and on investigation I learned that the death of a child from the disease had occurred last October and that a public funeral, which is in direct violation of the law, was held from the Methodist church at that place. The undertaker, at the request of a woman, opened the coffin, and the remains were exposed to the view of the congregation.

“Some cotton had been placed around

the neck of the dead child to protect the clothing from being soiled by discharges from the mouth and nose. The undertaker took some of the cotton, wiped the face with it, and tossed it away. Then the people filed up and viewed the remains. This was the start of the disease.

"The heaviest penalty of this criminally ignorant proceeding fell upon the undertaker, whose entire family, consisting of himself, wife, and eight children, were all ill with diphtheria. Four of the children died."

Blindness from Crowding Teeth.

A case of blindness from crowding of the teeth is reported by Dr. J. E. Gemmel, in the *Dental Record*: "A boy, aged eleven, complained that he wakened one morning to find he was blind. Previously, and on going to bed the night before, there was nothing wrong with his eyes. The pupils were dilated, fixed, not influenced by light; he could not tell light from darkness. The suddenness of the attack pointed to functional disturbance. Several causes were looked for, but examination of the mouth showed crowding and wedging of the teeth together. Two permanent and four temporary molar teeth were extracted. The same night, he could distinguish light from dark, and next day could make out objects, and in a few days his sight was restored. He had no other treatment."

The Microbe of Baldness.

One of the physicians at a hospital in Paris has, it is stated, discovered a microbe of the skin which accounts for baldness. It appears that baldness attacks those whose skin exudes an excessive amount of fat or oil, and if the parts

affected are washed with ether and other solutions, myriads of small microbes may be found. But the fact is that dry hair falls off as well as the oily, probably oftener.—*Popular Science News*.

Sleep Nature's Medicine.

Menander said that all diseases were curable by sleep—a broad statement, in which, nevertheless, there may be some truth, for good sleepers are ever, as I think, the most curable patients; and I would always rather hear that a sick person had slept than that he had taken regularly the prescribed medicine during sleeping hours.—*Sir B. W. Richardson*.

Appendicitis.

To those who are fond of fruit, but have been scared by stories about the causation of appendicitis, the following from Dr. Seaver, of Philadelphia, may be offered as words of comfort: "The idea that a foreign body must necessarily be present has given way before our more complete knowledge of the disease." And again: "In a vastly greater number of cases, however, it occurs through an eroded mucous membrane. The erosion is caused by masses of fecal matter, rarely by a foreign body."

To Deodorize the Hands.

A writer in *Scalpel* recommends as a successful method of purifying the hands, the putting of a mixture of flour and mustard into the water when washing; the rubbing may be discontinued as soon as the smarting of the skin is felt. This very efficacious method of purification of the hands also radically deodorizes them. Iodoform even is quite removed by the soaping in combination with flour of mustard.

Conditions of School Life.

The environment of pupils with regard to its influence upon their eyes should be carefully studied. In the structure of the school building, as few obstacles to vision as may be should be permitted; ample illumination, whether natural or artificial, should come from the left side of the desk; the desks themselves should be of such size as to permit the pupil's feet to rest firmly upon the floor; they should be provided with comfortable backs and slightly slanting tops, the latter placed at such distance from the eyes as to render sight easy without the close approximation of books; the blackboards, maps, etc., should be so situated as to be readily seen; an erect style of handwriting, less irksome to the eye than slanting characters, should be taught; and frequent changes of study or intervals of intermission should be secured, so as to avoid the harmful effects of continuous work of one kind.—*Dr. Frank Allport, in Review of Reviews.*

Effect of Diet on Cancer.

An English paper says:—

“At an inquest held recently, several doctors swore that there is no cure for cancer. As the mortality from this terrible disease has increased from 177 per million, in 1840, to 713 per million, in 1894, it is to be hoped that some serious attempt will be made to find out the cause of this scourge, and if possible to prevent its development. Much evidence points to the fact that deficient vitality, owing to intermarriage and malnutrition, is a great predisposing cause, and that among the probable exciting causes are the drinking of strong tea, the consumption of common salt, and the eating of flesh meat. Mr. W. R. Williams, F.R.C.S., writing upon the subject to the *Medical Chronicle* recently, used these words:—

“When excessive quantities of such highly stimulating forms of nutriment [as meat] are ingested by persons whose cellular metabolism is defective, it seems probable that there may thus be excited in those parts of the body where vital processes are still active, such excessive and disorderly cellular proliferation as may eventuate in cancer.”

“As the consumption of meat in this country has increased just in proportion to the increase of cancer, and as the disease is making equal strides in Australia, where even more meat is consumed, there is justification for believing that here we have a clue which is worth following. In order to obtain information, we invite any of our readers who have ever known a vegetarian of more than twelve months' standing to suffer from cancer, to communicate with us. Personally we have not met with such a case in this country, but we seek knowledge, and therefore invite assistance.”

THE rejection of American cattle and hogs by Germany and France, and the falling off of the consumption of meat in this country in consequence of high prices and diseased conditions, should lead Texas and other Western ranchmen to give up the raising of livestock, and induce the cultivation of peanuts, pecan nuts, and other wholesome productions for which their climate is adapted. They would enrich themselves by the change, while they would supply good food instead of diseased flesh.

NATURE is an honest and expert accountant. Her debits and credits are kept with unerring accuracy. She herself meets every obligation promptly, and, in her turn, exacts the same of us, and will not be cheated of her dues.—*Charles B. Newcomb, in the Arena.*

LIQUOR DRINKING FOR TRAVELERS.

REV. J. T. SUNDERLAND, of Ann Arbor, Mich., in a recent trip through Europe, Asia, and Africa, conceived the idea of testing the statement so often made, that because the water in the cities of these countries is impure, the traveler must use wine or alcohol in some form as a protection against disease. The following interesting statement of his experiences is printed in the *Temperance Record*, of London:—

“In England there was no occasion to take to the use of wine or beer for fear of the water, for every one agrees that the water supply of England generally is quite as pure and as safe as our own. The pressure to make the change really began when I reached the continent. Here nearly everybody took wine or some other kind of intoxicant or semi-intoxicant. Should I follow the general custom?—Yes, if health conditions required, not otherwise. I confess to some surprise in finding that, continental cities, as a rule, are supplied with quite as good water as English cities, and certainly as good as American cities. So I found no occasion to avoid the water of Germany, France, or Switzerland.

“Going to Italy, I had more fear; but it was soon in a measure allayed. I found that every Italian city of importance had its water supply carefully guarded, and usually brought from some far-away clear, bright lake or mountain-born stream. Why, then, should I have apprehension as to its safety?

“In Greece the situation is essentially the same as in Italy. In Athens and the larger towns there seems to be no good ground for avoiding the water.

“When I reached Egypt, I found reasons for much increased caution, partly because there was some cholera in the land. Yet in most of the places to which

the traveler is likely to go, even in Egypt, the water is good. The Nile, from which Egypt gets its water for all purposes, is one of the purest and most wholesome sources of water supply in the world. What danger there is comes from local pollution. Water taken from close to the shore of the Nile as it flows past a village or city may not be pure; and of course water taken from any of the canals is to be distrusted, so that one should be on his guard. On the long trip up the Nile by boat, however, one may feel absolutely at ease. During the two weeks that I was on the river, drawing our water supply as we did directly from the great stream, and generally far out from the shore, I felt confident that there was no danger, even in a cholera season. We were drinking water which was probably as pure as any to be found at home.

“It was in Palestine that I found most difficulty, though even here the difficulty was less than I had been led to expect. There was need of constant care; but with care we were able to obtain good water in abundance nearly everywhere.

“I had much apprehension regarding the water of India. But here, too, I found things better than I expected. The water supply of nearly all the Indian cities of any considerable size and importance is excellent. The British government has attended to this matter; so that it is only in the smaller towns and the places remote from British settlements that the traveler need have any fear. There he must be on his guard.

“What, then, did I find it necessary to do to make sure that my health should not suffer? Discard the use of water as a drink?—In only a few places. Generally I could drink the water as freely as at home. Where I found any cause at all for distrust, my rule was to use the water

only after it had been boiled. Throughout Egypt, Palestine, and India one can get oranges of the finest quality in great abundance. I ate these freely everywhere; and the juice of these did much to supply the place of drink. For emergencies I generally carried with me a small supply of some bottled water, easily obtainable in all Oriental cities of importance.

"Thus, though I always kept myself ready to resort to wine or beer, or some other liquor, if there seemed to be any real need for it, the need never came. I passed through my year of travel—one half of it in India, Egypt, and Palestine—without tasting a drop of liquor, or finding myself in any place where, in my best judgment, there was the slightest necessity for so doing. The same was true with my wife. She made the same journeys that I did, except that she did not go to India, and she found no more use for liquor than I. In our travels in Italy and Greece and other countries of Europe we were accompanied also by our son and two daughters. And none of them tasted any kind of liquor during their journeyings.

"What was the result? Were we ill? Did we find ourselves with digestion impaired from time to time by bad water, or by changes of water? Did we endure our journeys less well? or were we sick oftener than our fellow travelers who discarded water and used alcoholic drinks, or who, when they did use water, mixed more or less liquor with it to make it 'safe,' as they said? The answer is very easy to give. We went through all our travels without a day's serious illness on the part of any of us. I went through mine, including my three months in India,

without the loss of a meal, or any disturbance of digestion requiring even the slightest medicine. On the other hand, our traveling companions who made free use of liquor were almost constantly complaining, and in a number of cases were seriously ill.

"During our trip on horseback through Palestine, where the strain was most severe, and our water supply the poorest, the three or four total abstainers in our party of nineteen got along far better than the others. Of those who took a little wine or whisky or brandy each day or each meal to keep them well or to make the water safe, nearly every one was attacked with a persistent, and in a number of cases a severe, bowel trouble. Of the abstainers, only one was troubled at all, and that one only very slightly.

"Another Palestine party of which I learned had a similar experience to our own, only still more marked. Before starting on the 'long route' from Jerusalem to Damascus, about three fourths of the party allowed themselves to be persuaded to lay in a stock of wine for the journey. The rest determined to stick to their total abstinence principles. What was the result?—The abstainers went through without difficulty, while every one of the wine-drinkers was sick on the way, and two or three of them broke down entirely, and had to go back to Jerusalem. One of the party said: 'They talk about the water being different in different places; but I tell you the wine is much more different than the water;' and after a thorough trial of drinking wine instead of water, he smashed his bottles in disgust, and then was able to keep well, as he had not been before."

ALCOHOL in any form retards the digestion of starch in a marked degree.—*Professor Duggan, of Johns Hopkins University.*

The Cigarette Habit.

A recent newspaper says: "Business men are beginning to realize that the cigarette is an evil, and it is announced that the general freight agent of a large railroad says that he will not in the future employ any young man who smokes cigarettes, and that he intends to get rid of all now in his department who smoke them. He says men waste time smoking, and do poorer work than do those who have not the habit. He further says that eighty-five per cent. of the mistakes made in the office by his two hundred clerks are traceable to the thirty-two who use cigarettes. In business circles, the time will come when a cigarette smoker will find it hard to secure and hold a position."

True to His Bringing-Up.

A writer in the *Independent* has discovered something rare — a donkey boy in Cairo with a sense of the ideal. Most boys of his profession are a good-natured lot, but few are the vices they cannot teach. Little Hassan, on the contrary, seems to have principles, and is quietly stanch in his adherence to them.

Once he refused a cigarette, to the great surprise of the traveler.

"What! Not smoke, Hassan?" said the traveler, "I thought all the donkey boys smoked."

"I don't," said Hassan, who looked about eleven, was short, very brown, very scantily dressed, quite dirty, had only one eye, and trotted behind the donkey with rounded shoulders and head craned forward. "I don't. If I did, my family would beat me, and quite right, too."

"But who are you? and who are your family?" was asked.

"Ah!" he said proudly, "we are Sudanese. In the Sudan, we are strict.

To smoke, to use wine, to drink coffee, not to pray — these are shameful things; and if a man does anything impure, they hang him to a tree with his face toward the sun."— *Youth's Companion*.

Pseudo-Temperance Drinks.

The London *Daily Mail* has been led by the death of a prominent teetotaler from delirium tremens, caused by the excessive use of so-called non-alcoholic beverages, to make an investigation of this subject. One physician is quoted as saying that very many who drink supposed non-stimulants find in so doing an excellent way in which to swallow their principles and their alcohol at the same time, without endangering their reputation as total abstainers. This physician states that there are numbers of persons in his knowledge who would not willingly touch a glass of spirits, and yet who are passing through the slow stages of alcoholic poisoning due to the temperance beverages. He cited the instance of a woman who glories in her principles of total abstinence, and yet she is being slowly but surely poisoned by the alcohol in a certain tonic wine. It is not the cocaine contained in it, but the alcohol, which renders it so insidious and fatal. The amount of damage done by this class of drinks is regarded by this physician as appalling. A death in Jersey the other day was put down to the daily consumption of large quantities of seaweed tonic by a man who "never drank."— *Sci.*

CIRRHOSIS of the liver is not so infrequent in little children as you may suppose. We generally find cirrhosis is due to alcohol. Cirrhosis of the liver is commonly spoken of as gin-drinker's liver; and it has been established that a number of cases, even in children, were due to alcoholism.— *Jacobi*.

WHEN constantly irritated by the direct action of alcoholic drinks, the stomach gradually undergoes lasting structural changes. Its vessels remain dilated and congested, its connective tissue becomes excessive, its power of secreting gastric juice diminishes, and its mucous secretions are abnormally abundant.—*H. Newell Martin, M. D., F. R. S., Professor of Biology in Johns Hopkins University.*

CHEMICAL experiments have demonstrated that the action of alcohol on the digestive fluid is to destroy its active principle, the pepsin, thus confirming the observations of physiologists, that its use gives rise to the most serious disorders of the stomach and the most malignant aberrations of the entire economy.—*Professor E. C. Youmans, of New York.*

DR. BOLLINGER, director of the anatomico-pathological institution in Munich, asserts that it is very rare to find a normal heart and normal kidneys in an adult resident of that city. The reason for the kidney disease is the tax put upon these organs by the drinking of excessive amounts of beer, and the cardiac hypertrophy and degeneration are secondary lesions for the most part.

THE continued use of alcoholic drinks, as shown in a post-mortem examination of the brain, produces a congested condition of its minute capillary vessels, indicating an amount of pressure that interferes with healthy functions. This congestion, seen on cutting through the brain, as minute blood spots, often gives rise to epilepsy and apoplexy. . . . Beneath the pia mater is nearly always found an effusion of a milky fluid indicative of congestion and stimulation, which

accounts in part for the mental incapacity and disorder of the drunkard.—*Dr. Henry Monroe.*

I BELIEVE the time will come when men will have as much abhorrence of habits which carry them to unhealth as they have of maimings, torturings, and distortions; and I think in that day there will be a banishment of alcoholic drinks and a total exclusion of tobacco, indulgence in which, beginning early, is wasteful all the way through life.—*Henry Ward Beecher.*

I DO not think there is a poison which is in use in this country, or of the habitual use of which we have record in Oriental countries, whose legitimate effect upon the nervous system is to induce moral obliquity more decidedly than does tobacco.—*J. C. Jackson, M. D.*

THE following story is told of a young man who was addicted to the cigarette habit: He had smoked 1,200 packages, and wrote to the manufacturers to know what they would give him for the 1,200 pictures that had come with the cigarettes. The answer of the manufacturers was right to the point: "Smoke 1,200 more, and we will send you a coffin."

FEW things could be more pernicious for boys, growing youths, and persons of unformed constitutions than the use of tobacco in any of its forms.—*The Organ of the Tobacco Trade.*

I BELIEVE that no one who smokes tobacco before the bodily powers are developed ever makes a strong, vigorous man.—*Dr. Fergus Ferguson.*

REGARD FOR SYMMETRY IN GYMNASIUM WORK.

ROBERT J. ROBERTS, writing in *Men* on the necessity of strengthening the weak parts of the body in order to attain true symmetry, says:—

“Many gymnasium members devote too much time to developing the stronger parts of their bodies, and neglect to exercise the weaker portions. If they would bear in mind that the body is only as strong as its weakest part, they would see the folly and danger of this way of working, and would use all the body so as to make its parts proportionally strong. A chain is only as strong as its weakest link. This is equally true of the body, which, when it is put under a test, will give way in the weakest part. Get measured; find out what parts of your body need the most work, and give it that work, and in a few months' time your body will take on as perfect proportions as its bony framework will allow.

“Some of the most important and weaker muscles to develop are those that you cannot easily see without the aid of a mirror—the posterior muscles. The pride of the flesh and the ignorance of anatomy lead many to develop the muscles they can easily see on their own bodies, the anterior ones. Often you will see a man dipping on the parallel bars, or

throwing his chest strongly forward between the breast bars too much, or working too often on the chest weights with his back to the weights, and when asked why he is doing so much of that kind of work, he exclaims: ‘Why, to broaden and deepen my chest, and to draw my shoulders back into their normal position;’ and when it is explained to him that he is developing the muscles that will produce huge pectorals and depress his front chest and round his shoulders forward, he is astonished.

“Gymnasium work is curious; it will pull a young man all out of form or will improve his form as far as nature will allow. The first knowledge of a teacher of gymnastics or of body-building work should be elementary anatomy. A system of gymnasium work that teaches much anterior work is wrong. If one only did physical work that developed the posterior parts chiefly, the only result would be that he might sit, stand, and walk around with a flat back and a well-rounded-out chest. We don't see men of this class very often, and he who does only posterior work is not making much of a mistake. The best rule to follow is to do three-quarters posterior to one-quarter anterior work.”

No man is born into the world whose work
Is not born with him; there is always work,
And tools to work withal, for those who will;
And blessed are the horny hands of toil!
The busy world shoves angrily aside
The man who stands with arms akimbo set,
Until occasion tells him what to do;
And he who waits to have his task marked out
Shall die and leave his errand unfulfilled.

—James Russ U Lowell.

THE PREVENTION AND TREATMENT OF MEASLES.

BY KATE LINDSAY, M. D.

MEASLES usually proves much more infectious than either smallpox or scarlet fever. The latter are not especially infectious until after the eruptive stage begins, while measles, as stated in the previous article, is most actively contagious during the catarrhal stage; and often before the disease has been suspected, the susceptible members of the family have been infected, the ailing child having been supposed to have only a common cold. This is very unfortunate; for while to the healthy boy of eight or ten years, an attack of this disease may be a very trivial affair, to the teething baby or delicate brother or sister it may mean a serious, or even a fatal, illness.

As more than half the deaths from measles occur in children under two years of age, it becomes very important to protect children from it for at least the first five years of life. When it is known that a child has been exposed to the disease, it should be watched for the first symptoms, which are very much like those of an ordinary cold in children. As soon as these appear, the little patient should be at once put to bed and separated from the other children of the family. If there is in the family a delicate child, predisposed to tuberculosis or heart-disease, or just recovering from some severe illness, it should be kept apart from the exposed child from the first, as in some cases the disease seems to be contagious even in the incubation stage, which usually extends over nine or ten days before the active symptoms begin to appear.

The most common complications of measles are in connection with the respiratory organs, and the most usual cause of a fatal termination is the catarrhal se-

cretions resulting from the inflammation of the lining membranes of the tubes, which in severe cases sometimes completely fill up the smaller air passages and close sections of the air-cells, thus causing collapse of the lungs. This is most likely to occur in small children, and in patients who have been weakened by other diseases, and can offer but feeble resistance to the disease. In infants the finer air passages are so small and the walls so thin that it is very easy for them to become completely stopped up; and as such young children do not expectorate, the catarrhal secretions are either retained in the respiratory organs, or else swallowed into the stomach, instead of being discharged, as in the case of older patients. This still further increases the danger from blood-poisoning. After the eruption is fully out, the poison germs are not transmitted into the air so freely, but are still found in all the secretions and excretions of the body, especially the expectorated matter. This should be received on rags, and either burned or put into a vessel filled with some strong disinfectant, as chlorid of lime, or bichlorid of mercury (1-1000), or a five-per-cent. solution of carbolic acid.

It is well for those caring for the sick one to change the outside garments before mingling with other children or any one who may have never had the disease; for though the contagion is not so portable or so persistent as that of scarlet fever, it may be carried in rags, paper, or clothing which have been in contact with the patient. All cups, spoons, or other utensils used for food or drink by the sick one should have boiling water poured over them, and never be washed with the

dishes used by the rest of the family. It is best in all contagious diseases to have a separate set of dishes for the sick-room, and to use these entirely until the case recovers, when they should be thoroughly boiled before being returned to the family china closet.

If the members of the family who are still free from infection expect to remain so, they must not only stay away from the sick-room, but great care must be exercised to keep the infection of the room from reaching them. If every one could be made to understand that the germs which are the cause of all infectious diseases are real, material things, which can cling to the clothing like dirt, lint, or feathers, they would observe more care in regard to them.

The danger from measles, as from many other diseases, depends very much on the age and general health of the patient, and also upon the care he receives during the first stages of the disease. The mucous lining of both the air passages and the digestive tract is irritable and congested as well as the skin. The redness of the eyes, running at the nose, cough, and expectoration, all show intense catarrhal inflammation of the bronchial tubes, throat, and nasal cavities. This condition of these surfaces is much aggravated by a cold or any other cause which still further increases the irritation. A chill from undue exposure or from getting wet or cold after vigorous exercise just before the onset of an attack of measles has sometimes resulted fatally from pneumonia or some other dangerous complication. The first symptom of measles, usually sore throat and red eyes, should lead the mother or caretaker to ascertain the patient's temperature; and if it is at all above normal, he should be put to

bed at once. The sick-room should be moderately warm, and the atmosphere moist, about 68° or 70° F. being the proper temperature. A kettle of hot water kept at the boiling point will keep the air moist, and thus make it less irritating to the inflamed surfaces of the respiratory tract.

The inhaling of steam, either with or without medication, will often relieve the aggravating cough which so frequently keeps the patient awake and wears out his strength. The nasal douche of warm salt and water, a teaspoonful of salt to the pint of water, serves to wash away a great deal of mucus which the child would otherwise swallow. This may be followed by a spray of hydrozone,—one part to eight or ten of boiled or distilled water. This spray may be used through the nose, and also for cleansing the throat. After the spray the nose and lips should be washed clean and anointed with vaseline. The eyes should also be cleansed by spraying or douching with the saline solution.

The sick-room should be somewhat shaded, but not dark, and the patient should not use the eyes to read or write, or in any work which will strain or tax them. While the greatest care should be exercised to prevent chilling the surface, or exposing the patient to drafts, it is a great mistake to go to the opposite extreme and keep him in an overheated, ill-ventilated room, and smother him with bed-clothes, to facilitate the bringing out of the rash. The writer has seen more than one case in which the surface was livid, and the friends of the child much frightened because they were sure that it was a case of the deadly black measles, when the real cause of the condition was deficient oxidation and surface-blood stagnation; and the symptoms entirely disappeared when the temperature of the room was lowered, and the foul air ex-

changed for fresh air by proper ventilation. A cool or tepid sponge bath is also of great assistance in such cases, by carrying off the surface heat and stimulating the distended blood-vessels to contract and carry a volume of cooler blood inward, causing the internal hot blood to flow toward the surface.

The great thirst and craving for cold drink usually present is often denied for fear of interfering with the eruption, when as a matter of fact free cold water drinking frequently results in the appearance of the desired outbreak, the cooling of the internal surfaces causing the blood to flow outward, thus relieving the intense internal congestion. If the skin is pale and the patient feels chilly, a warm or hot bath will often give relief, and be followed by the appearance of the rash. Oiling the skin after the sponging gives relief from the intense irritation which is so wearing on the nervous system.

Fomentations to the throat and chest will often alleviate the bronchial irritation and check the cough. It is a matter of great importance to keep the nose, mouth, and throat as clean and free from germs as possible, and the inflammation subdued, as the frequent complications arising from the ears, eyes, and lungs come from the extension of the disease from the air passages to the lung cells, and from the nasal cavities to the ears.

As the mucous surfaces of the digestive organs are inflamed, and often covered with a coat of unhealthy mucus, it is important so to regulate the diet that the stomach shall not be overtaxed. One surfeit may prove fatal. It is in very young children that the greatest danger exists from this source. The child in its great thirst craves frequent drink, and often the only thing offered the poor little sufferer is either the breast or the bottle,

which it takes eagerly to slake its thirst. Fortunately, the stomach usually rejects the surplus food; but often the little one is worn out with the vomiting, and the writer has seen severe gastritis develop from this constant distention and irritation of the stomach with spoiled food. Not only do the poisons thus manufactured in the stomach injure the digestive organs, but it soon becomes a center from which all the other organs of the body are infected, thus bringing extra work upon the crippled lungs, kidneys, liver, and skin. The system needs and suffers for the fluid which it craves, as all the secretions and excretions being abnormally concentrated, they irritate and inflame the glandular organs of the body.

It is usually best to give the digestive organs at least twenty-four hours' rest at the beginning of the attack. Both the stomach and the bowels should be washed out by a thorough lavage and an enema. This will free them from undigested food and much unhealthy mucus. When the little one worries and frets for food or drink, give it a drink of water, either cold or hot, whichever it seems to enjoy most. The diarrhea which often exists should not be checked at once by an opiate or astringent, but rather some mild laxative be given, as a dose of castor-oil or some simple saline, which will help to remove the morbid matter which is the cause of the intestinal catarrh.

After the digestive organs have rested for a day, and been freed as fully as possible from undigested food and other morbid matter, the patient may be given some simple, bland, fluid food. If the child is nursing, let it have the breast at regular intervals, although not more than half as often or as much as when well. It is well to give a drink of water a short time before nursing. This will fill the stomach and thus satisfy the child, and

at the the same time dilute the food and prevent overeating from the vain effort to quench the thirst. If the baby be bottle-fed, it is best to reduce the food both in quantity and in consistency. Thus a child of six months should not under these circumstances take more than the amount of diluted food which a child of two months would require when in health. After the height of the disease is past, and the rash and fever begin to subside, the child may be gradually returned to its regular amount of nourishment. But even then great care should be taken not to allow it to overeat, as one surfeit during convalescence has caused many a fatal complication.

Older children may be fed on milk, gruel, brose, and bland fruit juices. It is very important to give the inflamed secreting surfaces of the glands a chance to heal before calling upon them to do full functional work. If other food is kept out of sight of the sick child, it will be entirely content with a very simple diet. In fact, if not tempted by suggestions from older people and the sight of unhealthful food, children when ill seldom call for anything but simple drink to quench the thirst. Bowel complications, although not so often likely to prove fatal as some others, are sometimes of a very serious nature, often resulting in deep ulcerations, and dysentery of a severe form, or even peritonitis. Indeed, in many cases coming under the writer's care, the first symptoms of pelvic inflammation in young girls are found to have dated from the time when they had a

severe attack of measles or scarlet fever in childhood.

The irritation of the skin present in all cases of measles wears upon the nervous system and increases the fever; thus to soothe the irritated surfaces as much as possible is very important. There is no application more efficient for this purpose than tepid, hot, or cool sponging, whichever is most pleasant to the patient. A solution of borax, boracic acid, or soda may increase the cleansing and antiseptic effects of the bath. Compresses may also be wrung out of these solutions and laid on the chest, abdomen, and spine, of a temperature to soothe the patient. After each bath the body should be oiled with some unguent, as vaseline, cacao butter, or pure olive-oil. If this is applied properly, it will be a source of comfort to the patient; but if done in a slovenly manner, it is likely to prove a great annoyance. It is better to use but a small quantity of the unguent, and then with a clean, soft cloth wipe off all that does not work into the skin. The body should never be left feeling sticky with oil.

The principal thing in treating an uncomplicated case of measles is to make the patient comfortable, and to prevent complications. This means rest in bed, rest for the digestive organs, good air to breathe, proper care of the eyes and ears, and the keeping of the skin clean and comfortable.

The next paper will treat particularly of the complications of measles, and care during convalescence.

Care of the Sick-Room.

Mrs. Burton Kingsland, writing on "When Nursing the Sick" in the *Ladies' Home Journal*, insists that "a tranquil mind is of the utmost importance to the patient, and consequently everything

must seem to be moving smoothly and easily, no matter what difficulties the nurse may have to encounter. The invalid should not be allowed to feel any responsibility whatever about his own case. The sick-room should be kept scrupu-

lously neat, and made as cheerful and attractive as possible, that the eyes of the patient may rest with pleasure upon his surroundings. The nurse herself may contribute to the agreeable environment if her own dress be simple and tasteful, and above all, conspicuously neat. All soiled dishes should be removed immediately after being used, and no food kept in sight. Even the medicine bottles need not be obtrusively in evidence.

“Stillness has in itself a power to soothe, and, as all know, when the nerves are quiet, nature’s healing processes go on without impediment. Creaking shoes, rustling of garments, the rattling of dishes, and kindred noises are often the occasion of positive suffering to an invalid. To accidentally jar the bed, to spill the medicine when administering it, to close a door noisily, to ‘sleep audibly,’ are cases where ‘a small unkindness is a great offense’ in the hypersensitive condition of the nerves of the patient.”

WHETHER any particular day shall bring to you more of happiness or of suffering is largely beyond your power to determine; but whether each day of your life shall give

happiness or suffering rests with yourself.
—George S. Merriam.

The Closet Door.

It is the usual thing to have one or more closets for clothing opening into each bedroom. Often these are between inner walls, and do not have a window opening out of doors, and are consequently dark, unventilated pockets. This is exceedingly objectionable for closets anywhere and especially so for closets opening into a bedroom. An outer garment which has been worn for several days—the gown of the woman, the coat and trousers of the man—is taken off and hung up in this dark, unventilated box of a place. The garments are more or less impregnated, even those of the most cleanly people, with effete matter which it is the function of the skin to remove from the body. These are of organic character, and must decay, adding impurities to the atmosphere. Where such closets already exist, care at least may be taken thoroughly to air all clothing before placing it in the closet, and the closet door may be left open while the bedroom is being aired and sunned, as it should be, for several hours each morning.—*Ohio Sanitary Bulletin.*

EXAMPLE.

WE scatter seeds with careless hand,
And dream we ne'er shall see them more;
But for a thousand years
Their fruit appears,
In weeds that mar the land
Or healthful store.

The deeds we do, the words we say,
Into still air they seem to fleet;
We count them ever past;
But they shall last—
In the dread judgment they
And we shall meet.

I charge thee by the years gone by,
For the love of brethren dear,
Keep, then, the one true way,
In work and play,
Lest in the world their cry
Of woe thou hear.

—Kable.

THE HYGIENE OF CHILDHOOD.

BY J. H. KELLOGG, M. D.

MUCH has been said with reference to the hygiene of infancy that applies in practise equally well to the hygienic care of older children. It would be fortunate, indeed, for many children, if they might be cared for as intelligently after they leave the nursery as before.

Quite too many mothers are inclined to lay off a large share of the burden of anxiety for the little one when it becomes old enough to run alone, and go out of doors and play with its older brothers and sisters. If the child has an opportunity at this age to enter a good kindergarten, the lack of proper maternal care may be to some degree supplied, but the ideal home will itself be a kindergarten so long as there are little ones there to be trained. Children should never be turned out to care for themselves; but until old enough to exercise judgment and discretion for themselves, they should be constantly under the supervision of some person sufficiently wise and experienced to give them proper care.

Play Indoors and Out of Doors.—All children love play. Play is not only natural, but healthful and useful to them. In play the child begins to learn the lessons of life and becomes accustomed to his surroundings. By carefully controlling and regulating his play, a very important part of his education may be given to the child. Every well-regulated household with children will have one room set apart for play and exercise. Such a room should be well ventilated, and supplied with facilities for exercise.

A radical fault to which attention should be called is making too great a difference in the management of boys and girls as regards exercise. Girls naturally develop more rapidly than boys. The

little girl learns to walk and talk sooner than the little boy does. The girl of twelve years is taller and heavier than a boy of the same age. She has the same physical aptitudes, and up to the age of puberty ought to be the physical equal of a boy of her own size. There is no physiological basis for the idea that a woman is destined by nature to be, to so great a degree as is now the case in civilized countries, the "weaker vessel." The cause of the weakness and "little health" of women in general is chiefly neglect to afford little girls the necessary opportunity for development. The popular method of treating girls must be regarded not simply as absurd, but almost criminal.

The little girl of fashionable parents is kept in the house, dressed up like a doll, and taught that she must keep still like a little lady; that she must keep out of the sun, and never run out of doors barefooted, and must try to ape her fashionable mother in every possible manner. Her clothes are so fine that she must never venture near the dirt, but must devote her entire time to playing mother to her doll, or sitting bolt upright in a chair while her mother receives company. Starting out in life under such a regimen, while her mind is plastic, just beginning its development, and the whole organization is in the highest degree susceptible to impressions, is it any wonder that the delicate, rosy tint of health soon gives way to sallowness, or that the blooming cheeks become pale and faded, and that the mind is dwarfed and shallow?

Both boys and girls should be allowed to live out of doors as much as possible. The boy who loves his books better than play or work and the girl whose training

has given her the manners of a mature woman — who has learned to regard such exercise as running and jumping, and engaging in active sports, unladylike and unbecoming — are both likely to become old prematurely or to break down at an early age, as they are missing that part of the child's training which is necessary to lay the foundation for a vigorous and enduring constitution.

Both girls and boys should be taught the dignity of work. They should be made to understand that their lives, if successful, must be lives of usefulness. Nothing can be more damaging to the mental and moral development of a child than the common custom of making him a household pet. We do not say that children should not receive kind attentions from older persons, and be made to see that they are loved and respected by their superiors; but the common habit of humoring and coddling children is in the highest degree detrimental to their proper development and usefulness in future life.

In many kinds of work they may find the most healthful exercise. The various movements required in the process of putting a room in order, clearing off the table, washing or wiping dishes, running errands, replenishing the fire, and in various other household duties, afford almost as good an opportunity for exercise and development of muscles as the most complicated maneuvers of systematic calisthenics in a gymnasium.

Clothing.—Children have little power to resist cold, and hence should be so clad that every portion of the body is thoroughly protected. The arms and limbs should be as well protected as the trunk. In order to secure this equable protection of the body, the undergarments should be made in one piece. The undergarments should be of flannel, which is the best material for children's wear at all seasons of the year, thick flannel being

worn in the winter, and in the hottest weather the thinnest woolen fabrics. Children often complain that flannel irritates their sensitive skins. This difficulty may be obviated by wearing thin gauze suits underneath the flannel garment. The stockings should always be of wool except in very warm weather. They should never be supported by garters, but should be suspended from the shoulders by means of elastic straps either passing over the shoulders or attached to an undergarment. In cold weather, high boots with thick soles should be worn, and should be supplemented with warm, knit leggings extending above the knees.

In England and many of the English colonies, one constantly sees children upon the streets with bare legs even in the very coldest weather. The idea seems to prevail that this is a proper kind of hardening for the little one, but that it is a mistake is clearly shown by the great prevalence of nasal catarrh and throat and ear diseases among the children of these countries. In temperate climates frequent change of clothing is necessary in order to adapt the clothing to the weather.

Mothers should be constantly on the lookout for changes in the weather. The practise of putting on flannel undergarments at the beginning of the cold season of the year, and putting them off at the beginning of the spring, is a pernicious one. There is no time of the year when flannel underclothing is more positively required than in the cool, damp days of the spring and the occasional cool days in the summer. The clothing should be adjusted to the weather of each particular day. In the winter-time, an unusually cold day demands an additional supply of clothing. In the summer-time, an unusually hot day may require an opposite change of garments. In the spring and autumn, particularly when the weather is

very changeable, it may be necessary to change the clothing two or three times a day in order to meet the exigencies of the weather.

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

The protection of children may, however, be carried to an excess. Excessive coddling is as injurious as unreasonable exposure. Very careful mothers, in their anxiety for their daughters, frequently keep them too closely indoors, hovering about the fire or in pent-up furnace-heated rooms from which the vivifying air of heaven and the reviving sunshine are rigorously excluded. Such children grow up like sickly plants in a cellar or a coal mine.

As a rule, boys are dressed more sensibly than girls. There is no doubt that many of the weakly, sickly, consumptive young women of the present generation owe their feeble condition to the low-necked, short-sleeved dresses which they wore in childhood.

Stays, corsets, and high-heeled boots are instruments of torture to which no intelligent mother will subject her growing daughter. The idea that the clothing of the little girl must be so constructed as to "develop a nice form" is an intolerable reproach to the Creator.

Rest and Sleep.—Children grow most rapidly while asleep. During the waking hours, animals as well as plants take in material for growth, but its assimilation takes place chiefly during sleep. It is of great importance, then, that children be allowed ample time for sleep. For a

child eight or ten years of age, ten hours of sleep is none too much. Children should be taught to go early to bed, and should not be awakened in the morning so long as they are sleeping soundly; but a child should never be allowed to lie long in bed after waking.

The sleeping-room should be well ventilated. The vital activities of children are very great, and they throw off from their bodies in a given time a much larger proportion of organic impurities than do older persons. Hence the same provision for a supply of fresh air should be made for a child as for an adult. Care should also be taken that children are warmly covered at night. Violent colds are frequently contracted by children in consequence of insufficient covering during sleep. In the case of very young children, the covers must be prevented from becoming displaced by fastening the edges to the side of the bed.

Equal care should be exercised to avoid covering a child too warmly. As a rule, heavy "comfortables" should not be used as coverings for children, and indeed it would be better to avoid their use as bedding altogether. Woolen blankets are far more healthful, since they furnish an equal degree of warmth, with much less weight than the old-fashioned comfortable. Feather beds should be entirely discarded.

A word should be said respecting the sleeping of children with older people. The popular notion that one person may attract vitality from another in some mysterious way is simply a fallacy. It must be remembered, however, that in bed the body is exposed to a vitiated atmosphere, the result of exhalations from the body. Two persons sleeping in the same bed will of course render the atmosphere more impure than one. A child is likely to be more influenced by the absorptions of the products of the skin exhalation than an older person.

Strict attention to the rules of hygiene requires that each person, old or young, shall be supplied with his own bed. Children who are properly brought up will seldom be afraid to sleep alone. The infant may be accustomed to sleeping by

itself from the earliest childhood; and if it is not injured by frightful stories of ghosts and hobgoblins, and other horrors, it will never think of being afraid of the dark, or consider a bed companion necessary.

(To be continued.)

SHORT CLOTHES FOR THE BABY FROM THE FIRST DRESSING.

BY KATE LINDSAY, M. D.

THE infant a month or two old, if placed on its back undressed, will lie with its lower extremities flexed on the abdomen, the knees apart; and if it is a healthy, lively child, it will indulge in vigorous kicking. If you take hold of the legs and bring them together and try to straighten them out on a table, you will observe that the pelvis is tilted forward abnormally, and raised off the table, the legs not being yet sufficiently developed to be completely extended. At birth, the muscles of the arms are well developed as compared with the lower extremities, the grasp of even the new-born normal infant being firm and strong. The reason of this difference is that during pre-natal life the upper part of the body is much better nourished than the lower. But the first twelve months are spent in getting the infant on its feet, and during this time nature makes an effort to compensate for the retarded pre-natal development of this part of the body, by leading the baby to exercise the legs and feet by vigorous kicking. This it can best

accomplish when laid on the back, with its feet free from hampering clothes. But the yards of long skirts, heavy with lace, tucks, and ruffles, interfere with this normal exercise of legs and feet by their weight, and the length of skirts beyond the feet acts with a leverage force to extend the legs abnormally, tilt the pelvis forward, cramp and flex the toes, and entirely prevent all natural exercise of the muscles by kicking. The result is a fretful baby with weak, bandy legs, a crooked spine, and badly formed feet, and an ungraceful poise and walk in after life. In infancy the greater part of the skeleton is composed of flexible cartilage, which is easily deformed; and as the deformity soon becomes fixed by the hardening of the bones, it is a very important matter for those having the charge of baby to value "the life more than meat, and the body than raiment," and to study intelligently the best method of clothing the little ones, that their infantile dress may not be a cause of stumbling to them in after life.

COME apart and rest awhile;
 There are many coming, going,
 Whose dry lips forget to smile,
 Who forget to reap, for sowing:
 From the hot street's surging tide
 Rest is but one step aside.

— Arthur Willis Colton.

Seasonable Bills of Fare

BREAKFAST

Peaches
 Granola Grape Mush with Cream
 Baked Sweet Apples
 Whole-Wheat Puffs
 Stewed Nuttose with Tomato



DINNER

Toasted Granose Flakes
 Brown Soup with Croutons
 Baked Potato with Lentil Dressing
 Stewed Lima Beans
 Macaroni with Tomato
 Graham Bread Nut Crisps
 Wheatose and Cream
 Stewed Grapes Ambrosia



BREAKFAST

Grapes
 Granose Flakes with Maltol
 Breakfast Food with Cream
 and Baked Sweet Apples
 Nuttose Sandwiches
 Pop-Overs with Nut Butter



DINNER

Potato Soup with Croutons
 Mashed Peas Baked Squash
 Celery
 Brown Bread
 Boiled Wheat with Strawberry Sauce
 Grape Apples

SEASONABLE RECIPES.

Granola Grape Mush.—Heat a quart of the juice from stewed grapes to boiling. Sprinkle in sufficient granola to thicken (about one pint will be required). Cook for two or three minutes, and serve.

Boiled Wheat.—Select new wheat with plump kernels; that which is freshly cut and well rubbed from the chaff is best for this purpose. Look it over carefully, wash, and put to cook in five times its measure of cold water. Let it come to a boil, and cook gently until the grains burst open, and they can be readily mashed between the thumb and finger. This will require from four to ten hours, according to the age and variety of the wheat used. Less time will be needed if the grain is soaked over night. When done, it should be full of a rich, thick liquor. If necessary, add more boiling water, but stir as little as possible.

Stewed Nuttose with Tomato.—Cut the nuttose into pieces not over half an inch square. Cover an inch deep with tepid water, and simmer slowly until the water is nearly evaporated. Season with salt and a cupful of stewed strained tomato to the pint of nuttose.

Brown Soup.—Simmer together two pints of sliced potatoes and one third as much of the thin brown shavings (not thicker than a silver dime) from the top of a loaf of whole-wheat bread, in one quart of water. The crust must not be burned or blackened, and should not include any of the soft portion of the loaf. When the potatoes are tender, mash all through a colander. Flavor with a cup of strained, stewed tomatoes, a little salt, and return to the fire; when hot, add a half cup of cream, and boiling water to make the soup of proper consistency, and

serve at once. If care has been taken to prepare the crust as directed, this soup will have a brown color and a fine pungent flavor exceedingly pleasant to the taste.

Granose Flakes with Maltol.—Spread the granose flakes on a large shallow dish, pour the maltol thinly over it, then mix with a spoon until the maltol seems evenly mingled with the granose.

Pop-Overs.—For the preparation of these, one egg, one cupful of milk, and one scant cupful of white flour are required. Beat the egg, yolk and white separately. Add to the yolk, when well beaten, one half the milk, and sift in the flour a little at a time, stirring until the whole is a perfectly smooth paste. Add the remainder of the milk gradually, beating well until the whole is an absolutely smooth, light batter about the thickness of cream. Stir in the stiffly beaten white of the egg, and bake in hot earthen cups or muffin rings; and to prevent them from sticking, sift flour into the rings after slightly oiling, afterward turning them upside down to shake off the loose flour.

Brown Bread.—Take four cupfuls of strong caramel-cereal, and add to this one-half cup of nut meal or two tablespoonfuls of nut butter, one-half cup of sugar, and a pinch of salt. Heat to boiling, then add one-third cup of rye flour, one-third cup of white flour, one-third cup of best corn-meal, and three cups of cooked crystal wheat, in the order named. Turn into an oiled mold or basin, and steam for three hours.

Grape Apples.—Sweeten a pint of fresh grape juice with half a pint of sugar, and simmer gently until reduced one third. Pare and core, without dividing, six or eight nice tart apples, and stew very slowly in the grape juice until tender but not broken. Remove the apples and boil the juice (if any remains) until thickened to the consistency of sirup. Serve cold in individual dishes with a little of the grape sirup over each apple, or with a dressing of whipped cream. Canned grape pulp or juice may be utilized for this purpose. If preferred, the grape juice may be diluted with one-third water. Sweet apples may be used instead of tart ones, and the sugar omitted.

Time Required for Digestion.

The length of time required for stomach digestion varies with different food substances. The following table shows the time necessary for the stomach digestion of some of the more commonly used foods:—

	hrs.	min.		hrs.	min.
Rice	1	00	Apples, sweet and raw	1	30
Sago	1	40	Parsnips, boiled	2	30
Tapioca	2	00	Beets, boiled	3	45
Barley	2	00	Turnips, flat, boiled	3	30
Beans, pod, boiled	2	30	Potatoes, Irish, boiled	3	30
Bread, wheaten	3	30	Potatoes, Irish, baked	2	30
Bread, corn	3	15	Cabbage, raw	2	30
Apples, sour and raw	2	00	Cabbage, boiled	4	30
			Milk, boiled	2	00
			Milk, raw	2	15
			Eggs, hard boiled	3	30
			Eggs, soft boiled	3	00
			Eggs, fried	3	30
			Eggs, raw	2	00
			Eggs, whipped	1	30
			Salmon, salted, boiled	4	00
			Oysters, raw	2	55

Oysters, stewed.....	3	30
Beef, lean, rare roasted.....	3	00
Beefsteak, boiled.....	3	00
Beef, lean, fried.....	4	00
Beef, salted, boiled.....	4	15
Pork, roasted.....	5	15
Pork, salted, fried.....	4	15
Mutton, roasted.....	3	15
Mutton, broiled.....	3	00
Veal, broiled.....	4	00
Veal, fried.....	4	30
Fowls, boiled.....	4	00
Duck, roasted.....	4	30
Butter, melted.....	3	30
Cheese.....	3	30
Soup, marrowbone.....	4	15
Soup, bean.....	3	00
Soup, mutton.....	3	30
Chicken, boiled.....	3	00

hot water, this loss is reduced to two per cent. A bushel of potatoes weighing sixty pounds contains only about two pounds of total nitrogenous compounds, and when improperly cooked, one half a pound is lost, containing six tenths of a pound of the most valuable proteids.

Bags for Bread.

A novel improvement has been made by one of the most prominent bakers of Berlin, Germany, which is the natural consequence of the increasing tendency to employ hygienic methods in every trade dealing with food and food supplies. While rolls have long been delivered in paper bags to customers, it has always been the rule to handle loaves with the fingers, each loaf going through a number of hands before being delivered at the consumer's door, there to be received by the bare, often not too clean, fingers of the servant. The recent improvement, which has been covered by patents, consists of using paper bags the exact shape of the various sizes of loaves turned out by a baker. These bags are open at both ends, and, being slightly longer than the loaf, the ends are turned together with a twist as the loaf is shoved from the oven straight into the bag. This cover protects the bread from any pollution after it leaves the oven, as the loaf is kept in the bag not only while being handled in the bakery and by the delivery man, but while the loaf is being used, being cut at one end as the loaf gets shorter. The new system has become very popular wherever introduced, and the bakeries which have introduced this improvement have added greatly to their custom. — *Home Journal*.

The time required for the digestion of food also depends upon the condition under which the food is eaten. Healthy stomach digestion requires at least five hours for its completion, and the stomach should have an hour for rest before another meal. If fresh food is taken before that which preceded it is digested, the portion of food remaining in the stomach is likely to undergo fermentation, thus rendering the whole mass of food unfit for the nutrition of the body, besides fostering various disturbances of digestion. It has been shown by recent observations that the length of time required for food to pass through the entire digestive process to which it is subjected in the mouth, stomach, and small intestines, is from twelve to fourteen hours.—“*Science in the Kitchen*.”

How Potatoes May Be Spoiled.

In a bulletin issued by Professor Snyder, of the Minnesota State Agricultural College, he makes a point of interest to the housewife. He shows that when potatoes are peeled and started boiling in cold water, there is a loss of eighty per cent. of the total albumen, and when they are not peeled, and are started in

LEARN from the birds what food the thickets yield.—*Pope*.

A DIET consisting too much of animal food in persons of certain constitutional tendencies is often productive of great mischief by over-stimulating those organs which are called to relieve the system of effete matter. What is called the more sustaining effect of a meat meal, the greater feeling of satisfaction that it occasions, is probably due to the more speedy conversion into nutriment, thus appeasing the sense of hunger. The evils arising from excess of animal food are most marked in persons leading a sedentary and luxurious life.—*Sir Risdon Bennett, M. D.*

THERE are only two provinces of India—Bengal and Kashmir—where Brahmans are not expelled from caste for slaughtering living creatures for food: But even in these provinces a large number, among the higher castes especially, are strict vegetarians, as vegetarianism is understood in India, excluding fish and eggs. For, irrespective of caste, all Vaishnavas throughout the country would as soon think of renouncing their religion as of eating once living bodies; and the Vaishnava sect is one of the largest in India, if not the largest.—*Mohini M. Chatterji.*

CONSIDERABLY more than three fourths of the work of the world is done by men who never taste anything but vegetables and farinaceous food, and that of the simplest kind.

FOR we may live without sermons, music or art;
 We may live without friends, and from all live
 apart;
 We may live without love, and live without books,
 But civilized man cannot live without cooks.
 He may live without liquor, tobacco and all;
 He may live in a palace, or keep bachelor's hall;
 He may live in a hovel, go half-clothed or nude,
 But where is the man who can live without food?

—*Owen Meredith.*

A Vegetarian Restaurant.

The Alpha was the first vegetarian restaurant to open its doors in London, and its patronage has never decreased. The proprietor recently stated that they had "a fairly regular supply of patrons, and a large number of casual visitors, some of them hailing from different parts of the globe."

In regard to the diet afforded them he says that "the demand for fresh fruit as the principal item of luncheon is very great. People work better on it, and their spirits are lighter, they are in a happier frame of mind."

Bread in European Countries.

"American millers and bakers," says the *Milling World*, "read with surprise the 'blends' that are considered necessary to make bread in England. Those who have eaten bread of all grades in all parts of Great Britain are surprised at its general badness. Recently returned travelers assert that in London is to be had 'the only really good bread to be found in England;' and they say that it is bread not made by British bakers nor of British-milled flour. The French and Hollandish bakers in London are said to turn out the most palatable and digestible bread, and a baker recently over writes that the foreign bakers in London control top prices and do not blend much. The Britons appear to like a rather rank, acid, fusty flavor in bread, and they secure it by mixing all sorts and grades of flour. In Germany and some parts of Austria-Hungary the preference is for darkish, sourish, heavy bread, in most cases all rye, in some cases rye and wheat mixed, and in only a few cases straight and fine pure wheat bread. Most of the Danes and Hollanders and some of the Belgians prefer pure wheat bread. In

Russia rye bread is the chief kind eaten. In the warmer European countries the flours are mainly consumed in the unfermented forms,—polenta, macaroni, vermicelli, spaghetti, and other kinds of plain dough; and only in the larger towns and cities is it possible to find really good bread. Village and rural bread throughout the larger part of Europe is a hygienic horror. Pedestrians and bicyclists who have spent months in Germany among the rurals, denounce the bread as generally unpleasant and indigestible to those not accustomed to it."

Do you wish to improve your health? Improve your bill of fare. Simplify it, make it one line or two only. That is the best improvement. Put in it wholesome bread, macaroni, and plenty of fruit, with milk and eggs, if you want them. What do you think of those thousands upon thousands of peasants in Europe, especially in Italy, who do not touch any meat, and are the strongest and most well-looking people we can find? What do you think of so many thriving, seemingly delicate people, of whom I am one myself, who, living on a vegetarian diet, can endure so many hardships, while many others, with all the meat they eat, are feeble, and feel feverish as soon as they get a little overworked?—*Rev. Louis Paroli.*

Death in the Butter Dish.

That the coloring matter used to give butter its rich yellow appearance is not always harmless is proved by an occurrence reported in a late number of the *Cultivator and Country Gentleman.*

A bottle of butter-color had been left on the window-sill by the mother of a little child, with no effort at caution, as it was supposed to be harmless, being labeled "perfectly harmless and vege-

table." While the mother was out of the room, the child, twenty-one months old, got the bottle and swallowed some of the contents, about a teaspoonful, it was thought. The fact was soon discovered; but not until the child grew very sick was a physician called. He too was deceived in regard to the character of the color, and simply left remedies to quiet the child and favor elimination. However, the symptoms continued to grow worse, and in thirty-six hours the child was dead.

Later, an experiment was tried on a cat with the same substance, and the cat died in twelve and one-half hours.

"Butter-color that kills cats is a delightful substance for the human stomach!" concludes the journal.

THE vulgar opinion, then, which, on health reasons, condemns vegetable foods and so much praises animal food, being so ill-founded, I have always thought it well to oppose myself to it.—*Antonio Cocchi, Del Vitto Pithagorico Per Uso Della Medicina.*

WITH a people struggling for freedom the kitchen must be no murderous den; the larder no den of corruption; the meal no occasion for stupefaction.—*Gustav von Struve.*

THE foundation of a happy home is laid in the kitchen.—*Marion Harland.*

THE use of flesh does not contribute to health, but rather prevents it.—*Porphyry.*

CARROTS, to be used for soup, should be grated instead of sliced.

HALF the struggle of life is a struggle for food.

TRAINING IN TRUTHFULNESS.

BY MRS. E. E. KELLOGG.

NEXT to obedience, truthfulness lies at the foundation of a strong and noble character, and like obedience it must be taught and cultivated by wise and painstaking care. Just as the child must be taught how to use his powers of speech, he must be taught how to use that speech in a truthful manner. It is too much to expect that the little child with his immature judgment and moral sense will on all occasions make his statements correspond with exactitude to the actual realities. The pleasure of using a language so newly acquired, coupled with that vivid imagination which most children possess, fills the child with a desire to keep exercising his faculties, "to talk just to hear himself talk," as is sometimes said. His mind is filled with a variety of thoughts, fancies, and remembrances, while he has not yet the perceptive power to discern between that which is truth and that which is untruth.

There is, as Harriet Martineau says, "no natural power which varies more with different subjects than that of perception. One child sees everything that is within his range; another sees but little, being taken up with what he thinks or imagines; a third sees wrongly, being deceived about colors and forms and the order in which things happen, from his senses being dull or his faculties of observation being indolent."

If little children are apparently prone to untruthfulness, it need not be considered as evidence that they are "born liars." Indeed, some students of child nature assert that the average child under five years should not be expected to recognize the distinguishing characteristics between fact and fancy—between realities and imaginations. These dis-

tinctions are the outcome of growth and training. However, this tendency, while it need not discourage the mother, should be looked upon by her as a signal for the necessity of at once learning thoroughly to understand her child, and to make special efforts to develop in him such power of perception as will enable him to discern truly concerning outward facts, and also to quicken and cultivate in him by every possible means a love of truth.

As a help toward the training of the child in truthfulness, read or tell him some interesting facts, call his attention to some pleasing thing, then ask him to give a description of what he has seen or an account of what he has heard, insisting upon perfect accuracy in whatever statements he is able to make. He may not be able to give all the facts, but accustom him to accuracy even in the minutest particulars in such points as he has perceived. Accuracy of perception may also be aided by definite form or number work with blocks or spools. Ask the little girl who says she saw a hundred robins on the tree to place as many spools on the table as there were birds, and then help her to count them. She will readily see her mistake, and be better able to judge correctly next time. The child's idea of abstract numbers is very vague until their relative values are made plain to him by concrete examples. More of the falsehoods of children are due to thoughtlessness and carelessness in speech than to any intent to tell untruths. Every possible aid toward training to habits of accuracy should be sought and employed. Gossiping, tale-bearing, or repeating the affairs of others, is apt to have a strong leading toward inaccuracy, and should be effectually discouraged. The child should

be taught to measure all statements made concerning others with these three measures: Is it kind to speak of it? Is it necessary? Is it true?

Parents should strive to inspire admiration for truth, to make their children feel the nobility of truth in speech, and honesty of action. Teach the child to understand and use the beautiful prayer, "Cleanse thou me from secret faults, and guide me into all truth."

It is a kindergarten principle that outward habits affect inward conditions. Accuracy in his work, in his problems and occupations, will aid the child to accuracy of thought, and consequently to accuracy of speech, for "out of the abundance of the heart the mouth speaketh." A continued series of exercises in exactness, accuracy, and truthfulness in doing — for hand, eye, and mind — will greatly help to give the bent toward honesty and truth in act and word. It is for these reasons that a training in sloyd proves a most effectual help in establishing truthfulness in a child's character.

The parents' own example is a matter of great importance, for in this, as in all other lines of child culture, example has far more weight than precept. Imitation is one of the child's natural proclivities. It is easy to become accustomed to an ideal which one sees daily illustrated, but difficult to strive toward one not exemplified in the lives of others. Many parents teach their children to be untruthful by saying things to them or in their presence which are untrue. The little one is told that if he goes outside the yard, some one will carry him off; that if he does n't stop crying, papa won't love him. He is taken to the dentist to have an offending tooth extracted, and told to sit quietly, for it will not hurt. He hears you say, as you see an unwelcome guest approaching your door, "O dear, I wish she had stayed at home," while he notices that in a moment

more you greet her with smiles and say, "I am so delighted to see you." He asks, as all children will, innumerable questions, and is given some nonsensical answer which he learns sooner or later had not a particle of truth in it; or his mother replies, "I do not know," without further thought than to stop the annoyance of his questions. A short time afterward he finds she has falsified her word to him when he hears her explain the whole matter to some other interested party. Parents should school themselves to answer their children's questions correctly. If they have not the time at command when the question is asked, let them arrange with the child for some time in the near future when they will be at leisure, and faithfully answer the little questioner. Evasion and subterfuge are near of kin to lies. The child very soon learns to translate the "I do not know" of his parents as "I do not wish to take the trouble, or I don't want to be bothered," and himself assumes the same rôle. When he is questioned concerning things he for certain reasons prefers not to disclose, he answers, "I don't know," and feels he has a legitimate right to do so.

Parents who desire their children to love the truth must not only be themselves truthful in speech, but in their whole behavior; their deeds must be honest, sincere, and upright. Artifice to gain their purpose or spare themselves trouble should never be employed. Their word, once given, should not be broken. Many parents teach their children untruth by threatening to punish them and failing to carry out their threat, or by making some promise which they fail to fulfil. As one's plans are liable to unexpected and unavoidable changes, it is of the utmost importance that no unconditional promises should be made a child which if broken will involve one's veracity. Lack of forethought and care on

the part of parents in regard to their own treatment of the child is largely responsible for habits of untruth. Says Nora Archibald Smith: "Of all motives of falsehood *fear* is perhaps the most common and powerful, begins earliest, and lasts the longest. In its normal state it is placed within us as a kind of necessary brake or safety attachment, but note if by your treatment of the child you have not so aggravated the instinct that he is rendered absolutely incapable of truth-telling when

under its influence. It is not probable that he stands in bodily terror of you; but he fears your impatience, your passion, and your cutting rebuke. He deserves punishment, and probably knows it as well as you do; but your former judgments of him have been so disproportionately severe, and your uniform treatment so harsh, that you have added a thousand times to his natural equipment of fear, while you have lessened his courage in the same proportion."

(To be continued.)

CHILD-TRAINING AS A STUDY.*

BY PROFESSOR M. V. O'SHEA.

It is a remarkable fact that every one thinks he knows how to train a child, and it is impossible to convince any one who has had any experience with children, that he has not proceeded along the right lines. The reason for this is that no one is willing to recognize that he has made a failure in training the children which have been under his care; and this is only natural. I think, however, all must admit the fact that no such thing exists as the science of childhood. We have all sorts of sciences which teach everything except the development of child life; but so far as we have any system of training for children, it is based merely upon tradition,—upon practises which we have received in large part from those who have preceded us; and so far as there has been any attempt to train children rationally, it has been based upon observations made incidentally, or in most cases even accidentally.

But there is a great change taking place. There is a feeling everywhere that we should know the lines of develop-

ment of childhood better; that there ought to be some science which concerns itself with the rational development of child life, and that those who train children ought to know something about it. In the past people have not thought it worth their while to study children carefully or thoroughly. They have believed that their simple contact and association with child life was enough to give them a complete knowledge about the child. We are all too apt to feel that when we are associated with objects, we know all about those objects. But nothing could be more erroneous than this idea; and if we stop to think of it as applied to other matters, we shall see its bearing upon this subject. For instance, a farmer does not necessarily know everything about agriculture simply because he has always been in contact with agricultural implements. Hence we have institutions in which agriculture is taught scientifically, and where those who wish to understand the best methods of tilling the soil can go for instruction. A man may live all his life on the open prairie, with the sky over his head every night for forty years,

*Extracts from a lecture given at the Battle Creek Sanitarium.

and yet know nothing about astronomy. Mere contact or association with things does not give a complete knowledge of them. So, because teachers or parents are in constant association with children, that is not sufficient argument that they know all about child life or how to train children.

I am glad to say that people are coming to recognize the study of child life as demanding the employment of the best men and women that can be found. The time has been when it was generally considered that everything relating to child life ought to be left to women—that it was not worthy the attention of men; and even yet there exists to some degree a feeling that those who are connected with the training of children are not engaged in a calling which demands the best intellect and the best art. Teachers are not held in as high esteem as the doctors, lawyers, ministers, or even the successful business men of the community. I feel sure, however, that the day of these feelings is fast passing away; that people are coming to recognize that it requires the clearest head and the noblest intellect to deal intelligently with children; and that it is the noblest calling in which one can be engaged, to be connected in any way with the development of child life. The time is certainly forever past when men who are engaged in this calling were looked upon as in some way inferior, and incapable of engaging in other business.

There are already in this country nine State associations for the scientific study of child life, and almost every city in our Union has mothers' clubs and other organizations for the purpose of studying child life in one way or another. Dr. Stanley Hall, of Clark University, has been making very extensive investigations about many features of child life—upon the development of anger in children; upon the development of life, of fear, of

affection, and a great many other things of this kind. He has received from teachers and parents something like thirty thousand careful answers to questions upon all these topics. These have been worked over and classified, and he is now giving us a sort of science of child-training based upon these very extensive data.

I have spoken of the scientific phase of the study of child life. There is another phase, which is not in any sense scientific, but exceedingly practical, and that is the study of children as individuals, by the parent and teacher, so that they may know what the true nature of the child is, and thus shape the training to his particular needs, capacities, and peculiarities. Each child, if he is to realize his highest possibilities, must be dealt with in a special, individual manner.

During the last twenty-five years there has been a very great change made in the methods of studying nature. Most of you who have studied botany, even a decade ago, did all your work in the classification of plants; it was presumed that the whole botanical world was governed by fixed laws, and that the proper way to study it was to classify it; but to-day no good teacher teaches botany in that way, but he studies the life of the plant,—the history of the plant,—because no plant is stationary and fixed either in its construction or habits, and therefore we cannot classify it with exactness. Besides, the essential thing in our plant study is to know how the plant came to be what it is; how it has been shaped by its environments; what it has grown out of, and what it is pointing toward. In the same way we are to study the evolutions of the child's mind, and the capabilities, characteristics, and tendencies which he has brought from his ancestors.

The child comes into life with certain profound instincts. These instincts are

associated with his development, and each of them has a purpose in his training. He can reach his highest development only by giving these things free play. It has not been realized until recently, that the mental conditions in childhood were based upon natural laws; that children are not all alike; that we cannot teach them by age or by the color of the hair or eyes, or by the nationality, or by any other general scheme like that; but that every individual is an individual unto himself, and that before we can deal with him most wisely, we must know his capabilities and tendencies, and then base his training upon this knowledge. So this second feature of child study is by far the most important for those who are

engaged in the practical work of training children. Children have a normal life to develop, and every parent and teacher should try to find out what that line of normal development is, and then to minister to it. I think that the greatest thing that can be said of any one having the care of children, is that he has a proper sympathetic attitude toward them. A person who is truly sympathetic toward a child will make this sympathy more prominent than the authority of the disciplinarian and guardian, which tends to suppression. The greatest mission of the parent and teacher is to minister to the true interests of childhood, and these they can best ascertain by a wisely sympathetic attitude toward all children.

THE HIGHER MOTHERHOOD.

WE hear a great deal about the higher criticism, and the higher life, and the higher education of women, but comparatively little of the higher motherhood. In fact, many are like those Christians described in the Acts — they have not so much as heard whether there be a higher motherhood.

Many a woman goes to her grave in the placid conviction that she has been a good, a model mother (and her conviction is echoed in the opinion of her neighbors), who has never done a thing for her children except to feed and clothe and cuddle them.

There is an expression used by kindergartners, "spiritual mothers and physical mothers," that expresses very well the distinction. Sometimes this higher nurture has to be given through other care than hers who bore the child; and if one could choose, who would not rather inspire and nourish a child's soul than to bring to birth and rear his body? But real mothers ought to do both.

If a woman once catches sight of this higher motherhood, it takes the drudgery out of child nurture forevermore. She sees that her work is not mending pinafores and washing faces, any more than an artist's work is scraping palettes and cleaning brushes. To be sure, an artist does both, just as a poet studies punctuation and corrects proof, but this is not the work for which they live. Drudgery becomes divine when it is seen as a means to an end; it is belittling only when it becomes itself the end and object.

If one doubts that there is need of the higher motherhood, let her study twenty mothers she knows in reference to these questions. Are books to feed the child's mind provided as generously and regularly as his daily meals? Is as much care expended to provide exercise for spiritual powers as is given to the furnishing of sand piles and playgrounds for the strengthening of his body? Is as much time given to the study of his aptitudes and tastes as to the beauty and fitness of

his clothes? Is the keynote of the house *comfort*, or is it *character*?

When mothers realize the high calling to which they are chosen, we shall hear less of the drudgery, the narrowness, the cramping bondage of child-bearing. It is small mothers that make the life small. A woman who sees the all-round work of child-culture will recognize that she has a profession that compels a more symmetrical development on the part of the individual who attains success in it than does any other.

The reason why mothers sometimes become tiresome and petty is not because they are mothers, but because they are not mothers enough. They have been mothering only one side of their child's life, and so have missed the development that would come to them in the struggle for complete motherhood. Let the most ordinary woman grasp this conception of motherhood, and begin to struggle toward living it out, and she will grow intellectually and spiritually every day she lives. The attempt to direct the growth of the

whole child will inevitably react upon her own nature. Let a woman realize that to be a great mother requires the highest possible human endowment and culture; that it makes, in fact, higher demands than does art of the artist, or literature of the novelist, and she will begin to glory in her profession. A musician, even though humble, takes pride in the fact that he belongs to the glorious fellowship who are making such harmonies as the "Moonlight Sonata" of Beethoven. So let the mother exult that she is in the high company of those who are doing a work infinitely more intricate, more delicate, more beautiful, more divine than that of any artist on earth. The call to be a mother is not to be a nurse or a serving-maid. It is to be a co-worker with God. A woman who knows this will not fret over years of nursing and serving any more than did Jesus over his eighteen years at the carpenter's bench. That was not the work for which he came, but it was a scaffolding on which his work could be built. — *Home Interests.*

STAR OF NIGHT.

TEACH me, O star of night,
With modest, steady light,
Obedient, glad, to go the way
From which God bids me not to stray;
Teach me, O star of night!

Teach me, O flowers of night,
To wait for summer bright,
And in the midst of earth's deep woe
To sprout beneath the winter's snow;
Teach me, O flowers of night!

Teach me, thou verdant wood,
To shelter if I could
Each being, friend or foe, whose face
I meet in treading earth's great race;
Teach me, thou verdant wood!

Ye ocean waves so fair,
Teach me my yoke to bear,
And, like you, when day's voices cease,
Reflect a thought of heavenly peace;
Teach me, ye waves so fair!

O sun, at cool of even
Show me the way to heaven;
Teach me to find in earth's dark night
The promise of eternal light;
Teach me, O sun, at even!

— *Christian Richardt (from the Danish).*

A Poisoned Mind.

The confession of Joseph E. Kelley, the wretched young murderer at Somersworth, N. H., shows how a boy can educate himself for his first evil deed, and for a career of crime.

Kelley was employed in Somersworth, and had a room near a bank. He was known as a bright and capable, but rather "fast," youth, and people who gave him work were kind enough to overlook the fact that he had once "done time" for taking what was not his own. Being heavily in debt, he cast covetous eyes on the money-vaults near him, and determined to procure money the shortest way.

On the 16th of last April, at the noon-hour, he entered the bank on a pretended errand, forced his way through the private door, brutally murdered the aged cashier, and made off with several thousand dollars. Very soon he was traced and pursued, and being caught almost "red-handed," confession of his deed was inevitable.

The testimony of neighbors who had known him from childhood in his native town of Amesbury, proves that his story of himself is not a mere swagger for newspaper sensation. Their statement is that "he was an inveterate reader of cheap literature." "He developed criminal instincts in his early youth." "When very young he was branded as a thief."

His confession follows the same order, and begins with the same explanation: "When I was a little boy, I began reading novels. I read anything and everything I could get, mostly about mysterious crimes. We were pretty wild boys in Amesbury, and I was the wildest of the lot. We were a gang—sometimes there were nine or ten. We took whatever we could lay our hands on."

In the "little boy" devouring exciting

stories of successful wickedness was shaped the character of the young man who now, at the age of twenty-two, stands in the shadow of the gallows.

Charity will plead at his trial the warping effect of a physical injury to his brain, and justice will give such a plea for the unhappy culprit all possible latitude; but it is too sadly probable that the mental and moral poison imbibed in childhood must account for Kelley's viciousness after as well as before the accident of his youth.—*Youth's Companion*.

Telling Stories to Children.

The nervous child should be protected from all shocks; all sudden excitements and terrors contain poison as subtle as the microbes of contagious diseases. The thoughtless, practical jokes which older children will play at times upon the young and timid should be guarded against. "Old wives' tales," as Shakespeare calls them, have often a bad influence upon a nervous child. The healthier children can cast off the effect of these blood-curdling yarns; but to the frail little one this is well-nigh impossible, and the hideous memory remains to shatter the nerves and poison the life.

THE radiant serenity of soul, the bright clarity of thought, the genial tolerance of views opposed to your own, are the essential conditions of that happy exchange of winged felicities which I call conversation.—*Hjalmar Hjorth Boyesen*.

I SAW old Autumn in the misty morn
Stand shadowless like Silence, listening
To silence, for no lonely bird would sing
Into his hollow ear from woods forlorn,
Nor lowly hedge nor solitary thorn;
Shaking his languid locks all dewy bright
With tangled gossamer that fell by night,
Pearly his coronet of golden corn.

—Hood.

SANITARIUM DRESS PATTERNS.

"I CANNOT wear this waist of yours," exclaimed a patient recently, as she entered the dress department rooms with a Freedom waist. "I absolutely cannot feel that I have anything on."

"If you had studied for a whole week, you could not have said anything to please me better. For three years I have been working to get just that effect," answered the genial mistress of the department.

This lady had worn a corset so long and worn it so tightly that when the restrictions were at last removed, the weak, unused muscles, cramped and crippled out of all semblance of natural vigor, cried out that they could not support the body. The sudden release was such a surprise to the hitherto artificially supported tissues that they could not at once accustom themselves to the new conditions. It would take months of training to develop the wasted muscles so that they would need no assistance in supporting the vital organs which had been



A WOMAN WHO NEEDS NO APPENDAGES.

crowded up and crowded down to give that wasp-like form so much desired by the fashionable world.

We have since learned that this same lady, after returning home, has laid aside her corset, and is giving her body a

chance to recover from its deformity.

As has before been said in these columns, no woman can be pleased with the effect of the garments produced by the



A MADE-UP FIGURE.

dress department of the Battle Creek Sanitarium unless she is careful to maintain the proper poise of the body. The two cuts herewith presented give a vivid idea of the difference between the perfect poise of a normal figure and the position of a form distorted by tight lacing.

It is related that the maids of honor of the queen of Austria were so horrified at the X-ray pictures of their own bodies that they have reformed. What a travesty of womanhood must greet the eye of our Creator when he looks upon the modern woman!

A few days ago, in one of the fashionable dress emporiums of Chicago, a young lady was having a dress fitted. Tighter and tighter the stays were drawn, until at last the lady herself was satisfied with the effect, when a little colored girl, employed as door-tender, eagerly noting the work that was going on, exclaimed to her mistress, "Well, Miss Mary, where is the place for the innerds?" No wonder "the whole creation groaneth and travaileth in pain." They ought to.

So many inquiries are coming to us in regard to paper patterns of our gowns that it seems necessary to explain that there are no *paper* patterns of the gowns advertised in *GOOD HEALTH*, the only pattern furnished being the cloth model, which is really the same as a gown form, or lining, with the parts all basted together. With such a model to look at, there can be no mistake in properly adjusting all the parts of a garment. The model may be taken apart, and used in drafting a paper pattern if desired, or as the pattern for cutting the gown. The price of the model — five dollars — may

seem a good deal to pay; but it should be remembered that a model once cut to fit the form can be used for innumerable gowns, the outside being simply built upon this lining in any way desired. Hence one who purchases a model will be careful to preserve it in just the way it was sent to her, so that it may serve as a guide in all her dressmaking. The gown form is an invention of recent years, and the possibilities for variety in the garments built upon it are beyond number. Measurement blanks of models will be sent on application to the Dress Department of the Battle Creek Sanitarium.

CORSETS AND SMALL FEET.

IN some unpublished manuscript from the pen of Dio Lewis, furnished by the widow of the late famous but somewhat erratic doctor, is this story: —

During a Pacific ocean voyage I once made I met a very intelligent Chinaman with whom I had long conversations. In one of these chats I asked about the little feet of the women.

"It is far from universal," he replied, "but with those who can afford it, it is of course very beautiful."

"But such a monstrous violation of nature," I suggested.

"It may seem so to you," he said, "but of course it is very nice."

"The victims must find it difficult to walk."

"They manage to get about, and are quite willing to submit to the inconvenience for the style. You know, of course, it is very lady-like."

"Does it not involve much suffering?"

"Indeed it does, but no lady minds that when it lifts her above the big-footed women. No lady could stand very high with big feet, you know."

"Have you never heard any protests among your people against the practise?"

"Sometimes a man with inadequate means may set aside one of his daughters for small feet, and his neighbors will say that he can't afford it. But I never heard any other objection."

"Are the women with small feet as healthy as those with large feet?"

"Of course they are not so robust, but a woman is tough, and you can't kill her very easy."

This conversation and others on the same subject occurred in the presence of several ladies, one of whom, I had observed, was excessively corseted. Her waist, which naturally would have been fully twenty-eight inches, was distinctly under twenty-two.

At the close of the above conversation, I asked the lady with the little waist what she thought of our friends' views on little feet.

She did not hesitate a moment — was evidently full of the subject.

"If the gentleman will excuse me, I think little feet and his defense of them perfectly ridiculous. Does the gentleman suppose that God does not know how to make human feet? Does the gentleman think God has no taste? That

after he has finished a girl she must be tortured for years and made a cripple for life in order to make her beautiful? I never heard anything so absurd in all my life!"

My "little game" was working admirably. I felt there was no danger of a scene, for I knew our Chinese passenger was a marvel of social delicacy. I have rarely listened to a conversation with so much interest. Most of the talk was by Miss Wasp Waist, and was truly waspish. He, on the contrary, said little, but that little was uttered in the low voice of the Chinese gentleman, and evinced an unexpected acquaintance with the disastrous results of the corset. The conversation continued an hour, but I have only space for a few sentences.

"Will the young lady pardon me? I hope she will not think that I intend to give offense. The customs of my country may seem barbarous to her, but—"

"That's just it, sir, they are barbarous, but then the Chinese are put down among the half-civilized nations. They deserve it. To think of squeezing a poor child's feet for years and years, then leave her to limp and crawl about all her life, and pretend that they do it to make her beautiful! Why, I never heard anything so monstrous. I am glad I don't live in such a country. If I found myself there, I would flee to some part of the world that is civilized, and free from such barbarous notions."

"Will mademoiselle be so good as to tell us to what country she would flee?"

"To any place where they had sense enough to let their children's feet grow."

"Mademoiselle would prefer America, would she not?"

"I should naturally prefer my own country, of course. Now I know what you are going to say, but wearing shoes with narrow toes and high heels don't turn the wearer's toes way back under the

hollow of her foot, and reduce the whole foot to one third of its natural size."

"Will mademoiselle permit me to speak of another practise of her countrywomen which seems to me tenfold worse and ten times more common than the foot-squeezing among the ladies of my country?"

"Certainly, sir, speak freely. I insist upon the right to speak without reserve, and give the same right to others."

"If mademoiselle will pardon me, I refer to the American custom of tight-lacing. To me it seems vastly worse than foot-squeezing. To squeeze the lungs, liver, and stomach, and force a large part of what belongs in the center of the body down into the lower part of the abdominal cavity, seems to me a hundredfold worse than our custom of foot-squeezing. Don't you think so, doctor?" he asked, turning to me.

"You must not get me into a quarrel with these ladies," I said, "they would not thank me for saying what I think."

"Speak out," exclaimed several ladies. But I declined all participation in the discussion.

Miss Wasp Waist, whose vitality and temper had been spoiled by her corset, exclaimed:—

"I have heard about this tight-lacing all my life, but have never seen it. I have never known any lady who indulged in tight-lacing. Of course a lady with taste does not let her clothes hang from her shoulders and flap in the wind; she has them fitted to her form, and made trim and tasteful; but that is not tight-lacing."

Our Chinese friend said, after a long silence, during which he wore a curious and puzzled smile, "I have perhaps spoken too much, and I may not understand the subject of ladies' dress. I trust I have said nothing to hurt mademoiselle's feelings."

The ladies urged him to continue his remarks. He politely but firmly declined.

HOUSEHOLD HINTS.

FINE crystal should not be washed in very hot water, but dipped in tepid suds and then into clear cold water dashed with ammonia.

A very simple and practical way of renovating black silk has been suggested, and proved its efficiency. It is to wash the silk in cold water into which has been thrown a handful of common salt, and iron before the silk is quite dry. The salt keeps the color, and prevents the silk from getting stiff when ironed.

Nothing is better for restoring the brightness of polished tables than rubbing them with a linen rag dipped in cold drawn linseed-oil.

A good handful of salt should be added to the water in which matting is washed. The salt keeps the matting in color. Do not use soap.

To renovate clothing, first remove all dust with a brush. Spots may be taken out of dark goods with a brush dipped into equal parts of ammonia, alcohol, and water. This will brighten the goods as well as cleanse them. If the fabric is very much soiled, it is better to wash in water with soap-bark, then rinse well, and nearly dry. Benzine should be used for removing grease spots, and a soft flannel should be employed for silk, and a fine brush for velvet or cloth.

White spots can be removed from furniture by holding a hot iron over, but not on, the place.

The yolk of an egg in half a pint of tepid rain water, with a little powdered

borax added, and a teaspoonful of spirits of camphor, will take spots out of black goods.

The old-fashioned method of washing windows with soap and water is well-nigh obsolete. The professional cleaners provide themselves with a piece of old cotton cloth, which is dipped in alcohol in which whiting is mixed. This is allowed to dry on, and is wiped off with a soft chamois.

An excellent wash for stained boards is made by boiling one-half pound of slacked lime and one pound of sal-soda in six quarts of water for two hours. Let this settle, then pour off the clear part for use.

You can tell if a bed is damp by laying a hand-glass between the sheets for a few moments. If the sheets are not properly dried, the glass will be clouded.

Pearl knife-handles should be rubbed with a soft rag dipped in fine table salt, then polished with leather.

Toilet Glycerine.

One of the most delightful preparations for toilet use is made as follows: Take a handful of fresh rose geranium leaves, put them into a can or jar holding about six ounces, and pour over them four ounces of pure glycerine. Set the jar away till the juice of the leaves is thoroughly extracted, say a month or two, then pour off the liquid, and press the leaves thoroughly. The juice in the leaves seems to cut the glycerine like alcohol, besides adding to it a delightful perfume.

EDITORIAL.

CHRONIC POISONING FROM THE FREE USE OF FLESH FOODS.

It is interesting to note that scientific men in all parts of the world are awakening to the fact that the flesh of animals as food, is not a pure nutriment, but is mixed with poisonous substances, excrementitious in character, which are the natural result of animal life. The vegetable stores up energy. It is from the vegetable world—the coal and wood—that the energy is derived which runs our steam-engines, pulls our trains, drives our steamships, and does the work of civilization. It is from the vegetable world that all animals, directly or indirectly, derive the energy which is manifested by animal life through muscular and mental work. The vegetable builds up; the animal tears down. The vegetable stores up energy; the animal expends energy. Various waste and poisonous products result from the manifestation of energy, whether by the locomotive or by the animal. The working tissues of the animal are enabled to continue their activity only by the fact that they are continually washed by the blood, a never-ceasing stream flowing through and about them, carrying away the poisonous products resulting from their work as rapidly as formed. The venous blood owes its character to these poisons, which are removed by the kidneys, lungs, skin, and bowels. The flesh of a dead animal contains a great quantity of these poisons, the elimination of which ceases at death, although their formation continues for some time after death. An eminent French surgeon recently remarked that “beef tea is a veritable solution of poisons.” Intelligent physicians everywhere are coming to recognize these facts, and to make a practical application of them.

In a recent article in the *Medical Record*, Dr. Thomson, of New York, one of the lead-

ing physicians of the metropolis, calls attention to the relation of meat-eating to some forms of nervous disorders, particularly disorders affecting the heart. The history of these cases indicates beyond a doubt that the symptoms presented are due to general systemic poisoning; and the relief obtained by the discarding of meats and meat extracts and the adoption of an aseptic dietary, clearly confirms the correctness of the views advanced, that in these disorders the primary morbid condition is the septic state of the alimentary canal, which gives rise to various toxins and ptomains that, when taken into the circulation, disorder every function and every vital process, giving rise especially to a great variety of morbid nervous phenomena.

Since the publication of the classical researches of Bouchard and Rogers, and the masterly demonstration of their practical character and bearing by Dujardin-Beaumetz and his colleagues, more advancement has been made in the development of rational therapeutic measures for the management of chronic nervous disorders than in a thousand years before. We are beginning to see clearly what was before seen as through a glass darkly, and scientific medical men unhesitatingly acknowledge that one of the chief causes of the increased multiplicity of maladies among civilized people, and perhaps the most important one of all, is the wide departure from simple and primitive habits in diet. It is perhaps not too much to say that at least nine tenths of all the maladies from which civilized human beings suffer have their origin at the dinner-table.

It is hard to suppress an exclamation of horror when one glances over the bill of fare handed him at a modern hotel or restaurant. What sort of brains, bones, muscles, and

glands can one expect to manufacture out of such indigestibles as cucumber pickles, pickled olives, mince pie, Saratoga chips, or decomposing milk in the form of Edam cheese? Little by little we have drifted away from the primitive simplicity of our vigorous ancestors until we have acquired a great variety of abnormal and artificial appetites and tastes. What would they have thought of such horrible comestibles as *caviar*, *pâté de foies gras*, stewed kidney, calves' brains, rams' testicles, pigs' feet, and sheep's intestines? We have become veritable scavengers,—consumers of offal; and it is no wonder that in order to render our stomachs content with such rubbish we are compelled to punish them into subjection by such dyspepsia-breeding articles as mustard, pepper, pepper-sauce, ginger, capsicum, chillies, and other things that burn and blister as they go down the esophagus. The wonder is, not that Americans are a nation of dyspeptics, but that there are to be found any sound stomachs among modern civilized men and women.

The consequence of all this dietetic sinning is that at an early period of life,—often before the child has attained the age of five or ten years,—the stomach is worn out, so that its secreting and its motor functions fail, and it becomes almost as inert as a pocket in a coat. Then, having lost its ability to purify and disinfect itself, it becomes the hold of every unclean and hateful germ which thrives in such an environment. The stomach no longer protects the intestines from the invasion of pathogenic and proteid-decomposing germs, and the whole alimentary canal soon becomes the habitat of microbes, varied in species, each manufacturing its own toxin or ptomain, and, altogether, flooding the system with poisonous substances which overwhelm the liver and pervert every vital process.

One of the first symptoms of this condition is what is commonly called "biliousness," which means nothing more nor less than a state of systemic poisoning, resulting from the presence of toxic substances in the alimentary canal. Nervous headache, sick-headache, neurasthenia, Bright's disease, paresis, and paralyzes of various sorts, skin

disorders, liver disorders, and an almost infinite variety of nervous difficulties may be accounted for in this way.

The attempt to cure these maladies by the administration of remedies which accomplish nothing more than simply to abolish the symptoms, as opium or chloroform abolish pain, is in the highest degree futile; and yet this is a method quite commonly employed. Any measure of treatment, to be really effective, must be based upon a recognition of the causes of the malady treated; hence in a great majority of the nervous and constitutional disorders, including most of the diatheses and degenerations, the thing of first consequence is the purification of the alimentary canal by means of an aseptic diet and the adoption of such measures of treatment as will aid the system in ridding itself of the accumulated pernicious poisons.

It is interesting to note the rapidity with which intelligent and observing physicians are coming to recognize the obnoxious character of a flesh diet in the great majority of these cases of systemic toxemia. The idea that butchers' meat is the most nourishing of all foods, and the thing most perfectly adapted to tissue-building, is an ancient error which is rapidly losing its hold upon the minds of progressive medical men; and even the laity are beginning to discover that meat is not the only substance from which blood and tissue can be formed.

Dr. Meinert's observations, which were published in this journal several years ago, showed most conclusively that chlorosis is dependent upon dilatation and prolapse of the stomach, the malnutrition present in so marked a degree in these cases being evidently due to a toxic condition arising from a stasis in the stomach and colon, caused by enteroptosis. Glenard and Bouchard have shown the same thing in relation to rheumatism, Bright's disease, and a variety of other chronic conditions in which the nutrition is profoundly disturbed. Dujardin-Beaumetz, Trastour, and other eminent French physicians called attention several years ago to the fact that in gastropnoia a flesh diet is particularly pernicious, on account of the too long retention of food in the stomach,

and the consequent putrefaction of proteids, giving rise to ptomaines and other toxic substances, some of which exercise an exceedingly potent and mischievous influence upon the body.

Especial attention has lately been directed to the valuable properties of fruit in antagonizing a state of chronic toxemia, it having been found by laboratory experiments that the germs which inhabit the stomach do not grow well in the juices of fruits,—at least those germs which produce toxins and ptomaines. Nothing will clear off a coated tongue so soon as an exclusive diet of fruit perseveringly employed for a few days. This is the secret of the grape-cure so popular in Switzerland. Apples, peaches, or almost any other fruit or combination of fruits answers the same purpose nearly or quite as well as grapes alone.

Kumyss and buttermilk have also proved of great service in these cases. It must not

be imagined, however, that a combination of these fruits, or kumyss and buttermilk, with the ordinary diet, will answer the same purpose, as this is by no means the case. Such combinations often prove extremely unwholesome, whereas fruit alone, or a diet consisting of buttermilk or kumyss alone, accomplishes results which are little short of marvelous. A very complete diet which is thoroughly aseptic and of immense service in the treatment of chronic toxemias, will be found in a combination of nuts and fruits with a small allowance of grain preparations in the form of dry breads, zwieback, or granose. Nuts in their crude or raw state are often quite indigestible; but when properly prepared by thorough disintegration and cooking, they are not only easily digested, but constitute a most nutritious food.

This subject is certainly one which will in the future receive far more attention than it has in the past.

DR. JOSEPH PARKER'S RÉCIPE FOR A GOOD SERMON.

THIS famous divine, who held immense audiences spellbound by his eloquence at the London City Temple, many years ago contributed to the *Moray Weekly* an article containing the following description of his method of keeping himself up to his work:—

“How do you use cold water, inside and out? Do you drink half a tumbler at a time? That is a mistake. Sipping is the way for a speaker, and the way for anybody whose throat needs a tonic. Take a sip of iced water every five minutes if you want to have a throat to work with. It is better than spraying the throat with bromin, or inhaling pine-oil, both excellent things in their way, but not much needed by the man who sips iced water. If my throat wants a little special petting in a heavy service, I keep a little raspberry vinegar in the pulpit. Some discerning and agreeable people have observed this, and called the colored liquid claret. I have never corrected them, and I beg that you never will. Why spoil their omniscience? And as to the external applica-

tion of cold water before preaching, there is nothing equal to the cold sitz bath. Mark, cold. Not seventy degrees, but cold as the weather runs. Give me that, and I am physically master of any congregation that ever assembled. I have come down to this place sometimes hardly able to stand, but one dip has made a man of me again. I have the most perfect bathing arrangements on these premises, and to them I owe no little of my comfort. First of all, take a good foot-bath. This is of great importance. Stand in cold water; if you have a block of ice, so much the better. Stand in it till the feet are red and numb. Having done that, sit down in another bath, and then have your bath-man pour a pail of ice-cold water upon the last joint of the spine, rub you till you think he is tearing your skin off; and I guarantee you will preach with vigor and comfort. I do something like this every time I preach in the City Temple; and if I did not do it, the City Temple would soon be too much for me. I never preach with comfort out of my own

pulpit on this very account. I believe in hydrophathy rightly administered. But where is it rightly administered? I don't know. I have seen it administered in a most ignorant and shameful way, greatly to the cost of the

unhappy patient. Is there a cloud upon your brow just before preaching? Lay a wet cloth on your forehead, and the cloud will go! It is not quite gone? Then the ice foot-bath will clear it off unquestionably."

ANTI-FAT REMEDIES.

I AM often asked to recommend some medicine for the cure of obesity, but am obliged to reply that there are none which can be properly prescribed by a rational physician.

But you say, "Are there no anti-fat medicines?" Yes; there are medicines which will cure obesity. I have known young ladies who have made themselves very pale, thin, and "interesting," as they thought, by drinking vinegar, eating pickles, etc. One young lady told me she had been taking half a glass of vinegar daily. She was thin, haggard, and almost as white as a corpse; she was in fact almost a corpse, as she had nearly killed herself in making herself thin and pale. She had destroyed her digestion, and by destroying her digestion she had made herself pale, bloodless, and thin. In the same way, the person who is overfat may destroy his fat by destroying his liver, by taking medicine which will destroy his digestion, which will render his liver inactive, and which will tear down his constitution. In this way he can render himself lean and poor, but he cannot afford it. The remedy is worse than the disease. The same is true of the man suffering from diabetes. If he would become intemperate, and drink whisky enough, he could cure his diabetes, but it would ruin his liver. In the same manner a person may be cured of obesity, but it is at too great a cost. Anti-fat remedies are all of them damaging; that is, those of them which have any effect whatever. Some years ago a lady gave me some anti-fat pills as a specimen of what she had been taking for obesity. It was guaranteed

that two or three of these pills taken two or three times a day for six months would cure the worst cases of obesity. I examined them and found that they were composed simply of chalk,—carbonate of lime,—nothing more. Of course they were perfectly harmless; they were doing no harm, but they were doing no good, except as a mind-cure.

The natural remedy for obesity is exercise and a restricted diet, and the reason that this disease has increased in America to a certain extent is that exercise is so much neglected. As people at the present time ride more than formerly, as manual labor becomes less necessary, as labor-saving machines have been brought into use, exercise has become less and less popular, and the result is, that obesity has alarmingly increased.

One of the forms of exercise that I should perhaps speak of more at length, is bicycle riding. I could not recommend this exercise to a person who weighs a quarter of a ton, but an obese person who weighs 175 to 200 pounds will find it an excellent exercise, and one of the best means of combating obesity.

I will only add that cold bathing is an excellent aid to diet and exercise in reducing flesh; but hot baths are not to be recommended except occasionally. They only abstract water, which is quickly replaced. I say this as the result of much observation and twenty years' experience in treating cases of this sort. Exercise and diet are the great remedies,—as much as possible of the first without exhaustion, and as little as possible of the latter without starvation.

Fortunate Lunatics.—A short time ago the city of New York passed a law to the effect that tobacco-using should no longer be

permitted in the insane asylums. That is certainly most commendable, but we suggest that the prohibition should be extended to the

lunatics outside of the asylum as well. Such a law would effect at once a much-needed reform which all the anti-tobacco societies and tobacco reformers have thus far failed to accomplish. If something is not done to check the increase of this evil, especially in our large cities, it will soon become impossible to escape from the vile odor of the poisonous weed unless one flees to a mountain-top or a New York lunatic asylum.

Drinking at Meals.

Drinking freely of tea and coffee, ice-water, and other beverages at meals, is a most pernicious practise. It is almost universally associated with the practise of "bolting" the food. It is better to drink nothing during the meal. The necessary amount of fluid may be supplied by taking a glass of water half an hour before eating. If the bill of fare includes a sufficient amount of fruit, no liquid will be necessary at the meal.

If soup or any other liquid food constitutes a prominent feature of the meal, there is certainly no need of taking drink of any sort. The effect of drinking at meals is not only to encourage imperfect mastication of the food, and overeating, but to diminish the secretion of saliva, thus interfering with the digestion of starch. The use of dry food, especially of such foods as granose or zwieback, is almost a panacea for digestive disorders of nearly every sort.

Too Many Varieties of Food.

Many dyspepsias arise from the eating of too many kinds of food at the same meal, another growing custom of modern times which deserves to be severely condemned. At great dinners in honor of distinguished personages, when friends are to be entertained, and in the majority of well-to-do families as a general custom, the eaters are tempted to gluttony by having presented to their palates a great variety of complicated dishes. On the occasion of the giving of a great dinner, more than a hundred dishes are sometimes served in successive courses. Such gormandizing soon breaks down the most vigorous digestive organs, since it adds

to the labor of digesting food which is improperly cooked, a larger variety than the digestive juices are capable of bringing into a fit state for absorption.

Food Combinations.

Careful experiments have shown very clearly that different classes of foods require a particular quality of digestive juices for their digestion. For instance, a gastric juice that will digest animal food the best, is inferior for the digestion of vegetable food, and vice versa. The obvious conclusion to be drawn from this fact is that the simpler the dietary, the more perfectly will the digestive process be performed. For persons whose digestion is naturally weak this is a matter of especial importance. The following table represents the best and worst food combinations:—

GOOD COMBINATIONS.

Grains and Fruits. Grains and Milk.
Grains and Meat, or Eggs.
Grains and Vegetables.

FAIR COMBINATIONS.

Grains, Sweet Fruits, and Milk.
Meat and Vegetables.

BAD COMBINATIONS.

Fruit and Vegetables.
Milk and Vegetables.
Milk and Meat.

Those foods agree best whose chief constituent elements are digested by the same fluid, in the same part of the alimentary canal, and in about the same length of time. Vegetables contain a great amount of coarse, woody structures, which are retained in the stomach a long time before they are sufficiently broken up to be easily digested in the intestines. Fruits, on the other hand, remain but a short time in the stomach. The large amount of saccharine matter which fruits contain, makes them likely to set up fermentation in the stomach, if retained too long. Acid fruits are also likely to delay starch digestion. This is another reason for their interference with vegetables, the starch

of which is rather more difficult of digestion than that of grains.

Milk and vegetables are likely to disagree, for the reason that milk, when taken by itself, is retained in the stomach but a short time, its digestion being carried on chiefly in the small intestine. Milk and meat form a bad combination for the same reason. Meat requires long digestion in the stomach, whereas milk, when taken by itself, is quickly passed on, to be digested by the pancreatic juice. When taken with meat or vegetables, milk, being long retained in the stomach, undergoes fermentation, resulting in sour stomach, biliousness, and various other unpleasant symptoms.

If the list of foods partaken of at a single meal were confined to three or four articles of food, there would be fewer dyspeptics scanning the newspapers for some patent nostrum to "aid digestion."

Vinegar.

As the use of vinegar is continually increasing, attention should be called to the fact that it may be a cause of disease. Ordinary vinegar contains about five per cent. of acetic acid, its principal ingredient. Like alcoholic liquors, vinegar is a product of fermentation, being the result of carrying a little farther the same process by which alcohol is produced. Vinegar is much more irritating to the digestive organs than an alcoholic liquor of the same strength. Its exciting nature makes it extremely debilitating to the stomach. Dr. William Roberts, of England, has shown that so small a proportion of vinegar as one per cent. completely arrests the action of the saliva upon starch. The writer's own experiments have confirmed the observations of Dr. Roberts.

The moderate use of a light wine or of ale or beer is much less destructive to the digestive organs than a free use of vinegar. This

remark is made, not to commend wine or beer, however, since these substances are possessed of no virtue, and are capable of doing a vast deal of harm. There is really no need of resorting to so inferior a source for a mild acid, as we have the want met most perfectly in lemons, limes, citrons, and other acid fruits. As a dressing for some kinds of vegetable foods, lemon-juice is a perfect substitute for vinegar. Recent observations have shown that the vinegar eels which are nearly always to be found in "good cider vinegar," often take up their abode in the alimentary canal, becoming intestinal parasites, and producing much mischief.



VINEGAR EELS.

Vinegar is often adulterated, containing a very small proportion, if any at all, of real apple juice, its acidity being due to hydrochloric or sulphuric acid; therefore such vinegar is even more destructive to the functions of the stomach and also to the teeth than ordinary vinegar.

A New Method of Studying Eye-Fatigue.

Kotz, a European investigator, has found that eye-fatigue may be easily studied by counting the number of winks per minute. He adopted this method in studying the effects of different methods of lighting upon the eye, as follows: With a candle, 6.8 winks per minute; with ordinary gas, 2; with sunlight, 2.2; and with the electric light, 1.8, from which it appears that the electric light is even superior to sunlight as a means of illumination. Professor Kotz concludes that any form of lighting which produces more than three winks per minute should be considered harmful, and should be rejected.

ANSWERS TO CORRESPONDENTS.

GRAY HAIR — DANDRUFF — KEROSENE ON THE HAIR — BICYCLE RIDING.—Mrs. R. W. requests answers to the following questions: "1. Can hair that is turning prematurely gray be restored to its natural color? and how? 2. Is there anything that will keep the scalp free from dandruff? 3. Is kerosene good for the hair? 4. Is bicycle riding injurious, as many physicians claim? 5. Do you recommend it to weak women?"

Ans.—It cannot, for the hair follicle is dead, and cannot be renewed.

2. Shampooing with Castile soap and warm water as often as once a week is usually successful in removing dandruff.

3. Kerosene should not be used on the hair except as a parasiticide.

4. Not when judiciously used.

5. Women suffering from special weaknesses, such as displacements of some sort or inflammatory pelvic trouble, should avoid bicycle riding until after these difficulties have been cured, and should always avoid violent exercise upon the bicycle. The bicycle judiciously used is an excellent means of exercise for women as well as for men, but care must be taken to avoid excess and violent straining, especially in riding uphill.

BITTER TASTE IN THE MOUTH — PROLAPSED STOMACH.—L. V. S., of Iowa, asks: "1. What causes a bitter taste in the mouth in the morning in one who lives on a vegetarian diet exclusively, even to the discarding of butter? Fruit is eaten freely, and very little sugar used. 2. Can the stomach be restored permanently to its normal position after it has been badly prolapsed for some time? The patient learned to replace the stomach and colon while at the Sanitarium Hospital, but it does not seem to make much advancement toward holding itself in position."

Ans.—Probably germs, though it may arise from bile poured into the stomach as the result of prolapse.

2. In most cases of prolapse of the stomach the organ can be restored to nearly the normal position by a judicious application of massage and the development of the abdominal muscles; the development of these muscles is the most essential thing for a permanent cure.

TUBERCULOSIS — DYSPEPSIA.—A correspondent in Iowa (M. E. G.) asks for suggestions as to the treatment of tuberculosis. The patient has a short, dry cough, expectorates sometimes white and sometimes yellow phlegm, and at times coughs up small, clear, hardened masses.

Ans.—We cannot give a diagnosis from your description, but would suggest that the patient be examined by a competent physician. It is quite likely the patient may have tuberculosis, and if so, it is vain to expect a cure from any local applications by means of a vaporizer or nebulizer. A change of climate is essential. We recommend this patient to correspond with the Colorado Sanitarium, Boulder, Colo., an institution in which many consumptives have already been cured.

DYSPEPSIA — HEART TROUBLE — NASAL CATARRH — INSOMNIA.—"Buckeye," of Ohio, relates the following symptoms, and asks for a diagnosis: "1. Good appetite, yet continual loss of weight and strength, with occasional temporary gain; functional heart trouble; gaseous distention, with peculiar nervous phenomena; excessive nasal catarrh for years; tongue coated and abnormally red; color and surface circulation pretty good; nervousness and dependency, these conditions varying considerably with weather changes. The patient can eat stale whole-wheat bread, boiled beef that has been ground, and butter; but cannot eat potatoes, peas, milk, cream, eggs, nor any acid fruit. 2. In persistent insomnia, is it not better to eat a slight lunch at night than to take a hypnotic?"

Ans.—1. Improper food combinations, disturbances of the sympathetic nervous system, with a lowered vitality, are sufficient to produce the symptoms enumerated. The patient should not eat fruit of any kind with milk. With a dry diet, such as zwieback or granose, there would probably be no trouble with fruits. Fruits, grains, and nut preparations form a perfect dietary. The patient should have a thorough course of treatment at some sanitarium, as the whole system needs rebuilding.

2. The condition which gives rise to insomnia is only aggravated by a midnight

meal or any hypnotic. Try a bath at 92° F. for from half to three quarters of an hour just before going to bed. After the bath apply the moist abdominal bandage described in the article on "Practical Hydrotherapy" in the October number; or if that cannot be obtained, a towel wrung out of cold water and placed over the abdomen and covered with a dry towel pinned around the body will answer the purpose. Take a cold sponge bath every morning. Exercise freely out of doors. Eat nothing after 3 o'clock P. M.

NUTTOSE AND BROMOSE IN FEVER.—A writer in South Carolina (J. M. S.) wishes to know if nuttose and bromose are suitable foods for childbed fever. The patient has been a very strong woman, but complains of pain in the stomach and bowels, and a heavy feeling in her head and neck. She would be thankful for advice as to treatment.

Ans.—Bromose dissolved in water would be an excellent food in a case of this kind. The treatment required in this case depends upon the stage of the disease and the immediate symptoms present. We should hardly dare undertake to make a prescription from the symptoms given.

SUMMER COMPLAINT.—W. B., Oregon, asks: "1. What is the cause of summer complaint in young children of two or three years? 2. Is it best to keep all fruit and water from them at such time? 3. What is the best remedy?"

Ans.—1. Germs. There is no malady which has been more clearly proved to be due to germs than bowel difficulty in children. The source of germs, of course, is bad food or bad water. The most prolific source of disease-producing germs to which children are exposed, especially young children, is milk. The danger to the health and lives of young children from this source is so great that it is improper and dangerous to make use of unsterilized or unboiled milk at any season of the year, particularly in the summer season. Of course it is possible to obtain milk from a healthy cow which is practically free from germs, but the milk obtained from a public dairy is certain to be contaminated with germs capable of producing

fermentation and other digestive disorders; also in the summer season, cattle are often overheated, and not infrequently drink impure water from streams and stagnant pools which are almost certain to be infected with germs capable of setting up such disorders as dysentery, summer diarrhea, and similar maladies. At all seasons of the year the milk of cows is likely to be infected with germs of tuberculosis. If milk is to be used, the only safe way is thoroughly to sterilize it.

2. Children should be supplied with abundance of pure water at all times. Fruit properly prepared is seldom the cause of digestive disturbances in children two or three years of age, although when the stomach and bowels are in an infected condition, as during an acute attack of digestive disorder, it may be best to omit fruit for a day or two. The best diet in such a case is found to be malted nuts either with or without admixture of thin well-boiled and strained gruel made from oatmeal or wheat meal.

3. The alimentary canal should be thoroughly emptied by means of a copious water enema and in some cases washing the stomach with a small stomach-tube is of great service.

NEURALGIA.—Mrs. W. H. I., South Carolina, writes to ask: "1. What should be the diet of a person who is subject to attacks of neuralgia? 2. Is there any cure for it?"

Ans.—1. Neuralgia is generally due to a disordered condition of the stomach. Not infrequently dilatation or prolapse of the stomach is found to be present. A disordered stomach injuriously affects the sympathetic nerve, and, through it, disturbs the general nervous system, provoking neuralgia, nervous headache, sick-headache, and similar difficulties.

2. Yes.

OLIVE-OIL.—A. L., Indiana, writes that there are several olive-oil enthusiasts in his community, who use the oil freely at meals or one hour afterward, and declare that it is helping their digestion. He asks: "1. What is your opinion of this remedy? 2. On what is the improvement based?"

Ans.—1. There may be cases in which olive-oil used in moderation might be beneficial, but being a free fat, it is very likely to disturb digestion sooner or later, while emulsified fats do not have this effect. Nature provides fats in an emulsified condition, as in cream, nuts, and other natural sources of fat. Fats are not digested in the stomach, and when in a free state, are likely to interfere with the digestion of other foods.

2. A certain amount of fat is necessary for normal nutrition. Many persons, especially vegetarians, suffer from an insufficient amount of fat in their dietary. The deficiency may be supplied by using nuts freely. Such nuts as pecans, hickory-nuts, and almonds are quite easily digested in their natural state; but the digestibility of all nuts is improved by thorough cooking and disintegration, by which means nuts in their natural state very refractory to the digestive organs, such as peanuts, may be rendered so digestible as to be accepted and readily digested by the most delicate stomachs. Nuts are stimulating to both the stomach and the bowels, and when well digested, promote the development of fat and blood more rapidly than any other food substances. They present nutrient material in its choicest form.

DEAFNESS.—N. L. B. W., Wisconsin, is a man of seventy-five years. He has enjoyed reasonably good health during his lifetime; but for a year or two past his hearing has become defective, until now he cannot understand common conversation. He has heard "crickets" singing in his ears for the last twenty years, but there has been no other sign of catarrh. He wishes to know if there is any help for him.

Ans.—If this patient cannot be cured, it is quite possible that the hearing may be improved by proper treatment; and it is more than probable that he may be wholly relieved from the tinnitus aurium, or "singing in the ears," of which he complains. If his circumstances will permit, we would advise that he make a visit to the Sanitarium at Battle Creek, where attention can be given to his general health as well as to his local condition. If he cannot do this, he may perhaps

with advantage consult some local physician, and, if possible, a specialist in the treatment of diseases of the ear.

ACID DYSPEPSIA—MALTED NUTS—SOMATOSE—BISMUTH.—W. J. W., New York, asks: "1. Should one suffering from acid dyspepsia use fermented or unfermented bread? 2. When the malted nut products give rise to increased acidity, what can one best eat to make fat and blood? 3. Can you recommend the food known as Somatose? 4. What harm, if any, can come from the long-continued use of bismuth for tenderness in the stomach? 5. How long should it be used? 6. Can antiseptic charcoal tablets be used continuously without harm? 7. Is there any uncooked breakfast food which contains all the elements of wheat, made at the Battle Creek Sanitarium?"

Ans.—1. Avoid fermented bread, soda biscuit, and soft bread; use only hard dry water-breads. Thorough mastication of food is essential in acid digestion.

2. It is scarcely possible that all the malted nut products will give rise to increased acidity. Try maltol or nut cream.

3. No.

4. None, except inactivity of the bowels.

5. Two weeks.

6. Yes, if necessary; but the conditions making the use of charcoal necessary may be cured by the adoption of appropriate means, such as regulation of the diet, replacement of the stomach, improvement of the general health, etc.

7. Yes, wheatose and hulled wheat.

HOW TO COOK GREENS, BEANS, AND CABBAGE—MASSAGE.—T. L., Kentucky, asks: "1. What is the best way to cook greens, green beans, and cabbage? 2. What does *massage* mean?"

Ans.—1. For precise directions, see "Science in the Kitchen," by Mrs. E. E. Kellogg, published by Modern Medicine Publishing Company. Persons suffering from dilatation of the stomach should avoid foods containing a large amount of coarse and woody material.

2. Massage is a mode of passive exercise consisting of rubbing and kneading the muscles with the hand by an expert.

LITERARY NOTICES.

WALTER A. WYCKOFF'S most interesting narrative of his experiences as a laboring man describes in the November *Scribner's* his work as a "Farm Hand" in Pennsylvania. That there is work of this kind for those who want it appears evident from the following bit of dialogue between Mr. Wyckoff and a farmer:—

"'But, surely,' I said, 'more men apply to you for work than you can possibly employ.'

"He looked at me with some wonder at my ignorance. 'For a long time I have been looking for a man to help me,' he said. 'I'm growing old, and I can't do the work that I once did; and if I could find the right man, I'd keep him the year round and pay him good wages. But the best young fellows go to the cities, and the rest are mostly a worthless lot. There's hardly a day in the year when I have n't a job for any decent man who'll ask for it.'"

THE *Outing* magazine for October is a seasonable and beautifully illustrated number. The promise of the richly tinted cover is more than fulfilled by a charming assortment of elegant illustrations and seasonable sketches of autumn sports.

THE October number of *Trained Motherhood* contains a number of articles which will greatly interest young wives and mothers. The department of Nursery Talks, which is edited by a mother, is full of practical suggestions. In Motherland is a department of practical talks written from the standpoint of the mother

to the mother about such things as interest a mother. Clothing of children is fully illustrated and described, and many hints are given as to the best way of dressing little children and babies. A special feature of *Trained Motherhood* is the children's department, called *Leaflets for Little Rosebuds*, which is so arranged that it can be easily detached, making a separate magazine full of interesting stories written in pure, simple language for the little ones. The subscription price of *Trained Motherhood*, including *Leaflets for Little Rosebuds*, is \$1 per year. A specimen copy will be sent *free* on application. Published by The Motherhood Co., 150 Nassau St., New York.

THE GREATEST RIDE IN HISTORY.—A territory of 271,000 square miles, comprising Washington, Idaho, and Oregon as they are to-day, was saved to the Union by one man. He had the courage and heroism to ride on muleback for three thousand miles. The ride was thrilling, the trials and hardships marvelous, the result a glorious one. The whole story, beautifully illustrated, is given in the November issue of the *Ladies' Home Journal*, under the title, "When Dr. Whitman Added Three Stars to Our Flag," the closing and most intensely interesting article in this journal's successful series of "Great Personal Events." The first women to cross the Rockies figure in the story, which proves beyond a doubt that they preceded Fremont, the "Pathfinder," by six years.

PUBLISHERS' DEPARTMENT.

THE Civic, Hygienic, and Philanthropic Conference held at Battle Creek from October 12 to 18, was a most unique and interesting gathering, being the first conference of the kind ever held in this country.

The opening session was held Tuesday night. The next day was devoted to the consideration of questions relating to health. Thursday was mayors' day; and the remaining days of the conference were devoted to various philanthropic questions, such as social settlements, what to do with the ex-convict, Christianity and the poor, etc.

Among the distinguished speakers from abroad who graced the platform and delighted the audience with their eloquence and wisdom, were the following: Rev. Samuel G. Smith, pastor of the People's church, St. Paul, Minn., and professor of sociology in Minnesota State University; Hon. Henry Wade Rogers, LL.D., president of the Northwestern University, Evanston, Ill.; Mrs. Henry Wade Rogers, of Evanston, Ill.; S. Sherrin, of Chicago, whose individual efforts made the conference possible; H. B. Baker, secretary of the Michigan State Board of Health; Very Rev. Dean W. R. Harris, D. D., LL.D., Roman Catholic rector of St. Catharines, Canada; Rev. Arthur Edwards, D. D., editor of the *Northwestern Christian Advocate*; Hon. L. S. Holbrook, of Chicago; Professor V. C. Vaughn, M. D., dean of the Medical Department of the University of Michigan; Professor A. O'Malley, M. D., Ph. D., LL.D., Notre Dame University, Indiana; Dr. Arthur Mac Gagan, of Kalamazoo; Hon. R. G. Boone, LL.D.; Dr. D. D. Thompson and Bayard Holmes, M. D., of Chicago; Hon. S. M. Jones, Mayor of Toledo, O.; Rev. C. R. Henderson, D. D., of the Chicago University; Rev. Morgan Wood, D. D., of Toronto; Rev. J. P. Maveety; Rev. Frank Crane, D. D., pastor of Trinity Methodist church, Chicago; Hon. H. H. Hart, St. Paul, Minn., and others.

The great audiences during the last two days were stirred by the beautiful songs rendered by Professors E. O. Excell and Chas. H. Gabriel, of Chicago.

The whole spirit of the gathering was that of helpfulness to the depressed classes. How can society best manage the criminal and defective classes? and how can the individual man most efficiently help his wavering or fallen brother? These were the dominant questions at every session.

The audiences, which were large at the beginning, grew steadily until the close, and at the last meeting the great Tabernacle was filled to over-

flowing, the audience numbering fully thirty-five hundred persons, while large numbers were turned away for lack of even standing room.

The promoters of the enterprise received a vote of thanks from the audience for their efforts in bringing about this interesting and profitable conference, and a cordial invitation was extended to the same management to organize a similar conference next year. It is certainly to be hoped that this is not to be the last occasion of the sort. The idea is a good one, and ought to be kept alive and still further developed.

THE first session of the National W. C. T. U. Convention will open Friday morning, October 29, at Buffalo, N. Y. Miss Willard will call the Convention to order from the platform of Music Hall. The President's annual address will be the special attraction of the first morning. A new feature will be introduced at each day's session — a five minutes' respite for physical exercise. The windows and doors will all be opened, a flood of pure air allowed to pour in, and health gymnastics will be practised on the platform and on the floor, led by Miss Mary A. Blood, of the Columbia School of Oratory, Chicago.

Among the many subjects to be discussed we notice the following: A mass-meeting in the interest of Commander and Consul Booth-Tucker's plan to locate the poor on desirable lands in the new Southwest; scientific temperance instruction; and a mass meeting in the interest of labor and temperance. Visitors will be present from England, Australia, Spain, Iceland, and Japan, as well as from all parts of this country.

Memorial services for General Neal Dow will be conducted by Mrs. S. M. I. Henry, of the Battle Creek Sanitarium.

SANITARIUM GUESTS.

WE find the following names among the arrivals at the Battle Creek Sanitarium during the last month:—

F. B. Moore, bank president and editor of the *Elk Rapids Progress*.

J. E. Umbstaetter, glass manufacturer, Pittsburg, Pa.

C. W. Giddings, attorney, St. Louis, Mo.

Mrs. J. A. Dewey, Supt. Children's Home, Kalamazoo, Mich.

Dr. M. S. Erdman, a leading physician of Quakertown, Pa.

F. E. Baker, Brooklyn, N. Y.

J. H. Bughman, teller in Citizens' National Bank, Pittsburg, Pa.

Erle Hancock, grain merchant, Nashville, Tenn.

Peter Lavouissee, cotton-broker, New Orleans, La., with his wife.

Dr. B. F. Holmes, Hillsboro, O.

Hon. W. G. Coles, attorney-at-law and mayor, Columbus, Wis.; also Mrs. Coles.

Fred W. Watkins, proprietor of large department store, Hamilton, Canada.

John Callahan, evangelist from the Moody Institute, Chicago.

A. Marquardt, dealer in real estate, Chicago.

George Stephens, founder and president of the Moline Plow Co., Moline, Ill.; also Miss Stephens.

Mr. and Mrs. B. H. Mc Fadden, grain merchant, Havana, Ill.

E. W. Hoag, editor and publisher, Poplar Bluff, Mo.

Eugene Deinel, wholesale jeweler, Detroit, Mich.

P. Foley, of the Funk and Wagnall's Publishing Co., New York.

E. N. Miner, editor and proprietor of the *Phonographic World*, New York; also Mrs. Miner.

J. F. Crawford, late graduate of the divinity course in Chicago University.

Ralph R. Whitehead, Santa Barbara, Cal., journalist, and graduate of Oxford University.

E. M. Hawkins, local manager of the Phoenix Fire Insurance Co. in Southern Illinois, Pickneyville, Ill.

J. R. Butler, head of grocery department in the firm of Siegel & Cooper, New York City.

W. C. Burge, manufacturer, South Haven, Mich.

R. Phelps Marks, department manager for Marshall Field & Co., Chicago.

Miss E. S. Boughton, member of the editorial staff of the *Toledo Blade*.

N. Y. Williams, miner, Rossland, British Columbia.

Mrs. A. C. Reifsnider, vice-president Midland Publishing Co., St. Louis, Mo.

J. E. Boyer, president Mutual Home and Saving Association, Dayton, O.; also Mrs. Boyer.

Rev. Albert Henry, pastor Christian church, Eureka, Mich.

C. D. Babb, president Babb & Co., Real Estate and Loan Association, Homer, Ill.

Thomas Milan, mechanical engineer, City of Mexico.

THE third session of the American Medical Missionary College, which begins November 3, will be the largest yet held, there being something over fifty students already admitted to the freshman class.

WE are glad to hear, by recent reports from the College View Sanitarium, that it is well filled with patients, and that the work has developed to such an extent that an additional physician is needed. It is expected that a well-trained lady physician from the Battle Creek Sanitarium will soon be sent to assist in the work of this flourishing young institution.

THOSE invalids whom business or choice may lead to California will find at the Rural Health Retreat, St. Helena, an admirably conducted sanitarium with a full equipment of splendid facilities, skilled physicians, and well-trained nurses. Address, Dr. A. J. Sanderson, superintendent.

AT Portland, Ore., a young sanitarium is rapidly building up a splendid reputation under the superintendence of Dr. Wm. Hubbard. An invalid sojourner on the Pacific Coast will find no more homelike place where skilled medical attention is afforded than at the Portland Sanitarium.

THE Chicago Medical Mission, which for the last four years has been doing most beneficent work in behalf of the unfortunates of all classes, has recently grown to such proportions that it became evidently necessary to establish a training-school for medical missionaries. The greatest difficulty in the way has been the lack of a place to serve as a home for the school, providing recitation rooms, etc. This want has recently been supplied by the leasing of the large building formerly occupied by the Home for the Friendless, which has been moved to new quarters in the south part of the city. This large building, located at the corner of Nineteenth street and Cottage Grove avenue, has been leased for the period of four years. The plan of the building is admirably adapted to the purposes for which it is to be used; namely, that of a training-school for missionary nurses and physicians. It is sufficiently large to accommodate also a Rescue Home, a dispensary, hospital wards, and other lines of relief work. It will easily accommodate three or four hundred persons, and in case of need will shelter one thousand or more.

By some recent changes at the Sanitarium, several new and efficient offices have been created which will greatly facilitate the work of the physicians as well as add to the convenience of patients.

THE products of the Battle Creek Sanitarium Health Food Company are rapidly driving inferior so-called health foods out of the market. One of the largest of these manufactories has nearly suspended business, while several smaller ones have already done so. The products of the Battle Creek Sanitarium Health Food Company do not compete with those of any other manufacturer, for the reason that they are unique in character and unequalled in quality, while sold at prices which are duly proportioned to first cost. These foods are now being shipped in carload lots to a number of our larger Eastern cities, and the demand is steadily increasing.

THE Battle Creek Sanitarium Health Food Co. is again enlarging its facilities to enable it to meet the growing demand for its products. The manager of this department recently announced that he had orders ahead for ten or twelve tons of food, and the demand constantly increasing. The public are finding out that these foods are just what they are claimed to be; that they are made to eat, and to make blood, brain, bone, and muscle, and not simply to sell.

THE little maid had been ill, and had struggled through the early stages of convalescence. She had taken "nourishing" broths and jellies until her soul was weary within her. One morning she electrified the family by sitting bolt upright in bed and saying: "I want you all to take notice. I am not going to take any more nourishment. I'm hungry, and I want my meals, and not another mouthful of nourishment will I eat."—*Journal of Practical Medicine.*

A NATURAL BLOOD PURIFIER.—Unwholesome diet, lack of exercise, and general inattention to health give rise to impurities of the blood. These impurities cannot be gotten out by the use of "blood purifiers" and patent medicines. The only way is to eat pure food. Granola and Granose are the best of all blood purifiers. They enable the stomach to destroy the germs which produce the poisons whereby the blood is rendered impure. They have a higher nutritive value than any other foods, so enable the system to make rich, pure blood. An emaciated dyspeptic recently reported a gain of fifteen pounds in a few weeks from eating Granose.

THE MORRILL PNEUMATIC HOT-WATER BOTTLE.—This bottle, as will be seen by reference to the cut shown in our advertising columns, is really two bottles in one, the inner bottle for hot water,

and the outer one for air. The hot water heats the air in the outer bottle, and as this is the only one which comes in contact with the patient, there is no danger of burning the skin. The water in the inner bottle being surrounded by confined hot air, will retain the heat much longer than in the single bottle. The manufacturers, B. F. Goodrich Co., Akron, O., will be glad to send prices on application.

HE criticized her puddings, and he did n't like her cake;
He wished she'd make the biscuit that his mother used to make;
She did n't wash the dishes, and she did n't make a stew,
And she did n't mend his stockings, as his mother used to do.
Ah, well! she wasn't perfect, though she tried to do her best,
Until at length she thought her time had come to have a rest;
So, when one day he went the same old rigmarole all through,
She turned and boxed his ears, just as his mother used to do.

EVERY SATURDAY TOURIST SLEEPING-CAR ROUTE TO CALIFORNIA.—Every Saturday night Midland Route tourist cars en route to Colorado, Utah, and California will leave the Chicago Union Passenger Station of the Chicago, Milwaukee & St. Paul Railway at ten o'clock, running over the Chicago & Omaha Short Line to Omaha, thence via Lincoln, Neb., Colorado Springs and Leadville, Colo., Salt Lake City and Ogden, Utah, Reno, Nevada, and Sacramento, Cal., arriving at San Francisco at 8:45 P. M. Wednesday.

As will be noticed, this route is Midland through Northern Illinois, Iowa, Nebraska, Kansas, Colorado (through the heart of the Rockies), Utah, Nevada, and California, affording a perfect panoramic view of prairie, mountain, and coast scenery.

These popular every-Saturday California excursions for both first and second class passengers (not foreign emigrants) are "personally conducted" by intelligent, competent, and courteous "couriers" who will attend to the wants of all passengers en route. This is an entirely new feature of tourist car service, and will be greatly appreciated by families or parties of friends traveling together, or by ladies traveling alone. Particular attention is paid to the care of children, who usually get weary on a long journey.

Remember that the Midland Route tourist cars are sleeping-cars, and are supplied with all the ac-

cessories necessary to make the journey comfortable and pleasant, and the sleeping-berth rate is but \$6 (for two persons) from Chicago to California.

Ask the nearest ticket agent for a tourist-car "folder," giving complete information about the Midland Route, or address "Eastern Manager Midland Route," No. 95 Adams street, Chicago, Ill., or Harry Mercer, Michigan Passenger Agent, C. M. & St. P. Ry., 7 Fort street, W., Detroit, Mich.

P. S.—Berth reservations are made in the order received up to each Saturday morning. First come, first served.

THE Klondike Country and Colorado are now the two principal gold-mining fields in the world. We can give you information about both, but as the Klondike Country will be impenetrable until next summer, why not go to Colorado this fall and look over the golden opportunities of that State?

It is cheaper and easier to go to Colorado, and we will venture that more net money can be made in Colorado in twelve months, with less capital, than in the outskirts of the Arctic Circle during the same period, at forty times the expense.

Ask the nearest agent for the price of tickets to Denver, Leadville, or Cripple Creek, and tell him to send you via Chicago and Omaha over the Chicago, Milwaukee & St. Paul Ry., in the through sleeping-car from Chicago to Denver.

For further information address Harry Mercer, Michigan Passenger Agent, 7 Fort St., W., Detroit, Mich.

A NEW THROUGH PASSENGER ROUTE FOR COLORADO, UTAH, AND CALIFORNIA.—The Chicago *Times-Herald* of August 27 says that on September 12 the new traffic alliance between the Chicago, Milwaukee & St. Paul Railway and the Chicago, Rock Island & Pacific Railway goes into effect, and on that date the former will send its first Denver sleeper out of Chicago. This will be attached to its regular night train for Omaha, and will be delivered there to the Rock Island. On October 2 the tourist car route over these two lines, the Colorado Midland and Southern Pacific, were inaugurated. Tourist cars will be run once a week between Chicago and San Francisco. For further details regarding this new route, call on or address Harry Mercer, Michigan Passenger Agent, C. M. & St. P. Ry., 7 Fort St., W., Detroit, Mich.



WHO CAN GUESS IT?

The above letters, when placed properly, furnish the name of the most popular "personally conducted" line of Excursion Cars to California, leaving Chicago every Saturday night from the Chicago, Milwaukee & St. Paul Passenger Station.

To each person who will send before November 20 a correct solution to this puzzle, addressed to **HARRY MERCER, Michigan Passenger Agent, Detroit, Mich.**, an appreciative acknowledgment will be made.

REPORTS FROM SCHOOL OF HEALTH ORGANIZERS.

Two schools were held in Cincinnati early in October. The attendance was good, and the interest well sustained.

FOLLOWING this a school was held in Toledo. Miss Butler, assisted by other workers, secured the members, and Dr. Winegar, Miss Lenna Whitney, and Mrs. Nuding gave the instruction. The former delivered the health lectures, Miss Whitney gave instruction in physical culture, and Mrs. Nuding conducted a course in hygienic cooking. As a result of this effort, the mayor of Toledo visited the Sanitarium, and has become an enthusiastic advocate of health principles. A member of the editorial staff of the *Toledo Blade* returned with Miss Butler to the Sanitarium, and has just left after a two weeks' stay. The people in Toledo are calling for another school.

FROM Cleveland our School of Health instructors go to Columbus, and then on to Springfield.

URGENT calls are coming from St. Louis for a school to be held there, and a corps of workers will probably be sent to that city in the near future.