GOOD HEALTH

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BREATHE PURE AIR.

BY J. H. KELLOGG, M. D.

AN abundance of pure air is the first requisite to health. We breathe for the purpose of obtaining oxygen, which constitutes about one fifth of the atmosphere. The remaining four fifths consist of nitrogen, a comparatively inert substance, intended chiefly to dilute the oxygen, so as to adapt it to the body. Recent investigations have shown that the atmosphere contains in quite large quantities another gaseous element to which the name argon has been given; but so far as is yet known, argon has no other function in the air than to serve as a diluent, the same as nitrogen. A small amount of carbon dioxide is found in the air, but the amount is too small to have any bearing upon human life, although it is indispensable to the life of plants.

We take in with each breath four or five cubic inches of oxygen, of which one and one-fourth cubic inches are retained for the use of the body. If we breathe from sixteen to twenty times a minute, we consume from twenty to twenty-five cubic inches of oxygen each moment, or two thirds of a cubic foot every hour, amounting to sixteen cubic feet, or four barrels, every twenty-four hours. It is not difficult to obtain the amount of oxygen required; more than enough to satisfy the demands of the body is always to be found in the air under ordinary circumstances. The sensation of a deficiency of air or oxygen is never really possible from an absence of this element, but is altogether due to its contamination. The only difficulty, comparatively, is to get a sufficient amount of oxygen free from poisonous substances.

The important question, then, for us to consider, is how to get pure oxygen. Let us take up briefly some of the most common impurities which are encountered in breathing, and the methods of avoiding them.

The most common and the most dangerous of all the impurities by which the air we breathe is likely to be contaminated are those which are communicated to the air by man himself. No matter how pure the air which is brought to the lungs, when this volume returns, it is saturated with impurities of the most deadly character. The one and one-fourth cubic inches of oxygen retained in the body from each inspired breath are replaced in the oxygen-giving air by a nearly equal quantity of carbon dioxide, a poison deadly to animal life. Associated with the carbon dioxide are other still more deadly poisons, which are capable of producing death when administered to animals in even extremely minute quantities. With each respiration we spoil for breathing purposes from two thirds to three fourths of a barrel of air. Compared with the same amount of water required in the same

length of time, we use by weight five hundred times as much air as water, and by volume more than a million times as much.

How shall we obtain this prodigious quantity of air in a pure and wholesome condition? The answer to this question sometimes taxes the ingenuity of the most experienced architects and engineers. Ordinarily the problem is a simple one. It is only when a great number of people are brought together in a small space that any considerable difficulty is experienced.

Warm air rises; cold air falls. If the air admitted to the room is of a lower temperature than that in the room, it will fall to the floor; if of a higher temperature, it will rise to the ceiling. The air which has been longest in the room is the most impure, as it has been the most contaminated by the poisons of the breath. If, then, the fresh air is admitted at a temperature below that of the room, the air at the floor will be the purest, while that at the ceiling will be the most impure. If, on the other hand, the pure air is warmed before it is admitted to the room, the oldest and most impure air will be found at the floor, having been longest in the room, and hence cooled, while the purer air will be next to the ceiling. Keeping these facts in mind, let us learn one more; namely, that in order to secure a circulation of air, we must have two openings, one for the fresh air to come in, and the other for the foul air to go out. We now have in mind the whole philosophy of ventilation. It is comparatively of indifferent importance where the opening for the fresh air is placed, as the air will adjust itself by its own weight, since, if it is cold, it will fall to the floor, and if it is warm, it will rise. But the outlet for the air is of the greatest importance, since the impure air will be found in the opposite portion of the room from the pure air. Hence, the foul air will be at a high level if the fresh air is cold, and at a low level if the fresh air is warm. It is evident, then, that if the fresh air is admitted cold, the outlet for the impure air should be at the bottom. The best location is just below the window of the outside wall; for it is at these points that the cooled air reaches the floor, being cooled by contact with the outer surface of the room. It is in every way better that the pure air should be admitted to the room heated to the proper temperature, so that when mixed with the air of the room the general temperature may be about 65°, never above 68°. As a rule, the foul-air outlet should be twice the size of the fresh-air inlet. It should be some distance away from the inlet, and at a portion of the room to which it is desirable to draw the heat. There should be supplied for each person from twenty to twenty-four square inches of area of outlet, and from one half to two thirds as much inlet. In order that proper draft be secured, the foul-air outlet should be connected with an inner shaft communicating with the chimney, which should be heated in order to cause a circulation, or the circulation may be secured by a fan. If the chimney is situated in an inside wall, it will be warmed by the heat of the house, and in most cases will furnish a sufficiently good draft without heating.

But the air is subject to other impurities than those resulting from breathing. The most important of these are dust, germs, and gases. Dust is made up of particles of soot and earth, fragments of various substances, and germs. In large cities it has been noted that the lungs of persons who die, if they have been long exposed to the air of the city, are gray, sometimes almost black, from the deposit of particles of carbon. The lungs of stone cutters are often found to contain large quantities of minute particles of marble dust and microscopic fragments of

MOKI INDIAN WOOD HAULER.

stone. But the most dangerous constituent of dust, especially the dust of cities, is found in germs. The germs of very many dangerous and even fatal maladies are received with the air in the form of dust. This is especially true of that most deadly disease, tuberculosis, a malady which destroys about one seventh of all the persons who die in the United States, and a still larger proportion in older countries. In a dried state, these germs, which are expectorated by the tuberculous patient during coughing, float about in the air, and being taken into the lungs of a susceptible person, find lodgment, and develop, giving rise to tuberculosis of various forms. The germs of erysipelas are also carried by dust. The parasites which give rise to malarial diseases, which constitute the dangerous element of the so-called miasms, are carried about in the form of fogs, a fact which has given rise to the popular fear of night air. Flies sometimes gather up these dust germs, and even the eggs of the parasites, which are deposited by the flies with their excreta upon food. They may thus be taken into the body, although not inhaled.

It is apparent, then, that dust is a formidable enemy to health. The house should be kept free from dust. Mats should be used in the place of carpets, and heavy drapery should be avoided. Tables should be wiped off daily, together with all articles of furniture, and the window sills, and every place where dust can lodge should be wiped every day with a moist cloth. Dusters should not be used, and the dusting cloth should be used in such a way as not to raise a dust. The rooms should be opened daily, and the mats beaten frequently. Street dust should be laid by sprinkling. Persons exposed to dust may be protected by covering the nostrils with two thicknesses of handkerchief. By this means the dust is strained out.

Breathing through the nose is an important protection against both dust and germs; for these are then captured by the mucus of the nose, which is secreted by the mucous membrane covering the turbinated bones and the septum of the nose. Thus dust is prevented from entering the lungs, unless introduced in great quantities.

Poisonous gases find their way into the air from many sources, chiefly from sewers, cesspools, sinks, vaults, neglected back-yards, cellars, closets, and from slaughter-houses, barn-yards, chicken-coops, pig-pens, sties, and numerous other sources. The gases from these sources are produced, for the most part, by the action of germs. They are, fortunately, much less harmful than the germs themselves, and, as a rule, are not productive of germ-diseases, unless they carry germs with them, which is by no means always the case. Germs do not travel in the air unless dried and pulverized in the dust. So long as they are moist, they can not float in the air; but they grow, and throw off unpleasant and more or less poisonous gases.

Exceedingly dangerous gases are produced by chemical works, by defective stoves in which gas, oil, or charcoal is burned, and in which there is no pipe to carry away the resulting gases, a precaution too often neglected. A candle produces one half as much carbon dioxide as a person; an ordinary lamp, twice as much; a gas burner, three times as much. An ordinary gas stove will produce ten times as much carbon dioxide as a person. Hence the use of these pipeless stoves is dangerous. The writer has known of many cases of poisoning through the use of oil or charcoal stoves in a tightly closed room.

But air, in order to be beneficial, must be breathed properly. The following rules may be suggestive: —

1. Always breathe through the nose, unless the demand for air is so great that it is impossible to supply it through this alone. If this can not readily be done, there is some obstruction in the nose, which should have the attention of a physician. Mouth-breathing is the cause of serious diseases of the throat and lungs, and deforms the face to an extraordinary extent. Air in passing through the nose is prepared for admission to the lungs. Cold air is warmed and dry air moistened, and air containing dust or germs is filtered.

2. In ordinary breathing, the chief movements should be at the waist. The chest should expand at the belt and sides. The expansion of the upper part of the chest is necessary only in very full breathing, as is sometimes required in singing or taking violent exercise.

AN IMPORTANT TRINITY.

BY MARY HENRY ROSSITER.

GOODNESS, health, beauty, are one. Goodness is the perfection of character. Health is the perfection of body. "A sound mind in a sound body" is a complete definition of beauty. Here is a trinity — three in one — that all may understand and believe.

The homely saying, "Be good and you 'll be handsome," is but a half truth if taken at the popular estimate of its meaning. It is not enough to "mean well," to be "good" morally or spiritually alone, if you would be handsome. In these days it is not enough simply to have high desires and noble ideals, simply to live a "blameless life," if you would be wholly good; for goodness, health, beauty, are one, and he who would have perfection of character and perfection of body, the glory of true beauty, must use knowledge and wisdom and strength of will in bringing all the physical, the intellectual, and the spiritual forces of his whole being into perfect harmony with the laws of nature, which are the laws of God.

Disease and suffering follow unconscious sins against nature just as inevitably as if the sinner had understood and accepted their consequences. The man who keeps late hours attending religious services, and the man who keeps late hours drinking and carousing, must pay the same penalty so far as the late hours and loss of sleep are concerned. The woman who gives her children unsuitable food, and trains them in unhygienic habits of living, though never so conscientiously, is sowing the seeds of disease and ugliness just as certainly as if she did it intelligently and purposely. Hence, to be beautiful, we must first have knowledge.

It is imperative, in the first place, that the relation between physical habits and functions, and beauty of person and of mind, be studied and understood. Tradition and custom are the natural enemies of improvement. In all ages the doubter, the questioner, the investigator, has been the friend of progress. The person today who would become beautiful must bring every habit of his life into the light of present knowledge, and have it examined by the latest scientific standards of health. He must be convinced that how to live is a sacred study, and if any habit is condemned by this study, he must be ready to carry out the verdict with determination and common sense.

MOKI FASHIONS AND CUSTOMS.[1]

BY GEORGE WHARTON JAMES.

THE Mokis call themselves *Hopituh*, —"the People of Peace,"— and yet the Spaniards always found them a stubborn, resolute people in matters pertaining to their religious ceremonials or social life. Several times they drove the Spanish priests from their villages, refusing to obey them when they forbade the carrying out of their ancient ceremonies. Again and again, in the Spanish records, we read of forces of soldiers being sent for the "reduction" of the Mokis. But the Mokis were never reduced, and today, in many respects, they are as "unreduced" as ever, as the United States government has found to its cost. As recently as November, 1894, nineteen of the citizens of Oraibi were arrested by the United States soldiers for seditious conduct, sent to the government fortress near San Francisco, and there detained for some months. Their "sedition" consisted mainly in refusing to allow their children to go to the government school, and their attempt to ostracize and punish, according to the traditions of their ancestors, those of their people who were willing to send their children to school. The officials determined to crush the Oraibis in both these matters, but, strange to say, in spite of the months of imprisonment of the so-called "hostiles," they still refuse to send their children to school, though they are restrained from active hostilities against those who do, through fear of greater and sterner punishment.

Hence it will be seen that the Mokis are a very conservative people. Indeed, conservatism may be said to be the keystone to the Moki character. They reverence their ancestors as much as the Chinese do theirs, and, similarly, make their ancestors objects of worship. In every Moki house may be seen hung upon the walls one or more dolls, with most hideous faces and strange headdress. These dolls are representations of their katchinas, which are nothing more or less than deified ancestors. All through the year elaborate ceremonials, lasting from four to sixteen days in each month, are performed for the propitiation of these totemic divinities. By means of the dolls the children are taught all about these strange ancestral mythological characters. As there are upwards of a hundred of these divinities known to us, there is the same number of dolls, and I leave it to my younger readers to imagine the amount of so-called religious teaching that the Moki children must receive before they can be conversant with these great pantheons.

Most of the Moki children, however, have a very free and happy time. In obedience to their parents they are models, and happy are those white children whose parents love them as devotedly and as unselfishly as the Moki parents love their children. Yet they are not allowed to grow up in idleness. From earliest years every child is expected to do something toward the labor of the household. It is astonishing how early the girls and boys begin to care for their baby brothers and sisters. It is no uncommon sight to see a child of not more than six or seven years of age with a baby on his back. It is both curious and interesting to see how these little tots handle their fat, naked, swarthy, living burdens. Sometimes the child doing the carrying as well as the one carried is naked. Generally, however, the baby is swung upon the back, and a blanket wrapped

[1] Illustrated by photographs taken by the author.

around both children. Every now and then the baby who is carrying the lesser baby will stoop down and give his body a little jerk and the blanket a tug, so that the baby is thrown into a more convenient position, easier to carry, and less likely to slip down

A grandfather may sometimes be seen carrying his baby grandson or granddaughter. The child is never happier

MOKI WOMAN COOKING PIKAMI

than when he is allowed to place his hands on granddad's shoulder, while a place is made for him to stand, by the grandfather's clasping hands behind his back.

As the boys grow up, they must learn to tend the sheep, goats, and burros of their own people, and the horses of the white men who occasionally visit their towns. They must also learn to take the sheep out where there is a likelihood of finding plenty of grass and occasional springs. Then, too, they must tend the growing corn, watching it from early morning until after sunset, to see that no stray burro steals the crop, and, perhaps, at the same time, kills himself by overeating.

Until he is ten or twelve years of age, a Moki boy is not expected to wear any clothes, and even the girls up to seven and eight years of age run around naked. When a Moki boy reaches the age of trousers, he must then begin every morning, long before sunrise, to practice running and other athletic exercises. The Mokis are the swiftest desert runners in the world, twenty, thirty, and even forty miles being counted nothing extraordinary as a run before breakfast. I know several men who will run out over the desert to their cornfields forty miles distant, hoe them, and then run back home the same day.

As a girl grows older, little by little she is initiated into all the duties of the

OUT-OF-DOOR OVEN FOR COOKING PIKAMI.

household. She must learn to grind corn, as I have before described it in my article on the "Yava Supais," make piki, pikami, and other Moki delicacies, keep the house clean and in repair, whitewash it inside and out when necessary, make baskets and pottery, and do all the other things that an accomplished maiden and housewife is expected to be able to do.

I have elsewhere described how piki is made, but pikami is a distinctive Moki dish, and the method of manufacture is as follows: A certain amount of corn-meal is mixed with a small amount of sugar, and coloring matter made from squash flowers. This mixture is then placed in an earthenware vessel, or olla, and a cover tightly sealed on the vessel with mud. It is now ready to go into the oven. The pikami oven is generally out of doors. Sometimes it is a mere hole in the ground, without a covering, but the better style is where the hole is located in the angle of two walls and partially covered, as shown in the accompanying engraving. The broken pieces of crockery at the top serve for the chimney. To prepare the oven, sticks of wood are placed inside it and set on fire. When these are reduced to flaming coals and the oven is red hot, the coals are withdrawn, and the olla containing the corn-meal mixture is lowered into the hole. The hole is then covered with a stone slab, sealed with mud, and allowed to remain closed for several hours. When the olla is withdrawn, the corn-meal is thoroughly cooked, and the dish is both healthful and delicious. Served with cream or fruit sauce, it makes a dish palatable and hygienic enough to satisfy the most exacting apostle of reform.

When a girl reaches the marriageable age, she is required by the customs of her people to fix up her hair in two large whorls, one on each side of her head. This gives her a most striking appearance. The whorl represents the squash blossom, which is the Moki emblem of purity and maidenhood. Girls mature very early, the young maiden herewith represented being not more

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than twelve or thirteen years of age. She was very shy and timid when I asked her father and mother to allow me to photograph her, but obediently stood as still as she could until the trying ordeal was over. Then she smiled sweetly, and gave a sigh of deep relief as she moved away from the line of sight of that awful peering glass eye of the camera.

Most Indians object strenuously to being photographed. Various explanations of this have been given, but I know of no ethnologist who has studied the general

MOKI MOTHER, BABY, AND SISTER.

sentiment of opposition to the camera and given the real reasons therefor. For years I have sought to penetrate the mystery. It certainly is not cupidity in some Indians, however it may be with those who frequent the railway stations and pose for nickels, and want "ten cents" for showing their babies to the gaze of a few green tourists. I got a clue to the inner reason some years ago when I offended an Indian friend by speaking of her dead husband. She turned away from me without reply, and for three years shunned me, positively refusing to speak to me whenever I visited the village. On seeking to know the reason, a very intelligent Indian informed me that in no way can you insult the people of this tribe more than by speaking of their deceased friends, until a long enough period of time has elapsed to allow their spirits to journey from the "here" to the underworld. Every word said of them follows them and urges their return to the earth, hence it is unkindness in the highest degree to the wandering spirit to hinder its journey to the abode of the departed.

Now, when a photograph is made, the Indian believes that in some subtle and magic manner you seize a portion of his soul, and transfer it to the paper. It can not be any of his physical person, for, says he, "that is all here just the same." It must be part of his soul. Should he die, he can not journey in an incomplete fashion to the underworld. His soul must be all there; and it can not be all there so long as that photograph is in existence. Therefore the photograph must be destroyed. Then the happy spirit, made complete once more, bravely meets all the unknown dangers of that dread journey.

The dress of the Moki women would greatly rejoice the heart of all those who are working for dress reform. It is neat, chaste, durable, picturesque, and appropriate to the life they lead, and I deem the endeavor of the United States government to persuade them to change it for the hideous garments of the white woman to be neither politic nor wise. The men weave the dresses on their sim-

ple looms, as previously described. They are of cotton or wool. The Mokis have grown cotton from time immemorial, and they are adepts in spinning it with their smooth sticks, rapidly whirled on one knee. As a rule the material is dyed a rich indigo, with now and then a band of red. When made, it looks more like an Indian blanket than a dress, but when the woman throws it over her right shoulder, sews the two sides together, leaving an opening for the right arm, and then wraps one of the highly colored and finely woven sashes around her waist, the beholder sees a dress at once healthful and picturesque. As a rule, it comes about as far down as the knee, and the left shoulder is uncovered. Of late years many of the women and girls have learned to wear a calico slip under the picturesque native dress, so that both arms and shoulders are covered.

Most of the time the legs and feet are naked, but when a woman wishes to be fully attired, she wraps buckskins, cut obliquely in half, around her legs, adroitly fastening the wrappings just above the knee with thongs cut from buckskin, and then encases her feet in shapely moccasins. There is no compression of her solid feet, no distortion with senseless high heels. She is too self-poised, mentally, to care anything about Parisian fashions. Health, neatness, comfort, are the desiderata sought and obtained in her dress. The question is sometimes asked, however, if the heavy leg swathings of buckskin are not a mere fashion of Moki dress. Undoubtedly there is a following of custom here as well as elsewhere, and, as I have before remarked, one of the keys to the Moki character is his conservatism. But the buckskin leggings have a decided reason for their existence. In a desert country where cacti, cholla, many varieties of prickly shrubs, sharp rocks, and dangerous reptiles abound, it is necessary that the women whose work calls them into these dangers should so dress as to be prepared to overcome them. Many a man wearing the ordinary trousers of civilization and finding himself off the beaten paths of these desert regions has longed for just such protection as the Moki women give themselves. The cowboys who ride pell-mell through the brush

wear a pair of leather trousers, and their stirrups are covered with tough and thick leather to protect their shoes from being pierced by the searching needles of the cactus, cholla, and buck-brush.

The adornments that a Moki maiden of fashion affects are silver rings and bracelets made by native silversmiths of the Navajo or Zuni peoples, and necklaces of coral, glass, amber, or more generally of the shell wampum found all over the continent. The finer necklets of wampum are highly prized, and when very old and ornamented with pieces of turquoise, can not be purchased for large sums. I have

offered as high as $250 for a single necklace, only to have my offer scornfully and haughtily refused.

When a Moki woman marries, she must no longer dress her hair in the side whorls, but must "do it up" in rolls which hang pendant below the ears.

As a woman grows older, unfortunately, her lot in life does not grow easier. When she is no longer capable of bearing children, it is made her duty to be the water-carrier of the family. As there are no wells on the barren mesas where their homes are, all the water has to be carried up from springs and reservoirs below, and it is a common sight to see an old woman going down the steep trails to the springs, with a large olla, capable of holding a gallon or more, wrapped up in a blanket, resting on her back and supported by a band over her forehead. Here the olla is filled, a short time spent in resting and gossiping, and the old woman, with wrinkled face and bent body, slowly creeps back over the heavy sand and up the rocky steps to her home. This is a most touching sight, equaled in pathos only by the corresponding spectacle of the old men, belonging to the poorer families, whose duty it is to haul wood. The younger men generally own burros and load them with the wood supply, but one often sees the older men carrying on their backs rude frames sustained by leather bands around the forehead, the frame laden with wood. Slowly the old men toddle along with their heavy loads, and one feels the gladness with which the end of the toilsome journey is reached, and the burden thrown down.

One of the most singular facts about the Mokis is that the women build and own the houses, while the men weave the women's dresses, and knit the stockings for the family. When a woman marries, she does not sacrifice her name to her husband, and the children born to the couple receive not the father's name, but the mother's. The girls, of course, are trained by the mother, and the boys receive their education, not from the masculine members of the father's side, but from those on the mother's side of the house. This aboriginal method of yielding to women their "rights" has, according to their traditions, always obtained among them, and demonstrates a fair-mindedness among the men that their white brethren might well emulate. It also suggests what is the fact; viz., that the women have as much responsibility in the management of affairs as the men. In fact, in all household matters the woman is supreme. On the other hand, in civic affairs she has little voice, this responsibility resting on the men.

While the Mokis live in houses, they spend much of their time out of doors; indeed their life might be said to be an outdoor one. The constant climbing up and down the steep trails gives the women as well as the men a sturdy muscular development. The children born of such parents are naturally robust, vigorous, healthy, and strong. As might be expected, childbirth is generally painless, and accomplished without trouble or danger. As soon as the child is born, it is wrapped up and fastened with broad bands to a board, over which a wicker frame is placed. When the mother takes the child out into the sun, a blanket or strip of calico is fastened over this frame, so that it acts as a shelter for the little one. This primitive cradle is carried by the mother on her back, sustained by a broad buckskin band around her forehead. It is no uncommon thing, when the mothers go out to gather the pine nut, to see a number of these babies suspended in their cradles from the bough of a tree, thus forcefully bringing to mind the nursery rhyme of childhood days: —

"Rock a by, baby, on the tree top,
When the wind blows, the cradle will rock."

When a Moki dies, the lamentations are genuine and sincere. The bodies are buried in clefts of the rocks on the mesa side, a mile or so away from the village. The body is wrapped up and placed in a rocky cavern, and then covered with loose rocks. Food and drink are placed on the grave, so that when the spirit ascends from the body and begins its long journey to *Shi-pa-pu*, it may have food wherewith to gain strength. The curious visitor will also notice that a stick to which tiny feathers are attached by means of cotton strings is thrust between the rocks until it touches the body. Another stick touching this upright stick is placed on the grave pointing toward the southwest. These sticks are especially prepared by the *shaman*, or "medicine man," and are for the purpose of guiding the spirit as it leaves the body. If no stick were there, the spirit might grope in darkness, trying to force its way down; but, having been spiritualized by the prayers of the shaman, the disembodied spirit immediately realizes its spiritual character, and following it, reaches the companion stick pointing to the southwest, the direction it must travel to reach the entrance to Shi-pa-pu.

YOUR WINTER CONSTITUTION.

BY DAVID PAULSON, M. D.

IT is well known that those who place their orders for winter garments early in the season, secure special bargains. It is equally advantageous to place an early order for a winter constitution.

Nature demands different garments for winter than for summer; almost as arbitrarily does she require a change of constitution, adapted to the season.

How many remember that last year they neglected to secure their winter constitution, and therefore found themselves shivering and feeling uncomfortable at the approach of the cold? Those who had the inconvenience of this experience will do well to reform at once, to avoid passing over the same ground again.

A good winter constitution, like every other thing of value, requires some time for its manufacture.

It can not, like Christmas presents, be given to us; we have to secure it in exchange for labor performed.

One method is to take winter on a

small scale every morning in the shape of cold baths, sprays, showers, or sponge baths. Persons who are daily exposed to certain diseases gradually acquire an immunity to them. So by taking a small instalment of winter daily, when the actual thing comes, we have secured such an immunity to it that we do not have to go through the annoyance of having some of its accompaniments, such as pneumonia, bronchitis, or even catarrh.

Another very desirable precaution is that of allowing practically the same quantity of fresh air to circulate through our sleeping apartments as when summer was at its height. Altogether too many people, at the first approach of the cool breezes, close their windows; these are the ones who, a little later on, have an irresistible temptation to stop the keyhole with felt.

It is equally important to live on a pure, simple, nutritious diet, so that the fires of life may burn briskly, instead of being dampened by the waste products of unsuitable food. Every cell in the body at the approach of cold, naturally arouses itself from the relaxing and sedative effect of the mild autumn days, and is spurred on to greater activity. The heart beats more lightly, the brain thinks more clearly, and every nerve responds more quickly to its normal stimulation.

Sufficient exercise should be taken to keep the nutrition of the body at its highest mark. Thousands of people are not willing to endure the inconvenience necessary to secure a good physique for the winter, and so go to some warm climate to avoid the chilling breezes, and thus lose the splendid tonic effect of cold weather. The cells, overburdened and chloroformed, so to speak, are not permitted to be aroused by the gentle stimulus of cold, so instead of being a friend to stir them up to greater activity, it becomes an enemy that steals upon them unawares. As a consequence, people become enervated, and degenerate into lifelong invalids, when they might be enjoying one of nature's greatest blessings, — brisk, cold weather.

THE CAUSES OF DYSPEPSIA.

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

Superintendent of the Colorado Sanitarium, Boulder, Colo.

THERE is probably no disease more common, or at least more troublesome, than dyspepsia. The word "dyspepsia" is rather a general term, and as used by the laity, is applied to all forms of indigestion and stomach affections, without any reference to the particular nature of the disorder. The fact that this trouble is so prevalent is sufficient reason for every one, but especially for those afflicted with it, to consider the causes which produce it.

Undoubtedly many people think that dyspepsia, as well as every other ill to which the human family is subject, comes as a matter of course, and that the only way to get rid of it is to swallow some artificial digestive agent or patent nostrum. It is a fact that no disease exists without a cause; and if we investigate, we shall find that in dyspepsia as well as in nearly every other disease, the cause, to a large extent at least, lies in the habits of the individual and his methods of living.

It is true that many individuals are born with weak stomachs and with peculiar tendencies to imperfect digestion as

well as impaired functions of other organs of the body. This fact of itself should be sufficient reason for us all to consider well if our modes of life are such as to insure to ourselves and to our posterity healthy bodies, with strong digestive organs. But besides this inherited weakness which is so common in the human family at the present time, and which in a sense prepares the way for stomach disorders and other maladies, there are other causes which are found in the personal habits of the individual, and which are really more active in producing disease than hereditary tendencies.

The most common causes of dyspepsia in its various forms may be stated as follows: Eating unsuitable articles of food; eating food that is not properly prepared and thoroughly cooked; eating hastily; the use of too much fluid with meals; the use of alcoholic liquors, tea, coffee, and tobacco; the use of condiments, such as spices, pepper, Chile sauce, pickles; overeating, eating too frequently and between meals; eating when the body is tired and exhausted; and eating late suppers. There may be, and probably are, other causes of dyspepsia and indigestion, but those mentioned are the most frequent. We may now consider these more in detail: —

1. *Eating Improper Articles of Food.*— When God created man and placed him in the garden of Eden, he gave him a bill of fare which was best adapted to his condition. We gather from the record in the first chapter of the Bible that man's original food consisted of fruits, nuts, and grains. Gen. 1 : 29. We conclude from this that these articles were intended by the Creator to constitute man's diet; and without doubt, if man had followed this original plan, and obeyed all the rules and laws given him pertaining to his physical and moral nature, the human family today would not be suffering from disease.

It is evident from the diet prescribed at the beginning that it did not include the flesh of dead animals. The eating of meat is without doubt the cause of many forms of indigestion and dyspepsia. That a large percentage of cattle and other animals killed for food are diseased, is well known to physicians and others at the present day. More than this, even healthy meat is not a proper article of diet; for poisons are always present in the animal when killed, and these, when taken into the system, irritate the stomach and other tissues, thus inducing disease.

Besides meat there are other articles of food which cause dyspepsia. The use of coarse vegetables, such as cabbage, beets, turnips, is often the cause of stomach disorder. They contain a large amount of woody matter, or cellulose, as it is called, which can not be digested in the human stomach, and is therefore of no use to the human economy. What little nutritive matter there may be in them is penned up, as it were, in wooden walls formed by this cellulose, and it is difficult for the gastric juice to act upon it. These substances are therefore very difficult to digest, and frequently ferment in the stomach before they are digested, becoming a source of disturbance and annoyance. People who suffer from weak digestion often have a heavy and distressed feeling in the stomach two or three hours after eating such articles.

Besides meat and these coarse vegetables, the use of salads and rich foods is a frequent cause of indigestion.

2. *Eating Food that Is Not Properly Prepared.*—Wholesome food is often spoiled by putting into it substances that are not wholesome,—spices, pepper, and other condiments, and rich greases. The more simple and easily digested our diet, the better it is for us.

In the ripening of fruits and other foods, elaborate chemical changes take

place which render them more easily digested and more palatable. It is probable that before he retrograded by transgression of nature's law, man received his food from the storehouse of nature without any artificial preparation. His digestive organs at that time were sufficiently strong and healthy to assimilate all natural food without any artificial preparation, but in our time many foods require cooking to prepare them for the stomach of man. One of the greatest needs of the world to-day is cooks,— cooks who can make food palatable and easily digestible without the admixture of pepper, spices, and other condiments. When food is not properly cooked, it can not be properly digested, especially by those whose stomachs are weak or in any way disturbed.

The eating of food that is cold or much below the normal temperature of the body is also a source of indigestion; neither should food be eaten too hot. Either extreme in temperature may be a cause of indigestion. Ice-cream, iced tea, and other iced drinks should be discarded, as well as hot tea, hot coffee, and other hot drinks.

3. Eating Too Hastily.— Many people, especially business men, are in the habit of "bolting" their food. In this case it passes into the stomach in large masses, where neither the saliva nor the digestive juices can act upon it; consequently it is not properly digested in the stomach, and is the source of much mischief.

To aid in the deglutition of masses of food not properly masticated, large quantities of fluid are drunk, and this is another source of evil. When much fluid is taken into the stomach, it must be absorbed before the gastric juice can come in contact with the food. The time occupied in the absorption of fluid in the stomach delays digestion, and the food lying idle may undergo fermentation and cause numerous annoying symptoms.

The meal hour should be the pleasantest and most enjoyable hour of the day, and no ordinary duty should be of sufficient importance to detract from the pleasures and duties of properly masticating and eating one's food.

4. Too Much Fluid at Meals.— We have already referred to the error of taking too much fluid with meals. This point may be emphasized in this connection. As already stated, when too much fluid is taken into the stomach with food, the food lies idle until the fluid is absorbed. This delays digestion, and leads to indigestion. Many people who suffer from stomach troubles would find it a great help and relief if they would take their food dry. It is better to take no fluid at mealtime, not more than one glass in any case.

Of course the eating of highly seasoned foods develops thirst, and this is undoubtedly one reason why people crave drink so much at mealtime; but if one takes the proper kinds of food, he will have little or no desire to drink at mealtime.

5. The Use of Alcoholic Liquors, Tea, Coffee, and Tobacco.— All these articles cause indigestion and dyspepsia. It is a common idea in the minds of the laity that alcohol and alcoholic liquors are an aid to digestion, but this is a mistake. A large number of experiments have been made recently by different investigators in different parts of the country with reference to the influence of alcohol upon the digestion of food in the stomach. These experiments all point unmistakably to the fact that alcoholic liquors, when taken even in the smallest quantities, retard digestion. Even so small a quantity as one per cent of alcohol in the contents of the stomach has a very decided influence in retarding digestion. The tenacity with which many physicians continue the use of alcoholic liquors and other poisons in their treatment of disease, in the face

of evidence pointing unmistakably to the harmfulness of these things, is surprising.

Tea and coffee are also causes of dyspepsia. The evils arising from their use are due, first, to taking a large amount of fluid into the stomach at meals, and secondly, to the effect of tea and coffee upon the functions of the stomach. The tannin which is present in tea is known to be very active in precipitating pepsin, one of the essential agents of the gastric juice; and the poisonous alkaloids, thein and caffein, which are present, have also a very deleterious effect.

Tobacco in any form is a very active poison. It is patent to any observing person that tobacco interferes with the healthy nutrition of the body. A person addicted to it is very likely to be reduced in weight on account of its use. In our own experience we have often met individuals who, while using tobacco, would rapidly lose weight and decline physically, but when its use was stopped, would almost immediately gain in weight and improve in health and vigor. Tobacco certainly has a very harmful influence on the stomach and digestive organs.

6. The Use of Condiments, such as Pepper, Spices, Chile Sauce, etc.— These substances are very often the cause of dyspepsia. They probably do more mischief because they are more commonly used than some other harmful substances, as, for instance, alcoholic liquors. They irritate the mucous membrane of the stomach, cause congestion and irritation, from which organic changes in the mucous membrane are likely to result. The use of them by the younger members of the family often prepares the way for the use of alcoholic liquors in later life. They are all the more dangerous because they pass under the guise of harmless articles in many otherwise well-regulated families.

7. Overeating.— Overeating is a prolific cause of stomach disorders. This point is of much importance because it is so frequently unrecognized by the individual. Most people eat too much, and the stomach and digestive organs are taxed beyond their capacity, in time losing their power to do efficient work. The longer this evil practice is continued, the more marked is its influence. The stomach gradually loses its ability to digest food, and in time may be totally disabled.

8. Eating Frequently and Between Meals.— This practice disturbs the normal functions of the stomach, which needs regular periods of rest. Naturally, these periods of rest should follow regular periods of activity. When this rhythm in the work of the stomach is disturbed by eating too frequently or between meals, the glands of the stomach do not have an opportunity to store up a proper amount of material out of which to manufacture gastric juice, and consequently the secretion is imperfect and deficient in quantity, and as a result the food is not properly digested. The habit of eating irregularly and between meals is perhaps most often seen in children. Most children eat more often than is necessary, and this causes harm by interfering with the functions of the body generally, and the digestive organs in particular.

9. Eating When the Body Is Tired and Exhausted.— In this case there is not sufficient nerve force to carry on properly the processes of the stomach, and consequently its work is interfered with. When fatigued, the better way is to rest, even though briefly, before eating a meal. By so doing, the food can be more thoroughly digested. Those who have weak digestion will find it greatly to their advantage if they will practice resting, and sleeping if possible, before the principal meal, in the middle of the day.

10. Late Suppers.— These are another

prolific cause of indigestion. It is the opinion of the writer that people of sedentary habits, as business men and women, clerks, teachers, are better off without any supper at all. This class of people will find it much to their advantage if they will adopt the two-meal-a-day system.

If supper is eaten at all, it should be early in the evening, not later than seven o'clock, and should be of food that is easily digested, and a small quantity at that. The stomach should be empty during sleeping hours, and should have opportunity to rest, the same as other organs of the body. One will find upon adopting the two-meal system that his sleep is more refreshing, and his digestion much improved. During sleep, all functions of the body are slowed. This is as true of the digestive as of other organs. During sleep the respiratory movements are slow and shallow, the heart beats slowly, the muscles are at rest, sensation is abolished, secretion is diminished, and the stomach and digestive organs are in no condition to digest food. Consequently, food that is in the stomach during sleeping hours is only imperfectly digested.

A SIMPLE THEORY.

BY E. M. C. DUNKLIN.

MAN exists on three things—the air he breathes, the water he drinks, the food he eats. Without air, it is estimated that he can live seven minutes; without water, fourteen days; without food and drink, but seven days; without food (the other two necessaries being supplied), from thirty to fifty days. If health and life come through these three, disease and death do also. How important, then, is the food question, for one third of our sicknesses come from this source alone.

It is true that many can not change localities, and must breathe what atmosphere they have. The same can be said of water; but not so of food, as that is largely under our own management. Of course we should wish to know what is *best* for us to eat, considering also convenience, preparation, and economy. In America we have such an abundance of everything that we are inclined to be like the hog, chicken, or opossum—omnivorous. It is not around the question of exclusively animal or vegetable diet that the great battle of life is raging, for man long ago decided that he could not live by flesh alone; but it is a question between a mixed or a non-flesh diet. Shall we or shall we not have meat as a part of our daily fare?

Let us take a square look at our meats, and this will be sufficient to satisfy many. If our flesh-foods were perfectly healthy, properly killed, bled, prepared, cooked, and eaten, then, in the writer's opinion, it would be right not to rule them out from our dietary; but there are too many "ifs" connected with them to believe them capable of admission to the highest lists. When we consider that man already is one-half dead or dying (venous and arterial blood, surplus fats, and excretory matters), then we must realize that the animal creation is in the same condition, hence is it not folly in us to add dead or dying matter to the same within us?

We have all heard of the "germ theory." Well, I have also a germ theory. When God made man, we are told that he "breathed into his nostrils the breath of life," and he "became a living soul."

Men have inherited a germ, or spark, of that life along with their dying bodies, ever since the fall of Adam. We all should wish to know how best to "dress and keep" that spark that our Maker has given into our charge, while we tabernacle in this wilderness below. God has also made every other living thing, as well as ourselves, to grow from germs.

Now I contend that we should live on what will, or actually does, support the germ, not necessarily to eat the germ, but that which the germ itself subsists upon. Our foods, then, should be, first, those in nature which come nearest to supporting universal animal life. I put at the top those seeds, especially cereals, nuts, legumes, that would feed themselves. So we should be compelled to eat these chiefly, as there is very little surplus dead matter in any of them. Second, that part of the fruits (in the broad sense) of "mother earth" that would support the germ of life (the seed). Third, perfectly pure, fresh, warm milk that would support the germ in the womb (the young animal). Fourth, perfectly fresh eggs from perfectly healthy fowls, eaten as nearly natural as possible, omitting the shell and inside germ, if you wish.

This is my theory; and I can testify to its value by nearly fourteen years of actual practice. It has stood by me through two long periods of sickness, even when my life was despaired of; through nearly seven years of student life; and I am so well satisfied with it that I do not care to make a change in my mode of living. Select from these four sources of food what agrees best with each individual, and after proper preparation, find the amount needed, how often you should eat, and the proper manner to do it, and you will have all that is required for health.

A PORK INQUIRY.

BY J. H. KELLOGG, M. D.

IN this country, pork-raising is one of the great industries, and one of the most prolific sources of wealth. Since the supply is wholly regulated by the demand, this may be taken as an index of the prodigious quantities of swine's flesh which are daily required to satisfy the gustatory demands of the American people. No other animal food is so largely used as pork in its various forms of preparation. The Yankee makes his Sunday breakfast of pork and beans, besides using the same article as a prominent constituent of at least two meals each day during the rest of the week. Pork and hominy provide almost the sole aliment of the Texan farmer; in the Western States generally, pork and potatoes constitute the most substantial portion of the farmer's bill of fare.

In the case of no other animal is so large a portion of the dead carcass utilized as food. Pork seems to be considered such a delicacy that not a particle should be wasted. The fat and lean portions are eaten fresh, or carefully preserved by salting or smoking, or both. The tail is roasted; the snout, ears, and feet are pickled and eaten as souse; the intestines and lungs are eaten as tripe or made into sausages; black pudding is made of the blood; the pancreas and other glands are considered great delicacies; the liver, spleen, and kidneys are also prized; while even the skin is made into jelly. In fact, nothing is left of the beast. Even the bristles are claimed by the shoemaker and the brush maker. Surely, it is worth while to show that an animal which is thus literally devoured, and that in such

immense quantities, is not only unfit for food, but one of the prime causes of many loathsome and painful maladies. Let us examine the hog a little, and see what can be determined respecting his real nature, and his office in the economy of nature, if he has any.

Gaze over into that sty, my pork-eating friend. Have you done so before? and would you prefer to be excused? But we will show you a dozen things you did not observe before. See the contented brute quietly reposing in the augmented filth of his own ordure! Look a little sharper and scrutinize his skin. Is it smooth and healthy?—Not exactly. So obscured is it by tetter and scurf and mange that you almost expect to see the rotten mass drop off, as the grunting creature rubs it against any projecting corner which may furnish him a convenient scratching place. As you glance around the pen, you observe that all such conveniences have been utilized until they are worn so smooth as to be almost inefficient.

Stir up the beast, and make him show his gait. See how he rolls along, a mass of fat. If he were human, he would be advised to chew tobacco for his obesity, and would be expected to drop off any day, of heart disease. And so he will, unless the butcher forestalls nature by a day or two. Indeed, not long ago a stout neighbor of his was quietly taking his breakfast from his trough, and grunting his infinite satisfaction, when, without a moment's warning or a single premonitory symptom, his swinish heart ceased to beat, and he instantly expired without finishing his meal, much to the disappointment of the butcher who was anticipating the pleasure of quietly executing him a few hours later, and serving him up to his pork-loving patrons. Suppose his death had been delayed a few hours, or rather, suppose the butcher had got the start of nature a little, as he generally contrives to do!

But we have not half examined our hog yet. If you can possibly prevail upon yourself to sacrifice your scruples in the cause of science, just clamber over into the reeking sty, and take a nearer view of the animal that is destined to delight the palates of some of your friends, perhaps your own. Make him straighten out his fore legs. Now observe closely. Do you see the open sore or issue a few inches above his foot on the inner side? and do you say it is a mere accidental abrasion? Find the same on the other leg; it is a wise and wonderful provision of nature. Grasp the leg high up, and press downward. Now you see its utility, as a mass of corruption pours out. That opening is the outlet of a sewer,—yes, a scrofulous sewer; and hence the offensive matter which discharges from it. Should you fill a syringe with mercury, or some colored injecting fluid, and drive the contents into this same opening, you would be able to trace all through the body of the animal little pipes communicating with it.

What must be the condition of the body of an animal so foul as to require a regular system of drainage to convey away its teeming filth? Sometimes the outlet gets closed by the accumulation of external filth. Then the scrofulous stream ceases to flow, and the animal quickly sickens and dies unless the owner speedily cleanses the parts, and so opens anew the feculent fountain, and allows the poison to escape.

What dainty morsels those same feet and legs make! What a delicate flavor they have, as every epicure asserts! Do you suppose the corruption with which they are saturated has any influence upon their taste and healthfulness?

Now let us look at the inside of this delicious beast!

Just under the skin we find a mass of fat from two to six inches in thickness, covering a large portion of the body. What is this? "Lard," says one; "animal oil;" "an excellent thing for consumptives;" "a very necessary kind of food in cold weather." Lard, animal oil, very truly; and, we will add, as synonyms, disease, scrofula, torpid liver. Where did all that fat come from? or how happened it to be heaped up around that poor hog so prodigiously? Surely it is not natural; for fat is deposited in large quantities only for the purpose of keeping the body warm in winter. This fat is much more than is necessary for that purpose, and is much greater in amount than ever exists upon the animal in a state of nature. It is evidently the result of disease. So gross have been the habits of the animal, so great has been the foulness of its body, that its excretory organs — its liver, lungs, kidneys, skin, and intestines — have been entirely unable to carry away the impurities which it has been all its life accumulating. And even the extensive system of sewerage, with its constant stream, which we have already described, was insufficient to the task of purging so vile a body of the débris which abounded in every organ and saturated every tissue. Consequently, this great flood of disease, which made the blood a black, turbid current, was crowded out of the veins and arteries into the tissues, and there accumulated as fat.

A few years ago there were on exhibition at a great cattle-show in England two hogs which had been stuffed with oil-cake until they were the greatest monsters of obesity ever exhibited. Of course they took the first premium; and if a premium had been awarded to the animals capable of producing the most disease, it is quite probable they would still have headed the list.

Lard, then, obtained from the flesh of the hog by heating, is nothing more than extract of a diseased carcass. Who that knows its character would dare to defile himself with this "broth of abominable things"?

Now let us take a little deeper look. Observe the glands which lie about the neck. Instead of being of their ordinary size, and composed of the usual gland structure, we find in them large masses of scrofulous tissue. Perhaps tuberculous degeneration has already taken place. If so, the soft, cheesy, infectious mass is ready to sow broadcast the seeds of consumption and premature death.

Now take a still deeper look, and examine the lungs. If the hog is more than a few months old, you will be likely to find large numbers of tubercles. If he is much more than a year old, you will probably find a portion of the lung completely consolidated. Yet all of this filthy, diseased mass is cooked as a delicious morsel, and served up to satisfy fastidious tastes. If the animal had escaped the butcher's knife a few years, he would have died of tuberculous consumption.

Make a cut into this animal's liver. In seventy-five cases out of a hundred you will find it filled with abscesses. In a yet larger percentage will be found the same diseased products which seem to infest every organ, every tissue, and every structure. Yet these same rotten, diseased, scrofulous livers are eaten and relished by thousands of people who can not express their contempt for the Frenchman who eats a horse, or the Chinaman who dines upon fricasseed puppy.

The word "scrofula" is derived from the Latin *scrofa*, which means "a sow." The ancient Romans evidently believed that scrofula originated with the hog, and hence they attached the name of the beast to the disease. Saying that a man has scrofula, then, is equivalent to saying that

he has the hog disease. After we have seen that the hog is the very embodiment of scrofulous disease, can any one doubt the accuracy of the conclusion of the Romans who named the disease?

Let us look again at the diseased liver. Upon closer inspection we discover numberless little sacs, or cysts, about the size of a hemp seed. These do not present a very formidable appearance, but as soon as they are taken into the stomach by eating the flesh containing them, the gastric juice dissolves off the membranous sac, and liberates a minute animal, which had been encased there perhaps for months. This creature, although so small, is furnished with a head and four suckers. With the latter it attaches itself firmly to the wall of the intestine, and begins to grow. In a short time it produces an addition to its body, which is attached like a joint behind. Soon a duplicate of this is produced, and then another and another, until a body three or four rods in length is formed. This is a tapeworm.

Under other circumstances, the eggs of the tapeworm may find entrance into the body, when the disease is developed in another form. The embryonic worms consist of a pair of hooklets so shaped that a twisting motion will cause them to penetrate the tissues after the fashion of a corkscrew. Countless numbers of these may be taken into the system, since a single tapeworm has been found to contain more than two million eggs. By the boring motion referred to, which seems to be spontaneous in the young worm, the parasites penetrate into every part of the body. Piercing the walls of the blood-vessels, they are swept along in the life-current, thus finding their way even to the most delicate structures of the human system. They have been found in all the organs of the body, even the brain and the delicate organs of vision not escaping the depredations of this destructive parasite. When developed in the eye, they, of course, occasion blindness. When lodged in the lungs or other organs, they interfere with their proper functions. In the liver, which is the most frequent rendezvous of these destructive creatures, serious and often fatal disease, known as hydatids, is occasioned by the extraordinary development of the cysts, which are originally not larger than a pea, but by excessive growth assume enormous proportions. The same disease may occur in any other part of the body in which the germs undergo development.

In Iceland this disease has become extremely common; it is not uncommon in this country. The poor victim who is forced to entertain this unwelcome guest suffers untold agonies, and finally dies if he can not succeed in dislodging the parasite.

Now, my friend, assist your eyesight by a good microscope, and you will be convinced that you have only just caught a glimpse of the enormous filthiness of the loathsome pig. Take a thin slice of lean flesh, place it upon the stage of your microscope, adjust the eye-piece, and look. If you are fortunate, you will find displayed before your eyes hundreds of voracious little animals, each coiled up in its little cell, waiting for an opportunity to emerge from its prison walls, and begin its destined work of devastation. A gentleman of eminence in Louisville has made very extensive researches upon the subject, and asserts that trichinæ may be found in at least one hog out of every ten. A committee appointed by the Chicago Academy of Medicine to investigate this subject reported that they found in their examinations at the various packing-houses in the city one hog in fifty infested with trichinæ. Other investigations have shown a still greater frequency of the disease.

This creature, also, is inclosed in a little cyst, or sac, which, when taken into the stomach, is dissolved by the gastric juice. The parasite, being set at liberty, immediately penetrates the thin muscular walls of the stomach, and gradually works its way throughout the whole muscular system. It possesses the power of propagating its species with wonderful rapidity; so that a person once infected is almost certain to die a lingering death of excruciating agony.

In Helstadt, Prussia, one hundred and three persons were poisoned, and twenty of them died within a month.

It is doubtless not known how many deaths are really due to this cause; for many persons die of strange, unknown diseases, which baffle the doctor's skill both as to cure and diagnosis. Trichinosis very much resembles some other diseases in some of its stages, and is often attributed to other than its true cause. It is thought by many medical men of considerable eminence that hundreds of people die of the disease without its true nature being suspected.

Is it not proved that a hog is nothing better than an animated mass of physical defilement? How wise and sanitary was the command of God to the ancient Jews: "It is unclean unto you. Ye shall not eat of their flesh nor touch their dead carcass."

Although this law may not still be binding upon all mankind as a moral obligation, it is quite plain that the physical basis upon which it was founded is as good to-day as at any previous period. Could it be proved that the hog had kept pace with advancing civilization, and had improved his habits, we might possibly find more tolerance for him; but he is evidently just as unclean as ever, and just as unfit for food.

Adam Clarke, when requested to give thanks at a repast of which pork constituted a conspicuous part, once used the following words: "Lord, bless this bread, these vegetables, and this fruit; and if thou canst bless under the gospel what thou didst curse under the law, bless this swine's flesh."

The Mohammedans, as well as the Jews, abstain entirely from the use of pork, as do also certain tribes in Asia and Africa.

THE "INNOCENTS" AGAIN.

BY MARY MARTIN MORSE.

MRS. WALLACE in the February number of the *Ladies' Home Journal* graphically depicted the downward march of a great army — the flower of our fair and favored land. The column rises where the sun first dawns on the Atlantic coast, and extends as far as the eye can reach, till it is lost in the sunset's splendor where the Golden Gate stands guard over the Pacific shore line. It is coming, ever coming, from the hill-slopes carpeted with trailing arbutus in the spring, from fields where the luscious wild berry grows in midsummer, and from the woodland fern-knolls with their gorgeous autumnal leafy coronals.

All these invite the buoyant step of childhood to yield to nature's charms, and enjoy the God-given beauty as the Creator designed.

"Hush, my dear! I am shocked that a child of mine should have such common tastes. The vines would roughen and scratch, and the berries stain your hands, and your face would be one mass of sunburn and freckles." The snowdrop daughter "hushes" all the clamorings of her nature, in obedience to a fond and

foolish mother's dictates. A little later a "hush" has fallen upon the home where the child's footsteps are nevermore to be heard, and the lonely mother questions the Providence (?) that bereft her of her darling.

From where the westering sun glides down the slopes toward orchards perfumed with orange blossoms and gracefully waving tropical trees, comes the wail of the same sad note, mingled with the breezes from the tall tree arms of the mountain pines, and the lap, lap, lap of the crystal waves on the beach. The modern mother in the land of gold, and other lands as well, does not hesitate to expend money for her darling. She buys everything from a picture of the Madonna to the masterpiece of Rosa Bonheur, from a poodle with a penniless pedigree to — when the dress of young ladyhood has succeeded the short dresses of childhood — a penniless earl with perhaps a poodle pedigree.

"The best things any mortal hath, are those which every mortal hath;" and these, fresh air, sunshine, with the freedom of field and forest, nourishing food, plenty of sleep in the early night hours, — these are not recognized as essential.

The average girl is fed on pie and pickles, cake and candy, tea and trifles, and is expected to reach great heights of intellectual attainments. Whose fault if the fair young wings falter, and flutter, and fall before half the aërial voyage is completed?

"And Pharaoh commanded the same day the taskmasters of the people, and their officers, saying, Ye shall no more give the people straw to make brick, as heretofore: let them go and gather straw for themselves. And the tale of the bricks, which they did make heretofore, ye shall lay upon them. . . .

"And the taskmasters hasted them, saying, Fulfil your works, your daily tasks, as when there was straw. . . . Then the officers of the children of Israel came and cried unto Pharaoh, saying, Wherefore dealest thou thus with thy servants? There is no straw given unto thy servants, and they say to us, Make brick: and, behold, thy servants are beaten; *but the fault is in thine own people.*" Therefore it passeth in a proverb unto this day,— A heart as hard as Pharaoh's.

I take a well-known paper published in a city famous for its cultured, sensible inhabitants. It chronicles a child's birthday party—little men and maidens from seven to fourteen years of age. We are told of fairy-like costumes, resembling tropical birds for beauty. Agnes smoothes down her feathers complacently, for are they not more beautiful than Julia's? And Julia plots how by intrigue she may supplant Agnes. Girls and boys are paired off for dancing,—the open sesame to this affair has not been moral fitness, but —"all from the same set,"—"Whose child are you?" or, "How much money have your parents?" The refreshments served at an unseemly hour would befit the gods and goddesses of an extinct mythology, but flesh and blood—American children—never. After a few seasons of hothouse gaiety there is not very much flesh and blood left. "But," say the proud parents, "thanks to our lucky stars! it is blue blood, what there is." With overheated, flushed faces, and nerves in a tremor, the "innocents" repair to their several homes with feelings awakened that should not enter head or heart until the poise of manhood or womanhood comes, and some would far better never be chronicled by the recording angel.

"My daughter is so fond of reading," said a doting mother. "What does she read?" "Oh, I don't know exactly, but she is always reading." And so she is. Legion is the name of the trash that has crept like the flies and frogs of Egypt

into the bedchambers of our boys and girls.

I took a street-car one chill October morning. A young mother with her little daughter, apparently five or six years of age, were on the car. The mother wore a tailor-made wool gown, with the additional protection of a fur boa around her neck. The little girl was dressed in a thin, almost transparent cotton frock, so the bare baby shoulders and chest were visible. There was a frill of lace at the neck, more around the yoke, and the same on the dainty sleeves that came to the elbow. The apology for stockings, encased by dainty slippers, came some two and one-half inches above the ankle-bone. An abbreviated undergarment, supplemented by Hamburg insertion and embroidery to match, accompanied by a narrow-gauge dress skirt came nearly to the knees. The space between was bare. Had this ch ld's father appeared in public with as slight protection, he would have passed for a lunatic.

A delicate girl of seven years and her up-to date mother spent some weeks at a sanitarium. On a frosty autumn morning the child was dressed in the sheerest white, with an abundance of fairy-like lace — neck, chest, arms, and waxen limbs from above the knee to near the ankle were bare. She looked like an animated French doll, — and was troubled with catarrh, which the mother insisted she had "inherited from the father's side of the family."

"My dear," said a fond husband to his wife, "I think this is the ideal diet that God intended and provided. I believe that if we follow this regimen, I shall soon see the last of this misery-making, life-destroying dyspepsia; and I believe that your health and the children's would be far better. Can we not make a radical change?"

"James, what do you mean? You must be joking! I have no doubt that such a bill of fare would prove better for our health, and the foods are certainly more nutritious, but what would our table look like?" That settled the question. Life, love, happiness, husband, children, on one side of the scales; on the other, elegant table service, rich cake, questionable meats, highly spiced delicacies, "broth of abominable things," butterfly flips, and tinted nothings turn the scale downward.

"There, there, now you have stepped in the dirty road, and gotten the dust all over your shoes. Naughty boy! come here [with a vigorous shake]. Now you can't go out again this afternoon." No wonder the little Fauntleroys do not want to be (American) earls when there is so little to gain and so much to lose. Queen Victoria's grandchildren can play on the beach of a summer's day in plain linen frocks without embellishment, but the nerves of many an American day laborer's wife would tingle at the suggestion that her child should do the same.

The Rev. Dr. Hillis, in a recent lecture, mentioned the large amount of literary work done for America by imported talent. Question, "Why do not Americans do their own work?" "Because," he replied, "they have no time for it; they are *so busy raising pork.*" Many a mother is providing herself and family with "the husks that the swine did eat," while the heaven-sent manna remains unappropriated, to perish where it fell. Saddest of all, she is satisfied, blindly dreaming that they are faring "sumptuously" every day.

Johnny has on his best clothes. Mother says, "You must not play in the dirt with these clothes on." "Don't they have any dirt in heaven to play in?" he asks. "Of course not," replies the mother. "What do little boys do up there, then?" "O, they play harps, and sing, and sit under

the beautiful trees." "Well," says the philosopher, "I don't see how they can have trees, if there ain't no dirt."

A member of the board of education in a city famous for its meat exports and its educational institutions, sought the repose of home and his evening paper. Fresh news from the Philippines rendered it especially interesting, but the schoolboy's work, like woman's, is never done. The child brain had a list of questions to solve for to-morrow's recitation, before he could sleep.

"Papa, is Aguinaldo a Republican or a Democrat?"

"Neither," replied the father, without raising his eyes.

"O, I see. He 's a Populist," said the boy, "and that means he wants 16 to 1, does n't it?"

"He wants sixteen of our men killed to one of his, I suppose," said the father, but the tone was so far away that it sounded like a Manila zephyr.

"Papa, please tell me how to do this example teacher wants us to have ready to-morrow: 'If thirteen Filipinos can dig a trench one forty-ninth of the distance across Manila in five and three-sevenths days, how long will it take six men to dig a trench half as long?'"

"If I had a pencil I could do it, but you must not bother me; I want to read."

"Well, I 'll wait till morning; but you don't need a pencil — you must do it in your head."

A little later: "Pa, can you tell me the latitude and longitude of Manila, or what its population is?"

"I don't know."

"Who discovered the Philippines, and when?"

"Can you tell me about their monetary system, the prevailing religion, or their educational progress?"

"*No.*" And he looked like Giant Despair when he planned to dine on Christian, and failed.

"Pa, I 'll hate to tell teacher you did n't know the first thing about the Philippines, 'cause she told the class I 'd be sure to find out answers to all the questions from my father, 'cause he helps manage all the schools in the city."

"Woe unto you also, . . . for ye lade [embryo] men with burdens grievous to be borne, and ye yourselves touch not the burdens with one of your fingers."

Parents, is it not possible that the advice given by the old lady to the astronomer who fell into the ditch,— "not to have his head among the stars while his feet were on the earth,"— might well be applied to other situations and conditions? If your heads are not among the stars, may not the child hands, in grasping for the moon, be hopelessly impaled on life's barbed-wire fences, while you are absorbed in embroidery, in neighborhood gossip, or in the affairs of the second precinct of the fourth ward?

THE EDUCATION OF MOTHERS.

BY KATE LINDSAY, M. D.

ONE of the traditions that still holds sway over the minds of men and women is that all the education a woman needs to qualify her for motherhood is expressed by the term "natural instinct," or "intuition." For all other vocations in life she must be trained as carefully as her brother man, but for this most important work of building up and forming the human being, physically, morally, and mentally, all that is required is this natural instinct or intuition.

A short time ago, even as late as the middle of the present century, it was

thought that all that was necessary to make a nurse was natural womanly intuition. Even to the medical profession the trained nurse was looked upon as an uncalled-for innovation. It did not matter that this so-called natural intuition never taught her that to keep the patient in bed for days and weeks in a room with closed windows and doors and everything foul and reeking with the germs of disease, was the sure way to kill, not to save, the patient.

Intuition never taught the average grimbones nurse that it is microbes and dirt, want of clean air, pure water, and good food, that endangers recovery, not fresh air flowing in freely through open doors and windows, sunshine, and plenty of pure water inside and out. So the poor fever-stricken victim was refused the water he craved to allay the consuming fire that was burning up his tissues, and destroying his bodily organism.

To-day no one expects a nurse to be successful without years of training and experience.

This traditional belief that instinct, or intuition, will fit a woman for any vocation seems to have found its last stronghold in the all-important mission of motherhood. That instinct, or intuition, will tell a mother what to do for her little one, no matter how ignorant she may be, is still the popular belief of even educated, enlightened humanity.

It matters not that all the sad experience of the past, with its history of infant mortality from physical disorders, and the fact that more than one fourth of the human family perish from preventable diseases within the first five years of life, when the fate of the little one is in the great majority of cases in the hands of the mother, when it is she who determines more than any one else what its after life shall be, goes to prove this a false, misleading belief, the baby's health is made or marred by the food it eats, the air it breathes, the clothes it wears; the darkness, the light, the dampness, the dryness — the sanitary conditions of its surroundings are all so many factors in determining whether its life shall be a success or a failure. Even the mother's changing moods and tempers are interwoven into the little one's character, and determine whether it shall grow up an unstable character, under the rule of passion and impulse, or a self-regulated man or woman, directed by an intelligent and reasonable will. Is the mother intellectual, and her mind active in the pursuit of useful knowledge? Does she live in an atmosphere of thought and conversation above the average gossip and scandal of every-day social life? Then the minds of her children will be moulded after the same high ideals; and as they grow up to take their part in society, they will still feel the influence of their infantile training in right thinking and proper action.

But it is not alone after the little one has come into the world and is leading to some extent an independent existence, that the mother as an all-powerful educator is exerting a moulding influence over him. During all the time that his members are being shaped and formed within her, and acted upon by the influence of her ever-changing condition of mind and body, she is most responsible for the character of this delicate human organism.

If we turn to the instruction given by the angel to Manoah and his wife, we find that it all related to the regulation of the mother's life. When Manoah, not satisfied with what his wife told him about the directions given her in relation to the care of the promised child, entreated for another visit of the angel, at which he should himself be present and thus be sure that no mistake was made about the previous directions, the angel only repeated

his instructions to the mother. In answer to the importunate question of Manoah, "How shall we order the child, and how shall we do unto him?" the answer of the angel was: "Of all that I said unto the woman let her beware."

It was always recognized in the days of human slavery that the degradation of the slave mother was invariably manifested in the character of the child. No matter what position the father held, the child of a bondwoman was a bondman, and could never "be heir with the son of the freewoman."

The child of the bondwoman of to-day is no more an heir of freedom than the child of Hagar in ancient times. The mother who has had no training, whose life is one series of outbursts of untrained impulses and unrestrained passions, will just as surely bequeath to the world an Ishmael as did the bondwoman of old. The woman who, bowing at fashion's shrine, has wasted her vitality, deformed her body, displaced and distorted important organs until they are so weakened in function that they refuse to do the work they were designed for, and who is so enfeebled physically as to be unable to take part in any of the active duties of life, will educate all the growing structures of the unborn child so that it will come into life with a heritage of aches and pains, and a weak physical constitution which will unfit it to meet life and its responsibilities.

Intuition, during all the centuries which have intervened between the time of Hagar and Ishmael and the present, has never led any mother to shun the causes which made of Ishmael a man at war with his fellows, the progenitor of a blood-thirsty race, whose hand was against every man and every man's hand against it. The shadow of Ishmael's prenatal education hangs over and shapes the destiny of the Mahdis of to-day. Samuel, the "heard of God," is an example of the child prenatally educated for God and humanity, a type of what may be the result to the coming child, of the education it can not escape before its birth.

To-day there are to be found all over the earth Samuels and Ishmaels, the result of these unchanging workings of the law of cause and effect. This is a time in the history of the world when every nation, every people, is more or less in touch with every inhabitant of the globe, and the Ishmaels and Samuels are more likely to have an enlarged sphere of influence than ever before in the history of humanity. This fact being apparent to every thinking person, it is an all-important matter that the prenatal education which has so much to do in forming the after history of the individual should be such as will give us wise and righteous judges to sit as leaders and directors, not Ishmaels to prey upon us and to plunder us.

It is said of women, and with too much truth, that they delight in vain and idle gossip. Did it but dawn more clearly upon them what great things they might do for the race by a proper cultivation of their intellects, and by the development of their bodies, would they waste time and squander talents unfitting themselves for this all-important work,— a work they are fated to do either well or ill, the influence of which they can not measure, and which will go on and on long after they are at rest under the grass? Life is always a solemn thing when results are considered.

Much time and much money have been spent, and endless experiments have been tried to perfect an infant's food which will be suitable to nourish the little one for the first years of life. Instinct and intuition had failed to teach mothers the simple fact that it is a matter of grave importance what the little one puts into

its stomach, and that it can not digest and assimilate food suitable for adults. All the painstaking of the scientist has proved only one fact, and that is that no perfect substitute for mother's milk has yet been found, and that for the education of the coming men and women out of the habit of dyspepsia there is nothing so efficient as that they shall have mothers capable of furnishing them with good mother's milk for the first ten or twelve months of life. Certain laws govern the development of this very important maternal function, which should be understood by all women; and as so much of the success of life depends upon how the little ones are fed during their first years, it ought to be known to all parents what surroundings, what care, and what obedience to the laws of hygiene will insure to the coming baby a good supply of healthy natural infant's food. At present few mothers think of food as an important factor in infant education. Like Manoah, they are many of them anxiously inquiring what they shall do for the coming little one, and how they shall order its life, but they never consider how the poison of fermenting food, either in their own stomachs or in that of the infant, may damage and derange the rapidly developing brain of the little one both before and after birth. The writer remembers very distinctly the case of a mother with an ungoverned temper, who, after a violent quarrel with her husband, nursed her six-months-old infant. The child became at once dangerously ill, and ere the family physician could come to the house, was stiff and cold in death — as surely killed as if she had given it a most powerful drug poison. In startling cases like this, where cause and effect follow so quickly and with so marked and terrible results, it is not at all strange that other mothers pause and think. But no one ever seems to connect a restless night for the baby and its distressing colic pains with the fretful, disturbing day the mother had because of something out of joint in the arrangement of the family program, or some trouble with the servant; some personal anxiety which caused the milk on which the little one depended for its existence, to be injured and spoiled in quality. Pain, suffering, and nervous depression in both mother and baby are the sure result of fretting. Overheating over the cook stove, many long hours spent at the sewing-machine, fashioning an elaborate wardrobe for the little one, all are so many sources of miseducation of the baby's nervous system. Restless nights come from worn-out nerves, and want of sleep adds to the production of nerve exhaustion in the mother, which reacts upon the nervous system of the child. A mother always excited and never in any condition of calmness and repose, or with every nerve on a high tension, is burning up her own vital energies and those of her little one. The poisons of tissue waste are not properly eliminated from the body, and she feeds its rapidly growing organism with food elements mixed with the poisonous tissue wastes of her own body. No wonder such children are nervous and fretful from the time they are born, and that mind and body give way when they are called upon to endure the strain and wear of life. No wonder that impulse and passion control their actions, that many of them find life's difficulties too much for them, and end in the insane asylum, become inebriates, paupers, or criminals.

It is well known by actual demonstration just how many and what changes are induced in every organ and tissue of the body by alcohol. The dissecting knife and the microscope have been freely used on the degenerated liver, brain, kidneys, muscles, and all the other structures of the man poisoned and killed by alcohol. But the effect of the poisons which destroy

the minds and bodies of infants born and unborn have not yet been thoroughly investigated. The infant a month old dies of convulsions due to overheating, to mental or emotional excitement; the physician gives a burial certificate stating the cause of death, but he never warns the mother of the cause of the convulsions. Unwarned and ignorant, she goes on repeating the same line of conduct, tacitly inviting disease and death to afflict and carry off her little ones, one after another. Those who live become invalids, and must all their life long suffer from disease and weakness.

Every educational scheme for the development of a superior race, with sound bodies, strong minds, and tendencies toward right, must be more or less a failure if the ducation of mothers for the duties of maternity is neglected. The divine command to Manoah's wife, to take heed to all things which were commanded her, is still binding on the mothers of to-day. The laws which regulate the working of the functions of her own body are as much a command from on high as was the angel's instruction to Samuel's mother of old. No one can set aside the decrees which regulate the structural formation of his own body, without suffering the penalty for broken laws, which in parents involves their offspring to the third and fourth generations.

TWIN THANKSGIVING DINNERS.

BY ANN ELEANOR STRONG.

FOR mercy's sake, mother, you are n't going to have oyster soup!" exclaimed Bertha Winthrop, as she glanced over the preliminary menu.

"Of course we are," answered her mother, surprised. "Who ever heard of a Thanksgiving dinner without oyster soup?"

"Well, I have," said Bertha, emphatically. "I declare, it 's so long since I 've seen an oyster that I 'm afraid I shall faint if I stay to dinner. Why, Mother Winthrop, I can't bear the idea of your feeding your family on extract of scavenger."

"Bertha Paulina, what on earth do you mean? You 'd ought to be ashamed to speak to your mother like that. Extract of scavenger, indeed!"

"Well, but that 's just what it is," persisted the young woman. "Don't you know it 's the oyster's business, and the only one he has, to devour filth, to sweep up and eat up every horrid thing he can lay his greedy lips on? The fatter the oyster the more ocean slime he holds packed away in his big stomach. But that is n't the worst of it. You know that nice, smooth, fat, juicy part that we all like best? Well, that's the oyster's liver, and just as likely as not it has millions and millions of typhoid germs in it, all fairly squirming for a chance to get into *you*."

"For the land's sake, Bertha, hush up," interposed Mrs. Winthrop. "Just because you 've been away and got some newfangled ideas about what to eat, you need n't try to spoil other folks's victuals. If you did n't have oyster soup, now, I 'd just like to know what you would have?"

"I? Why, it would n't take me long to decide. I would have just the nicest cream of corn soup you ever ate. Everybody says it 's perfectly delicious, and then you are sure you are n't swallowing microbes and dirt with every mouthful."

"Do you see anything else to find fault with?" asked Mrs. Winthrop, a little crossly, as her daughter was still studying the menu.

"I would n't have fish," said Bertha.

"Why not?"

"Well, principally because the last time I cut Mr. Trout's dead head off, methought I caught a reproachful gleam in his fishy eye as his head fell over into the pan. It seemed to say, 'If you had only known what a glorious life I led in those beautiful blue waters of Lake Superior, you would n't have killed me just for one moment's pleasure to yourself.' I remember, too, one day when I was out riding with Uncle Abram, we met a cadaverous-looking man with a long fish-pole over his shoulder, going down to the river, and Uncle Abram said, 'Look at that fellow, Bertha; himself with one foot in the grave, yet going out to commit murder.' That was my first lesson in vegetarianism. Uncle Abram said the fish had as good a right to live as the man had, and I 'm sure I don't know, myself, why it has n't."

"Well, that is pure sentiment, and does n't turn my stomach," said Mrs. Winthrop, "at least not my physical stomach. I don't know," she added, "as I 'd like to go out and catch the fish myself any more than I 'd like to kill a chicken, but you could n't have a very complete dinner without fish, and I don't propose to bother my head about ethics."

"But there 's another reason why I would n't have fish," said Bertha, "at least so far inland as we are. You can't possibly get them fresh, and in view of the fact that a fish begins to decay the minute it 's caught, I should hesitate to eat one myself that had come hundreds of miles by rail."

"But what would you have in place of the fish course?" said her mother. "You must have something before the main part of your dinner."

"Oh, but you 're not obliged to," said her daughter. "Indeed, I believe it would be an immense relief to most people to proceed at once to 'the main part' while they still have an appetite. But then there are lots of other things you could have — delicious nut preparations and grains, for instance."

"Corn-meal mush," suggested Mrs. Winthrop.

"Corn-meal mush!" cried Sam and Harry, rushing in at this instant. "'S that what you 're going to have for dinner tomorrow?" and the two boys burst into merry peals of laughter. "We may not know what you 're going to have, Sis," said Harry, "but we can depend on mother every time."

"Is that your Thanksgiving program?" inquired Aunt Lucy, who had followed the boys. She looked disappointed as she examined the card. "The same old thing," she said with a sigh, as she handed it back to Bertha. "I hoped you would be able to think of something new, after all your experience at that sanitarium."

"I *can* think of something new," said Bertha, "but mother does n't want me to."

"Oh, well, it 's absurd not to have oyster soup and fish," said Mrs. Winthrop, "and I suppose Bertha would find something the matter with the rest of the courses if we went on. That was as far as we had got when you came in."

"Now see here, Mattie," said Aunt Lucy, "why don't you give Bertha a chance? She 's been to that reform cooking-school and learned a great many things that we don't know. Why not let her have a voice in the dinner, and give us all the benefit of a little novelty? I am sure the rest would like it."

Several of "the rest," drawn by the irresistible attraction that hovers over the kitchen the day before a festival, had by this time joined the company. "Speak for yourself, Lucy," said Uncle William. "For my part I want to know what Bertha proposes to do for us before I sign

any such contract. Would you take away our turkey, Miss?" and Uncle William struck a belligerent attitude.

"I certainly would," said Bertha.

"On what ground?" demanded her uncle.

"On the ground that the turkey enjoys his turkey life, liberty, and pursuit of happiness as much as you do yours," said Bertha with spirit. "Besides, I think Thanksgiving day is the last day in the world to kill things. I should n't like to have my pet lamb made into chops for anybody's pleasure."

"Why, just hear her!" cried Cousin George. "You 'd suppose she was a regular woman's righter."

"Yes, but what should we get in place of our turkey?" inquired Uncle William.

"I would make you a delicious nut roast," said Bertha, "and I would have things to go with it that would go,—things that would n't poison your blood and deaden your feelings, and stupefy your thoughts."

"Do you think that 's the effect of potatoes and bread and butter?" asked her mother, ironically.

"No," said Bertha, "but it *is* the effect of putting potatoes and cranberry sauce together, and of eating pickles, and jelly, and soft biscuits, and cabbage, and washing everything down with coffee or tea."

"What an immense number of people have been poisoned every day for hundreds of years, and never knew it," remarked Uncle William.

"They did n't know *what* poisoned them, I 'll admit," said Bertha; "but anybody who has ever tried hygienic living can see the difference. It 's nice not to have a headache every time you eat, and a particularly awful one after special celebrations."

"But now supposing, Bertha, that you were getting this dinner, what would you have instead of potatoes and cranberry sauce, and so on?" asked Aunt Lucy.

"Oh, well, Aunt Lucy, I could n't tell you exactly on the spur of the moment," said Bertha. "I should have to study combinations a little. But I should try pretty hard to get something you 'd like."

"I 'll tell you what," cried Cousin George again, "let 's give her a trial. Let Bertha fix up the things she likes, and Aunt Mattie go ahead and get what we all like, and then everybody can take his choice."

"Oh, that would n't do at all," laughed Bertha. "You 're all so unregenerate that you would n't try my dishes till you had eaten every bit of mother's and had n't any appetite left."

"Let me make a suggestion," said Uncle William. "Suppose we have two dinners. I 'll foot the bill for one. Bertha shall go ahead and prepare just what she pleases, from beginning to end, and set her table in the back parlor, and then we 'll go around and sniff both, and eat the most appetizing."

"We might eat Bertha's first, and then tackle Aunt Mattie's," said George. "I don't believe Bertha's whole dinner would phase my appetite."

"I 'll tell you something better yet," said Aunt Lucy. "We will divide the family into two sections; one shall eat Sister Mattie's dinner, and the other Bertha's, and then we 'll compare the after-effects."

"I suppose you 'll take our temperatures before and after dinner, and apply a stomach-pump an hour later, to see how the potatoes and cranberries are prospering," said Uncle William.

"Well, I vote to eat mother's dinner," said Harry.

"So do I," said Sam. "I just hate corn-meal mush."

"I think we 'll decide that question by lot," said Aunt Lucy. "Only we 'll have

one grandmother and one grandfather at each table, and divide up the young folks proportionately."

Thus it came to pass that twin dinners were served to the Winthrop family that Thanksgiving day — twins in point of arriving upon the scene at the same hour, but quite unlike in character and appearance. Here are the two menus, as prepared by Cousin George and presented to each guest: —

Orthodox Dinner.

Oyster Soup
Wafers Celery

Baked Whitefish
Potatoes a la Parisienne
Cabbage Salad

Roast Turkey Mashed Potatoes
Hubbard Squash
Cranberry Sauce
Currant Jelly
Cucumber Pickles
Coffee Tea

Mince Pie Pumpkin Pie
Plum Pudding
Black Coffee
Cheese Biscuit

Health Dinner.

Cream of Corn Soup
Whole-Wheat Wafers Zwieback

Broiled Protose
Browned Rice
Tomato Salad

Lentil Roast
Apple Macaroni
Pease Patties

Fruit Salad
Mixed Nuts Oranges
Grapes
Fruit Coco

There were great fun and much bantering over this double feast. It fell to Uncle William's lot to eat at Bertha's table, while Aunt Lucy was "condemned," as she called it, to suffer as in the past. At the end of the turkey course in the dining-room, Uncle Josh arose ostentatiously, and let out his belt, while Harry exclaimed, "Say, folks, I can't eat another mouthful until I 've jounced down what I 've got. Let 's all go out and run around the house to give us an appetite. That pie is lickin' good."

This proposition met with storms of laughter, and Uncle Josh declared it would be a fine thing. So, after some protests and parleyings on the part of the ladies, the entire company arose, and, donning light wraps, proceeded to carry out Harry's suggestion. The elder members of the party contented themselves with a laughing walk once around the house, but the young folks and the children raced out to the barn and around the house three times. Harry declared as they came in that he *could* eat some more turkey now, but he guessed he would n't, considering the pie.

"Goodness, Mattie, did n't you learn at school that the human stomach only holds three pints!" exclaimed Uncle Josh with a loud laugh, as he fell upon his pumpkin pie with one hand while taking a piece of mince with the other, and devouring with his eyes the plum pudding that was being served at the other end of the table.

In the back parlor, however, a very different meal was in progress. Bertha had explained that to be really and truly hygienic they must not have anything to drink at the table, and had administered a glass of cold water an hour before dinner-time to as many of her party as would accept it. For the others she had provided grape-juice and fruit-coco, "not wishing to be too strict," she said. Uncle William made fun of her nut foods, but said he really enjoyed them after all, and he proposed to take some of that "maltese cattose" home with him.

"But the beauty of this dinner is," said Bertha, "that it is n't necessary to

run around the house to jostle it down. While the rest are running, we are masticating, and when our dinner is over, we shall not have to go to bed and sleep off the effects. So it proved. With the "orthodox" diners it was supposed as a matter of course that everybody would take a nap after dinner. "Just for fun," as the company were about to rise, Cousin George passed a box of digestive tablets, "so you won't have the nightmare." Grandfather Jones fell asleep in his chair by the fireplace, various uncles and aunts stretched or heaped themselves on sofas and divans, children curled themselves up in corners, and the young ladies retired to the second floor.

"Now, I don't think that 's any way to spend Thanksgiving," declared Bertha. "To think of it! On the day of all the year when we 're supposed to be grateful to the Creator for life and health and all the benefits and happinesses that accrue thereto, we eat ourselves sick, and are too stupid to be grateful for anything. As for life and health, it 's a joke among physicians that they have more cases after Thanksgiving and Christmas than at any other season of the year. What a shame! Now I feel like taking a long walk — going out to the woods and getting a view of nature in November. How many want to go along?"

Uncle William declined, saying that he preferred to sit in the bay window and meditate upon the virtues of fruits, nuts, and grains. But the younger members of the party and Aunt Lucy from the "flesh-eaters' table" gaily acquiesced in the plan, though, as they said, it was an unheard-of way of spending Thanksgiving afternoon.

"I don't feel as if I 'd eaten a thing," said Sam.

"Do you want some turkey?" asked Bertha.

"Not much," said the boy. "I 'm happy, but not heavy."

RECIPES.

Macaroni with Pease Gravy. — Prepare the gravy of dried Scotch peas soaked in cold water overnight, then cooked very slowly until perfectly tender. When done, rub through a colander to remove the skins, and to each cupful of the sifted peas add one cup of boiling water with salt to season. Put one small onion cut in half and three stalks of celery into the gravy, and boil all together for fifteen minutes. Remove the onion and celery with a fork, add one-half cup of nut cream for each cupful of water used, and thicken if needed with a little flour rubbed smooth in water. Meanwhile have the macaroni thoroughly cooked in boiling salted water, and after draining it thoroughly, add it to the pease gravy. Stew together for a few moments and serve hot.

Boiled Rice. — Soak the rice overnight in salted water. In the morning put to cook in eight parts boiling water to one of rice. Boil, without stirring, rapidly for ten minutes. Drain thoroughly, turn into a shallow dish, and set on the range to dry.

Fig Toast. — Prepare the dressing by carefully washing and chopping enough good figs to make a cupful. Stew in a pint of water, to which is added a tablespoonful of sugar, until they are a pulpy mass. Serve on slices of zwieback moistened in hot cream, hot water, or hot nut cream.

Cocoanut Corn Bread. — Scald a cupful of best granulated corn-meal by pouring over it a cupful of boiling water, stirring it well meanwhile. Add to this enough cocoanut cream to make the meal into a

Seasonable Bills of Fare

BY MRS. E. E. KELLOGG . . . .

BREAKFAST NO. 1

Wheatose with Dates
Breakfast Rolls
Baked Apple with Almond Cream
Macaroni with Pease Gravy

BREAKFAST NO. 2

Apples
Boiled Rice Fig Toast
Egg Sandwiches
Cocoanut Corn Bread

Thanksgiving Dinner Menus

Fruit Soup with Nut Sticks
Baked Pignolias
Browned Rice with Tomato Sauce
Macaroni with Kornlet
Bean Patties with Lemon
Whole-Wheat Puffs Cocoanut Buns
Browned Granose Biscuit
Fruit and Nut Pie
Fresh and Stewed Fruits

Tomato Spaghetti Soup with Croutons
Celery Branches
Broiled Protose with Gravy
Baked Sweet Potato Jellied Cranberries
Lentil and Nut Loaf
Boiled Chestnuts with Tomato Sauce
Canned Green Peas
Fruit Salad (see Aug. No.)
Fruit Rolls Brown Bread Popovers
Lemon Pie
Fresh and Stewed Fruits
Fruit-Coco

batter thick enough to require spreading in the pan with a spoon, and bake a half-hour or longer.

Fruit Soup.— Into one cup of warm water put one rounding tablespoonful of sago, and cook in a double boiler one-half hour. Then add two or three whole cooked prunes, one-fourth cup stewed raisins, two tablespoonfuls stewed cranberries, one teaspoonful lemon-juice, and sugar to suit the taste. Allow it to heat until the fruit is hot, and serve.

Vermicelli or pearled barley may be substituted for sago, and dried cherries, with strawberry and lemon-juice, used in place of the fruits mentioned.

Baked Pignolias (Evora Bucknum).— Pour boiling water over three pounds of pignolias in a fine colander (after picking out the pieces of shell), rinse in cold water, and put into the bean pot with three large onions, finely sliced; two cups of strained tomato, and four rounded teaspoonfuls of salt. Let them heat quite rapidly at first, and boil gently for a half-hour. Then simmer slowly for ten or twelve hours. Leave just juicy for serving.

Macaroni with Kornlet. — Boil until tender one and one-half cups of macaroni, broken into inch lengths in salted water. Rub one can of hulled sweet corn through a colander or use the prepared kornlet, and add to it one pint of nut cream. Part cocoanut cream (see February number) is very nice for this purpose. Heat to boiling and thicken with one tablespoonful of flour. Mix with the cooked macaroni, add one and one-fourth teaspoonfuls of salt; turn into a pudding dish, and brown in a hot oven.

Bean Patties.— Cook best white navy beans until tender. Rub through a colander to remove the skins; season with salt and nut meal or nut cream. If the pulp is not sufficiently dry to shape, place it on top of the range or in the oven, when the water will evaporate until the pulp is quite dry. Then shape with the hands into flat, oblong, or round patties about one inch thick. Place on tins and brown until dry and mealy throughout, and of a delicate golden brown on top. Serve in individual dishes with a garnish of thin slices of lemon, and with or without a dressing prepared by beating one spoonful of nut butter to a cream in one cup of water, and adding one-half cup of lemon-juice and salt as desired.

Fruit and Nut Pie (Evora Bucknum). — *Paste.*— For a large pie take one and one-fourth cups each of sifted meal and pastry flour, add salt and one-third cup of water, and roll out without kneading.

Filling.— When the pan is covered with the paste, have mixed together one-half cup of sugar and one-third cup of almond meal, with a little salt. Sprinkle half of this over the paste on the bottom of the pan. Fill the pan with tart apples which have been pared, cut into quarters or eighths, then across, and drop in the spaces finely flavored raisins. Sprinkle the remainder of the sugar over the top of the fruit, putting plenty near the edges. Cover with the top crust, and bake until the apples are tender.

Lentil and Nut Loaf.— To one pint of rather dry lentil pulp add one cup of grated Brazil-nuts and sufficient stale bread-crumbs to make a stiff mixture. Season with salt and sage if desired. Press into a bread tin, and bake in a slow oven one hour or longer.

Boiled Chestnuts.— The large variety, known as the Italian chestnut, is best for this purpose. Remove the shells, drop into boiling water, and boil for ten minutes; take out, drop into cold water, and rub off the brown skins. Have some clean water boiling, turn the blanched nuts into it, and cook until they can be pierced with a fork. Drain thoroughly, put into a hot dish, dry in the oven for a few minutes, and serve with tomato sauce.

DIETETIC CAUSES OF DRUNKENNESS.

THE importance of food as a factor in the causation or prevention of intemperance is strongly urged by Dr. T. D. Crothers, in the *Quarterly Journal of Inebriety*, April, 1899. He says: —

"In my studies the nutrition of childhood has been found to be in many cases an active cause of narcotism from alcohol. I have divided these into the *overfed* and the *underfed* cases. In the former the clinical history would follow these general outlines: The nursing child would be surfeited both at the breast and by infant foods. The central thought of the parents would be the danger of starvation and the need of constant ingestion of food. When indigestion followed, another nurse, and changed foods in equal quantities would be given. Later, when the child was able to occupy a place at the table with his parents, all discrimination was left to his own taste, the parents reasoning that the appetite was the best guide, and the child's food inclinations should be followed. Anything the child called for as foods or fluids was given freely. The disturbances of digestion which follow are usually treated as weaknesses and tendencies to disease. Consumption, rheumatism, disease of the liver, stomach, and kidneys, and other formidable diseases are discerned in the horizon by the worldly

wise physician. Patent foods, climate cures, changes of school and culture, and many remedies are tried. Finally puberty is passed, and the digestion is permanently impaired. The appetite is lawless and without control. The body is illy nourished. Already fatty deposits have begun. The demand for foods and fluids is mere impulse. The taste is disordered. Large quantities of certain classes of foods are taken, then abandoned; the same of fluids, teas, coffees, mineral waters, beers, wines, and anything used at the table.

"Indigestion and obscure or well-defined nerve failures, nerve disturbances, irregularities of sleep, all follow. Then, finally, comes the subtle tonic bitters containing from twenty to forty per cent of alcohol, or wines or whisky, and inebriety has come. The relief which comes from spirits is so marked that it is continued, and then follows a rapid, sharp degeneration, and the inebriety is chronic, and complex mental and physical changes appear; opium and other narcotics follow, changing from one to another.

"This picture is not confined to children of wealthy persons, but occurs in all the various circles of society, — in the family with moderate means, and among children who are obliged to begin the serious work of life at an early age. The dietetic delusions of parents are engrafted and engraved in the minds of children, and the end is inebriety.

"Some of these cases take on paroxysmal forms after spirits are used. Thus, an attack of acute indigestion is followed by a drink craze, which after a certain time subsides, and breaks out again after a free interval. They become periodic drinkers, and when they die, show in the post-mortem remarkable stomach degenerations. It is found that the sudden unreasoning outbreaks of what is called alcoholism, or the use of spirits to prolonged intoxication, occur in those delusional dyspeptics who, from infancy, have had no dietetic or food control. Such morbid eaters occur often among prominent men, who, when they begin to use spirits, have no power of control, and are soon pronounced inebriates. In these cases, digestion is early strained and stimulated far beyond the needs of the body, and the food, non-assimilable or in excess of the demands of the organism, accumulates and becomes a source of degeneration. Overgrowths, retarded growths, defective growths, with functional derangements, both of physiological and pyschological control, follow. Excessive nutrition in childhood is often a cause of inebriety in later life, both with and without special exposure, and often among persons who by environment would naturally not use spirits.

"The second class of cases I have called the underfed. By that I mean persons who have been practically starved in many ways the first twenty years of their lives. The starvation has come from exclusive diets used from necessity or from theory, or from carelessness and neglect. In very poor families the food from infancy would be potatoes, cornmeal, or pork, or fruits in some tropic climates, or some form of liquid foods, no variety, and one article almost exclusively. In other families, from theory, children would be forced to use one class of food and no others, as, for instance, meats, or grains, or fruits, to the exclusion of every other class of foods.

"In the larger proportion of cases, carelessness prevails. Children are supposed, after the nursing period, to eat the same foods as the rest of the family, and are given without discrimination anything which is prepared. No care is taken of their diet, no judgment is exercised as to quality, variety, or nature of foods. At one time fruit is used to excess, or vegetables, or meats, or grains, according to

the supply. In the family of a country grocer, three boys, after a protracted period of indigestion, became inebriates. I found that the diet of the family was largely dependent on the surplus of perishable food which accumulated in the store. At one time it was eggs, then fruits, then grains, then meats. This diet was insufficient, and states of starvation and defective growth followed which led most naturally to the narcotic of alcohol. In another case two sons of a clergyman began to use alcohol to excess without any apparent reason. The theory of the parents that excess of quantity and variety of food was dangerous had been carried out from infancy. A limited and always insufficient quantity of potatoes and bread had constituted the daily food. When these children grew up, they ate to great excess away from home. This, with starvation at home, broke up the normal nutrition, and the relief from alcohol was so great as to be irresistible.

"In a case of unusual mental ability, where the user of spirits was of an exceptional character, and the effort to recover was of equal intensity to the craze for drink, it was found that regular, uniform diet of moderate variety of foods was medicinal. As long as his diet was mathematically uniform and unchangeable, he could keep from spirits, but the slightest deviation in the time of using foods and in their quantity and quality would destroy his mental control. It was ascertained that his mother, during pregnancy and lactation, entertained some extreme opinions of foods and their value, and put them into practice in her own case. The result was a very sensitive nutrient organization in the child, with anemic sick-headache throughout childhood, great excesses at puberty in foods and drinks, and continued nutritive disturbances up to manhood; then a period of drug taking and periodic inebriety. Now he is able to be a total abstainer only by the most careful attention to diet.

"There appears to be a close relation between the excessive use of meat in childhood and inebriety in early middle life. While the facts are not sufficient to draw from them any general positive conclusions, there are many reasons for supposing that often they are as cause and effect. This appears clear in this case: The parents in a family entertained very strong confidence in the value of meat as an ideal food. It was used and urged upon the children in all forms. One boy began to drink in college, and died after a short period of great excess. A sister was hysterical, became a drug-taker, and died early. Later, the parents abandoned meat for grains and fruits, and three children brought up upon this diet have continued well and healthy. The conditions and surroundings are the same, but the vigor of the children is varied widely. Beef-eating foreigners who bring up children on this diet are astonished that their children turn to beer and wine so early. The reason is the early deranged digestion, which, calling for relief of some kind, finds it in alcohol.

"The question of the value or injury from meats and grains is yet to be studied and settled. After alcohol is taken to excess, the complications of nutrition are many and serious. One of the first essentials in treatment is the elimination of toxins with proper nutrition.

"Foods easy of digestion, with moderate variety and quantity, and taken at regular intervals, are required. Concentrated foods may be useful in some cases and injurious in others. Frequent use of food and in large quantities is to be avoided.

"Two conditions exist, — impaired and defective nutrition, and congestion from overaccumulation of toxins and waste, unassimilable foods and starvation. The

treatment is not by routine or specifics, either foods or drugs, but by the use of many and complex measures to meet the special conditions called for. Inebriety is not confined nor traceable to any special cause, and its treatment can not be successful by any one measure or form of drug. The unexpected outbreak of the drink craze in early life and the persistence of the use of spirits are unmistakable evidences of some central defect of nerve centers and neurons. These defects are most likely to come from nutrient degenerations; in what way no one can tell, yet the facts point out a distinct relation.

"The drug poisoning from alcohol, opium, and other narcotics most clearly affects the nutrition, and in all cases is followed by veritable starvation and failure to assimilate the food required. Where causes are traceable to early life, the degeneration is greater and the symptoms are complex. The same nutritive problems appear in all cases. The use of tea, coffee, and wines at meals in early life is a starting-point for both degeneration and inebriety later. Many of the most intractable cases of pronounced degeneration where the alcoholic symptom was maniacal have a history of early tea and coffee drinking. The facts fully sustain the assertion that a large number of cases in inebriety are traceable to defective nutrition in early life. This may be both starving and poisoning, and the extreme persistence of these states is remarkable. Thus the bad living of childhood, with its defects of nutrition, may appear in later life, as in the following:—

"A child of healthy parents who were killed by accident was kept six years in the family of a German wine drinker. He was overfed and given wine freely at the table, and was considered sickly. Then he was taken by another family, and brought up very carefully and abstemiously. After a long temperate life he retired from business at sixty, and soon after began to overeat and drink wine at meals, and finally became an inebriate.

"Many cases are traceable where inebriety began at or before puberty, or after, then subsided, and later in life broke out again without any special cause. The expression, 'sowing wild oats,' often describes a period of excessive use of spirits and nutritional disturbances, and then a full subsidence and a long period of temperate living. Far down in middle and later life a recurrence of this excess period appears again, and often death follows. Here there is a persistence of nutrient and poison effects, which break out like some masked fire which has been dormant for a long time. The appearance of inebriety is usually sudden and without any exciting causes, and the change in conduct and manner of living is unexplainable. The same methods of using spirits and the same food impulses and tastes, and the same surroundings as far as possible, appearing after a lapse of a lifetime, show that early defects are not affected by time. I conclude at this point with a summary of what I have intended to make clear in this study:—

"1. Inebriety is a most complex neurosis. The causes are equally complex, and include all the various states of degeneration which influence and disturb nutrition.

"2. Obscure indigestion begins, and for this drugs and bitters containing alcohol are used. The narcotism which follows is so grateful that it is continued.

"3. Dietetic delusions are fostered in the minds of parents and children, and from this many different forms of inebriety begin.

"4. Often the most maniacal and chronic inebriates are from these delusional dyspeptics.

"5. Starvation is present in many of

these cases. The quality and variety of foods are deficient, and defective nourishment follows.

"6. The uniformity of taking foods and the quality and variety are essential. This and nutritional rest and mental anxiety are important factors.

"7. The inebriety following these conditions is successfully treated by elimination of the toxins and special correction of the nutrition.

"8. Nutrition is a very active cause in the production of inebriety, and should receive a careful study in all cases."

TABLE TALK.

The experience of a "Refuge" for depraved children in London goes to show that co-education is a strong reformatory agent. The *New York Medical Journal* reports that according to the superintendent of the Refuge, only about two per cent of the children trained there return to their former mode of life.

Speaking of meat extracts, the *British Food Journal* says: "Apart from any nutritive value which they have, these flesh bases undoubtedly possess a stimulant action in the system, analogous to that exhibited by the alkaloids of tea, coffee, and cocoa, and it is beyond question that to this stimulating effect, rather than to any true nutritive power, they owe such value as they possess." Our contemporary is of the opinion that "the flesh bases can not be called foodstuff in the proper sense of that term."

The public is cautioned by the *Medical News* against pet animals as the carriers of disease. It is said that parrots and cats are frequent victims of tuberculosis, and that the latter are known to have caused the spread of diphtheria. The *News* calls attention to the fact that children are less resistive to infection, and present better "cultural opportunities for micro-organismal growth" than adults; all of which, in plain English, means that children play with cats, cats carry contagion; children are very susceptible,—beware of the cats.

M. V. O' Shea, in the *Popular Science Monthly*, shows that mental fatigue disturbs the power of accurate and sustained bodily movements. The hand is unsteady. The voice is not so perfectly controlled as at other times. He says: "Warner points out that nerve cells in a state of fatigue become impulsive or spasmodic in their action; there is not such a perfect balance as usually exists between them when in a normal, rested condition."

Chauncey M. Depew is quoted in the *Dietetic and Hygienic Gazette* as saying: "I have observed that health and longevity are indissolubly connected with work. Work furnishes the ozone for the lungs, the appetite, and the digestion which support vigorous life, the occupation which keeps the brain active and expansive. When a man from fifty upwards retires, as he says, for rest, his intellectual powers become turbid, his circulation sluggish, his stomach a burden, and the coffin his home."

Flannel is a prime agent, according to the New York *Tribune*, in the preservation of the health of white people in the far East. All old-time residents in the Orient invariably wear thick flannel next the skin in preference to silk, cotton, or linen. We are told, also, that many Europeans, as well as natives, wear big belts of flannel around the waist next to the skin, as a protection against dysentery and other stomachic ailments, which

constitute nine tenths of the maladies in the East.

Why should the tongue last longer than the teeth? wonders a writer in the *Dietetic and Hygienic Gazette*. He says: "Made up of a complexity of tissues, used three times a day in eating, endowed with fine nerve filaments, and having an extra amount of work as to speech, it would appear as if the tongue should degenerate as soon as the teeth, with their hard and dense structure firmly implanted in the bone." He goes on to say, however, that the tongue is rarely diseased; that in his own experience he has met with cases of cancer of the tongue but twice.

An antiseptic broom is described in the *Scientific American*. It bears within itself the means of destroying moths and disease-germs. The antiseptic substances are contained in a bag within the broom straws. The bag is penetrated by rows of stitching, which open up numerous outlets for the antiseptic material in addition to the meshes of the cloth. The action of sweeping causes the antiseptic material to be distributed in limited but sufficient quantities for the thorough deodorizing and disinfecting of the carpet and the room. The broom itself, ordinarily a fertile breeding-place for bacteria, is constantly kept in a sterile condition by reason of its antiseptic properties.

Professor Mosso, of Turin, the eminent Italian physiologist, has been visiting this country, says the *Journal of the American Medical Association*, and has formed very favorable impressions of the physical development of Americans. He says: —

"It is enough to look at the passers-by in the American streets to be convinced how much more developed and strong they are than our compatriots. The boys and girls in point of physique are far superior to ours. . . . America teaches us by the plainest and most impressive of examples that physical education may be carried to perfection without any military object."

Overindulgence in tobacco, it is feared, may have a prejudicial effect upon the Latin-American peoples, especially those in South America. According to Prometheus, says the *Scientific American*, not only do children of two or three years smoke all day long, but mothers have been seen trying to quiet their babies by putting cigars in their mouths.

Considering the medical aspects of crime, Dr. Brower, in the *Sanitarian*, says that in France crime increases and decreases with the more or less abundant vintage. The writer estimates that alcoholics are the direct or indirect cause of probably seventy-five per cent of all the crime committed.

The practice of using continuous baths for the insane has been very successful at Heidelberg. A German writer, mentioned in the *Journal of the American Medical Association*, says that the patient is transferred from bed in the morning to the bath, and from the tub to bed again at night, with no other treatments, and that no instance of failure has yet been known.

Lawson Tait, the "high priest of asepsis," upon being asked by a German surgeon for the secret of his success, made the cutting reply, "I keep my finger-nails clean," with a glance at the mourning-tipped fingers of his questioner. "This answer," says a physician quoted in the *Medical Record*, "will long live as the aseptic theory in a nutshell."

The Michigan State Legislature has passed an act requiring physicians to report to the health office all cases of pulmonary consumption, classing the disease as con-

tagious. Physicians refused to obey, and a test case resulted in the condemnation of one physician to pay a fine of fifty dollars and costs. The case will be carried to the supreme court.

The brain weight of the criminal, says Dr. Brower, in the *Sanitarian,* does not differ materially from that of the non-criminal. The potentiality of the brain does not depend so much on its size and weight as on its structure. One of the heaviest brains on record is that of a bricklayer who could neither read nor write.

Dr. Brower states further that one of the best workers in the field of criminal pathology found in an examination of nineteen brains of criminals, a confluence of fissures. He says: "If we imagine the fissures to be water courses, it might be said that a floating body in any one of them could enter almost all the others. While this type is not necessarily criminal, and while the criminal may have another type of brain, yet this is a type of low organization, an absence of brain substance because of the absence of connecting gyri [convolutions]."

THE FOOT AND ITS COVERING.

WHEN we contemplate the multitude of variform mutilations which man, primitive and savage as well as civilized, in all regions of the earth, has at all times inflicted on this or that part of his body, we might be led to the conclusion that a tendency to such mutilations naturally prevails among mankind. But, in fact, no propensity of the kind is inherent in individual human nature; on the contrary, any act tending to self-injury is repugnant to it.

The mutilations in question are at all times prompted by a subtle force from without, — the social force, — by which the individual is permeated, actuated, and unconsciously constrained to adjust his acts to social demands. The motive may be designated as belief, creed, fashion, clannish or tribal custom, sacred custom, social rites. It is the outcome of the same social force—the social medium—by which the civilized as well as the savage is surrounded.

We propose to speak only of the two mutilations most widely spread in the civilized world.

The first of these artificial deformations is the deformed foot, the offspring of fashion, thoughtlessness, and ignorance. Fashion prescribes the form of the shoe; ostensibly it pretends to fit the foot; actually, by hook or by crook, the foot has to conform to the shoe.

Casting a glance at the conventional last upon which the shoe is shaped, and looking at the normal foot, one finds the greatest discrepancy between the two. The shoe-last tapers symmetrically on both sides, to the point of the toes, whereas the foot presents, on its inner side, a straight (slightly waved) line, running parallel with the long axis of the foot, from the inner side of the heel to the center of the great toe. Both *normal* feet, when placed together, touch each other at the heel and at the point of the great toe, while a pair of fashionable shoes, when placed together, leave between each other, at the toes, a triangular V-like space, with the wide opening in front. Looking at such a shoe, it seems as if it were contrived to fit a foot of which the great toe had been beveled off. Indeed, the human foot, with its great toe, were it not so exquisitely elastic, could never be squeezed into this narrow space, and the feat is only accomplished by dint of forcing the great toe

out of its normal position, twisting and turning it outward, almost at a right angle to the foot, and by cramming the smaller toes under and above each other like a crowd of market chickens cribbed into a narrow coop. Consequently, the whole arch of the foot is pressed out of shape, and loses its delicate elasticity; the play of the muscles is impeded, the circulation obstructed, the toes stiffened, dislocated, and crippled; and all that array of torturing evils—corns, articular inflammation, ulcerations, bunions, ingrown nails—follows close in the wake.

Of these evils, the two last named come most frequently under the physician's care. Obviously the ingrown nail is the result of shoe pressure. The shoe presses the great toe against the smaller ones, but these, in their turn, are likewise pressed from the opposite side of the shoe toward the great toe, and bruise and squeeze the fleshy part of its second phalanx (facing the middle toe) against and over the edge of the nail. To this must be added the downward pressure from the top of the shoe, contorting and twisting the nail, and bending it toward the smaller toes. The ingrown nail always appears on the side where the great toe faces the middle one; the fleshy parts are here wedged in, as if squeezed between the jaws of a vice.

The bunion, a chronic inflammation with more or less displacement of the articulation formed by the base of the first phalanx of the pollex pedis and the head of the first metatarsal bone, is the result of a similar squeezing process. The narrow shoe presses against the great toe, pushing it outward against the smaller toes, and if, as usual, the shoe is rather short, the second phalanx of the pollex is curved down, while the first phalanx is thrust, by the pressure from the top of the shoe, against the metatarsal joint, causing the head of the shaft to swerve toward the inner edge of the foot and toward the sole. The dislocation appears in the shape of a protuberance corresponding to the site of the phalango-metatarsal articulation. By the constant bruising of the leather the bursa mucosa is formed, as in housemaid's knee; inflammation, ulceration, perverted growth of bone, and periostitis follow. The bunion constitutes an exceedingly vulnerable spot on the foot; this ill-used and ill-nourished tissue is a predilected spot for chilblains, which, on this place, form at a temperature considerably above the freezing-point.

No treatment of either of these evils (ingrown nail or bunion) can be of avail unless we procure a foot cover which will allow the great toe a position approaching as near as possible to the normal one; that is to say, the phalanx of the great toe normally follows the direction of the first metatarsal shaft, running in a straight line and pointing outward, like the thumb of the hand, though nowadays we rarely meet with a normal foot.

The hackneyed remedy of the shoemaker, of nailing to the last, on the spot corresponding to the bunion, thick, rounded pieces of sole leather, thereby producing in the leather of the shoe a hollow to receive the bunion, may in some instances afford temporary relief; but if the old vicious form of the shoe is retained, the pressure from above the bunion will continue, and nothing will be gained but more space for the lateral deviation of the joint. In many instances we have found, after a lapse of time, an increase of the deformity.

By pressure on the capillaries, the narrow shoe impedes circulation and prevents the escape of perspiration. Thousands of cells die every minute on every inch of the surface of our bodies. Unsuitable as the rest of our garments may be, they allow a partial escape of the

exuviæ; in the narrow shoe the cell-corpses are retained to decay; hence the odor. The leather of the narrow shoe, if in the least wet, chills the foot; hence the frequent colds. Expansion and contraction of the foot are, in the narrow shoe, reduced almost to zero; consequently hip and knee must do more work in walking; hence the inelegant, stamping gait. This gait, moreover, endangers the beauty of the leg. The long tendon in which the there muscles constituting the calf of the leg unite, is attached to the calcaneum; with the foot engaged in the narrow shoe these muscles are insufficiently exercised, and the calf of the leg is apt to shrink. Given more freedom for the play of the joints and muscles of the foot, the gait would be more secure, more easy and elegant; there would be less slipping and stumbling, fewer sprained ankles, fewer colds.

Our horses, likewise, would be less apt to stumble were they more rationally shod, or not at all. By the way, we find in the periodical literature horse-shoeing often enough discussed, man-shoeing very rarely. This reminds us of the German peasant who is always much swifter to run for the cattle doctor when his cow is sick than for the physician when his wife is the patient.

In the military countries of Europe the first outcry against the narrow shoe came from the army. It was the army surgeon, Dr. Ziegler, who first sounded the alarm when he discovered that in little Switzerland seven hundred recruits had been rejected in one session on account of crippled toes. In this country [England] the military authorities will hardly pay attention to the matter; in this country the whole male adult population are not compelled to march up once every year before the recruiting officer and show their toes.

It behooves each one of us, in his sphere of action, to enlighten the public.

By this time, indeed, the manufacturer ought to know something about the consequences of his doings. There are, moreover, plenty of sensible people who scour the shops in search of a shoe more comfortable to the human foot. The manufacturer naturally shrinks from throwing away his entire stock of lasts, replacing them by new ones; and as long as he finds sale for his wares, he will run on in the old groove. But a day will come when an elect shoe manufacturer, sitting post prandium in unquiet slumber, moaning and groaning with a fit of indigestion, will see himself suddenly surrounded by millions upon millions of ghastly crippled toes, crippled and maimed by his agency, and he will awake a new man, a benefactor of tormented feet.

True, people with means, willing to pay double the price, may pass the shoe-store by, and have their shoes made by measurement at the shoemaker's; they will be a shade better off, but only a shade. The art of taking the measurement of the foot, if it ever existed, seems to be a lost art. The way the average shoemaker sets about taking a measurement is full of fallacies. The customer sits down, takes off his shoe, raises his foot, and the shoemaker takes the measure *over the stocking*. That the foot, just freed from its fetters, is still benumbed, contracted, half paralyzed; that the pressure of the stocking is sufficient to hold the toes squeezed together; that the moment the foot treads firmly on the ground it will expand; that any measurement taken in this way in the morning, after rest, will be found in the evening, after the foot has been exercised, egregiously too small,— all this is not generally taken into account. Some of the more enlightened shoemakers have recently adopted the more reasonable plan of placing the foot on a sheet of white paper, and tracing a lead-pencil line around the sole. But

even this method, if executed in a slovenly manner, may defeat the end in view.

The customer ought to bare his foot, stand erect, and press the foot, the heel slightly elevated, firmly on a sheet of paper spread on the ground. If, as usual, the toes are crowded together, perching, riding, or straddling one on the top of the other, they must be brought into their natural relative positions, the great toe slightly in the position of abduction, and, if already too much crippled, a piece of cotton-wool should be placed between the first and second toes to keep the former somewhat abducted. A better plan than the pencil tracing is to dust the sole of the foot with pulverized chalk, and take the imprint on a sheet of dark paper. The inner side of the foot (corresponding to the great toe) being thicker than the outer side, this thickness, or the distance from the ground to the dorsal surface of the foot, must be measured. A still better plan, though more troublesome, is to take a plaster cast of the foot, never neglecting to bring the toes into their natural positions. No shoe, even when it appears to fit, should be worn if it does not comply with the two paramount requirements ; viz., the foot in its entire length and breadth must rest on the sole inside the seam, and the shoes, if put together, must touch each other at the heels and toes. It matters little whether the sole be afterward made square or round at the toe, provided such pruning does not curtail space. A shoemaker with artistic taste will speedily find a suitable finish to which the eye of fashion will accommodate itself.

Few indeed are those who ever set eyes on a normal adult human foot ; but we can not imagine that any person not infatuated would, even on beholding it for the first time, call it ugly. To get a good look at a normal, undeformed foot, we have to travel to the barefooted savages ; in civilized countries it is only the babe's little foot which presents the model of perfection ; and who with sound sense would not be struck by its exquisite beauty ? — *Health.*

THE MOUSE.

ROBERT BURNS sincerely pitied the mouse whose home, in the chill November, his plowshare laid in ruins. His companion, who drove the horses, ran after it to kill it, but was checked by his master, who was observed to fall immediately into reverie, the result of which was the following:—

" Wee, sleekit, cow'rin', tim'rous beastie,
Oh, what a panic's in thy breastie !
Thou need na start awa' sae hasty,
Wi' bickerin' brattle !
I wad be laith to rin an' chase thee,
Wi' murd'ring pattle !

" Thou saw the fields laid bare an' waste,
An' weary winter comin' fast
An' cozie here, beneath the blast,
Thou thought to dwell;
Till, crash ! the cruel coulter passed
Out through thy cell.

" That wee bit heap o' leaves an' stibble
Has cost thee mony a weary nibble !
Now thou 's turned out, for a' thy trouble,
But house or hald
To thole the winter's sleety dribble;
An' cranreuch cald.

" But, Mousie, thou art no thy lane,
In provin' foresight may be vain :
The best-laid schemes o' mice an' men,
Gang aft a-gley,
An' lea'e us nought but grief an' pain,
For promised joy."

SOME EFFECTS OF FOOD.

MODERN vegetarianism is too young to furnish many statistics or comparisons; but in the history of the habits of early peoples we find many instructive lessons. An English authority, for instance, tells us that the Gauries were the meekest creatures in the world. The Banians, who abstained from flesh more strictly than the Gauries, were almost as meek as they; but as their system of morals was less pure, and their religious worship less national, they were not, on the whole, so good a sort of people.

From their own writers we learn that the Arabs, although possessing many excellencies, had, like other nations, their defects and vices. Their natural disposition led them to war, bloodshed, cruelty, and rapine. They were said to be so much addicted to bearing malice that they scarcely ever forgot an old grudge. This vindictive temper, some physicians say, was occasioned by their frequent feeding on camel's flesh — that creature being most malicious and tenacious of anger.

The inhabitants of the most northern parts of Europe and Asia,— the Laplanders, Samoyedes, Ostiaks, Tunguses, Buraets, and Kamchadales,— as well as the inhabitants of the most northern and southern promontories of America, the Esquimaux, and the natives of Terra del Fuego, are to be reckoned among the smallest, ugliest, and most dastardly and feeble people on the face of the earth, and yet, all these nations not only live almost entirely upon animal food, but mostly raw, and without any preparation.

The Buraets, says Mr. Pallas, are not only diminutive and of a feminine look, but are also so weak that six Buraets, with the utmost exertion of their force, can not perform so much as a single Russian. Again, if you take one of equal size with a Russian, you will find him much lighter, or less solid and compact than the Russian. Boys at an age when, among the latter, one could scarcely lift them with both hands, may easily, among the Buraets, be taken up from the ground and held suspended with one hand in the air. A proportionable lightness is seen likewise in grown persons; for when a Russian has ridden his horse until it is quite jaded, the beast will directly set off again, if mounted by a Buraet. And these effeminate, feeble, and light Buraets, like the rest of Siberian pagans, live almost entirely on animal food, the constant, unqualified use whereof (as Mr. Pallas likewise thinks) may easily be considered as the cause of this very weakness and unsolidity of the Buraets and their brethren.

Just in the very times of their greatest simplicity, manliness, and valor, the Greeks and Romans fed almost entirely on an artless porridge; a similar diet, or even nothing but bad bread, is still the nourishment of almost all the Slavonian nations in Europe, and of many of the inhabitants of Italy; and yet these people are to be classed with those who are most conspicuous for muscular strength. "Though the Illyrians," says an English author, "feed hardy, dwell in miserable huts, and mostly in marshy and unwholesome regions, and upon the whole are a heavy and sluggish race, yet it is no difficult matter for them to bring down the monstrous oxen of their fertile country by repeated strokes of their brawny fists.

"That the negroes excel almost all the Europeans in bodily powers needs no demonstration; and yet these strong negroes, both in Africa and America, live more upon vegetables than upon either

fish or flesh. It is the same with the inhabitants of the South Sea Islands and the Marian Isles, of whom all European travelers agree that they would not choose to try their strength with them. The former, and especially the inhabitants of the Friendly Isles, displayed such astonishing agility and force in wrestling and boxing that they presently knocked or threw down the strongest and most expert of the English sailors. Even women took the English under their arms in transporting them over deep streams and rivers. With equal strength, the inhabitants of the Marian Isles took every one his man, of the Europeans that had strayed from their brethren, and ran with them to their habitations with incredible ease. The strength of the latter is so extraordinary that they can throw stones, by the mere force of their arms, deep into the solid trunk of full-grown trees.

"The wild girl who was caught in Champaigne climbed trees like a squirrel and leaped from one branch to another on all fours. She became, soon after she was caught, incapable of these exertions of agility, an alteration which she attributed to the gross aliment they had given her, which, she said, had made her so much heavier than when she lived upon wild food.

"A very long disuse has not been able, altogether, to choke up the channels of sympathy for inferior animals. Even now, notwithstanding the narrow, joyless, hard-hearted tendency of prevailing superstitions, we discover in every corner of the globe some good-natured prejudice in behalf of persecuted creatures. We perceive in every country certain privileged animals, whom even the ruthless jaws of gluttony dare not invade; for to pass over unnoticed the vast empires of India, Tibet, and China, where the lower orders of life are considered as relative parts of society, and are protected by the law and religion of the natives, the Tartars abstain from several kinds of animals; the Turks are charitable to the very dogs which they abominate, and even the English peasant pays toward robin redbreast an inviolate respect to the rights of hospitality: —

> "'The redbreast, sacred to the household gods,
> Wisely regardful of th' embroiling sky
> In joyless fields and thorny thickets, leaves
> His shivering mates, and pays to trusted man
> His annual visit.'

"Long after the perverse practice of devouring the flesh of animals had grown into inveterate habit among the people, there existed still, in almost every country, and in every religion and of every sect of philosophy, a wiser, purer, and more holy class of men, who preserved by their institutions, their precepts, and their example, the memory of primitive innocence and simplicity. The Pythagoreans abhorred the slaughter of animals; Epicurus, and the worthiest part of his disciples bounded their delights with the produce of their garden; and of the primitive Christians, several sects abominated the feast of blood, and were satisfied with the food which nature unviolated brings forth for our support.

"Most of the Epicureans, following the example of the author of their sect, seem to have been contented with meal-cakes, or pottage, with the fruits of the earth.

"The Manacheans were a sect of Christians who believed in a good and an evil principle; worshiped the sun and other glorious objects of nature; had a firm faith in the New Testament, but rejected the Old, which, they said, described the Almighty as unjust; and religiously abstained from all kinds of animal food. For that and some other good-natured practices and opinions, they suffered much obloquy.

"When the natives of the Canary Islands, who were called Guanchos, wanted

rain, or had too much, or suffered from any other calamity, they brought their sheep and goats into a place appointed, and severing the young ones from their dams, raised a general bleating among them, which they imagined would appease the wrath of the Supreme Power, and incline him to send them what they wanted. To a God of love, how much more acceptable the prayers of the humane Guanchos mingled with the plaintive cries of their guileless mediators! how much more moving their innocent supplications, than the ruffian petitions of those execrable Arabs, who, imploring mercy, perpetrated murder, and imbrued in the blood of agonizing innocence, dared to beseech the compassion of the common Father of all that breathe the breath of life!"

DEEP BREATHING IS VITAL.

MARION HARLAND, in a newspaper article copyrighted by Walter B. Guild, gives the following practical information and advice:—

"Sensible people who are tolerably familiar with the benefits conferred upon their race by modern science have ceased to hold up the ways of our forbears as examples for our imitation. Unless the exception to this rule be a barbaric blockhead, he admits that wells sunk in the heart of the city, or in the vicinity of a farmyard, or at the foot of a hillside cemetery, had much to do with the putrid fevers that walked, a devouring pestilence, in the darkness of the good old times. He appreciates that the active life led by day in the open air was needed to counteract in his great-grandfather's system the evil effects of sleeping upon a feather bed in a low-browed room whose dormer windows were not opened all winter long. He is not ignorant of salutary dietetic restrictions and food values, although he may cling to the wretched theory that our ancestors lived longer and were stronger even down to old age than we, their degenerate descendants, can hope to do and to be.

"Yet a majority of sensible people in this, the cycle of practical common sense, are ignorant of, or culpably negligent in, the practice of the technique of breathing. Four fifths of the race do not breathe properly once in twenty-four hours. Dogberry, oft quoted and never stale, set the pace of the average thinker. It is no more rational to opine that the right method of respiration comes by nature than that reading and writing do. In the golden by-and-by which is to confirm all that is good in our generation and to rectify the evil, breathing will be taught in the nursery, and made the first order of the day in the kindergarten. The intelligent mother will explain to the child upon her knee the use of his lungs as she now expatiates upon the propriety of washing face and hands.

"How many educated mothers — though they may be college graduates — bethink themselves of the unpleasant fact that they carry about with them daily and allow to remain in their children's lungs a quantity, more or less in volume, of foul, unchanged air? Physiologists know, and physicians will tell you — with carelessness that is strange when one considers the gravity of the circumstance — that there is always in the lungs what is known technically as 'residuary air;' furthermore, that seven deep, deliberate respirations are necessary to expel this residuum and to supply its place with fresh air. If plied with further questions, the man of healing divulges that most

people never breathe all the way down to the bottom of the lungs; that, in consequence of this neglect, the lower lungs become inactive, sometimes atrophied, occasionally (although such cases are phenomenal) ossified.

"Reduction to intelligible English eliminates the truth that health and vigor depend largely upon the action of the lungs, and that when this important function is impaired, disease and weakness must ensue.

"A celebrated health club, to which I have had the honor and happiness to belong for some years, enjoins upon each member the duty of taking one hundred deep breaths every day, advising that these be drawn in sections of ten each, at convenient seasons. Those who practice, learn to take advantage of the freshest air to be had in the course of the day. The first ten breaths are enjoyed after leaving the morning bath. The shoulders are thrown back, the chin is level or slightly raised, the arms are held tightly at the side, the lips are firmly closed. 'Never breathe with the mouth open,' is an admonition which can not be too rigidly enforced.

"The ten breaths are drawn from new, live air, not that which has stagnated all night in the house. Each inspiration is slow and steady, filling the lungs to their depths; the live air is held for a few seconds, then respired as slowly as it was drawn in. To throw it out in a rapid pant is hurtful to muscles and tissues.

"Ten breaths taken in this way will not only strengthen and refresh the respiratory apparatus, but quicken the blood into a livelier flow so naturally and healthfully that the action of the heart is made regular. The skin all over the body is tinged with a clear pink, the system having been awakened all along the line of life. In cold weather ten deep breaths, taken on the ferry-boat, the keen salt air tingling in the nostrils, or in the teeth of a north wind tearing down the street, will warm one from head to toe. The thought and the action become an instinct in time; the duty, a pleasure which is missed when omitted.

"When the lungs are threatened with a severe cold, pneumonia may be — often is — averted by persistent and careful deep-sea sounding and dredging. I have personally known more than one case where a cure of inflammation of the lungs was effected by the simple process of lying in bed and breathing deeply and regularly for hours together. The respirations were timed by the resolute patient's watch, and the air replenished not from oxygen tanks, but from the blessed service of heaven, judiciously introduced into the sick-room.

"I have known dozens of instances where narrow chests were made full and deep, tender throats healed, and general health improved by quiet, conscientious obedience to this law of nature. The prescription costs nothing, the practice involves no outlay beyond a little taking of thought, and the beneficent occupation of a few driblets of time, in the diurnal outlay.

"Those who live by half breaths, snatching at these with parted lips and in feverish haste, who tell you without a blush that they 'have not time to draw a long breath between daylight and dark,' may not complain that they live out but half their days."

LOVE, hope, and patience,— these must be thy graces,
And in thine own heart let them first keep school.
— *Coleridge.*

THE ANTIQUITY OF VEGETARIANISM.

A SCHOLARLY English writer gives the following interesting testimony to the value of a vegetable diet: —

"It appears from the Mosaic records that for more than sixteen hundred years — even till after the deluge — mankind lived on vegetable food only; and though they exercised a gentle dominion over the brute creation, they did not use their flesh for food. They had, indeed, a prescribed regimen, — 'every herb bearing seed, which is upon the face of all the earth, and every tree, in which is the fruit of a tree yielding seed; to you it shall be for meat.'

"The difference between the lengths of men's lives before the flood compared with those who lived after it may reasonably be urged in proof that while they fed on vegetables they lived whole ages, but on betaking themselves to the use of animal food, they experienced a shortened date. Undoubtedly before the flood, infirmities were either few or cured by the regimen of diet only, since we hear of no distempers or physicians till about six hundred years after that era. The Israelites were constantly fed with manna during forty years in the wilderness, except one month, in which God showed his power by supplying them with quails. The promises made to the patriarchs were assurances of the 'dew of heaven,' and 'the fat of the earth.' The promised land is represented as 'flowing with milk and honey, a land of wheat, barley, figs, pomegranates,' etc., without the least mention of animal food. The manna did not cease to fall till the Israelites began to eat of the fruits of the land of Canaan. It is observable that whenever God prescribes or directs a regimen, no mention is made of the flesh of any animal, and that when it is allowed, the permission is clogged with so many precautions and exceptions that he seemed more to discourage than to recommend it. 'If any credit be given to the Jewish history of nature, an indulgence for animal food was not granted till the era of longevity was expired, or at least they took place together; and not till the spiritual corruptions of pride, tyranny, malice, revenge, murder, and brutal commerce so universally raged, that Infinite Wisdom, to begin a new world, was forced to destroy, by a deluge, the whole race of mankind, except a few of the most innocent and least depraved.' That nothing but vegetable food was eaten before the flood, appears from the command to Noah relating to provisions to be laid up in the ark: 'And take thou unto thee of all food that is eaten, and thou shalt gather it to thee; and it shall be for food for thee, and for them.' The ancient Greeks lived entirely on the fruits of the earth. The ancient Syrians abstained from every species of animal food. By the laws of Triptolemus, the Athenians were strictly commanded to abstain from all living creatures. Even so late as the days of Draco, the Attic oblations consisted only of the fruits of the earth. Among the works which remain of the Pythagorean Porphyry (that zealous anti-Christian of the third century), there is one on abstinence from flesh, wherein he upbraids Firmus Castricius, to whom it is dedicated, with having quitted the vegetable diet, though he had acknowledged it was the properest for preserving health, and facilitating the study of philosophy. And he adds, 'Since you have eaten flesh, experience has taught you that your acknowledgment was well founded. . . . The inhabitants of the Atlantic islands, who were unacquainted

with all animal diet, were famous for uninterrupted sleep, and were ignorant of what it was to dream.'

"The long lives of the primitive race of men were owing to the salubrity of their food and the moderation of their desires. Bread, milk, the fruits of the earth, constituted their aliment. The spontaneous productions of nature were the sole delicacies their appetites craved, and they quenched their thirst at the limpid stream. The golden age derives its splendid appellation from the innocence of its manners and the simplicity of its food. The Greek historians, when describing the primitive ages of the world, relate that the first men regaled on every mild and wholesome herb they could explore, and on such fruits as the trees spontaneously produced."

Photographing the Stomach.

A new invention is a successful camera for photographing the interior of the stomach. The apparatus is the work of Dr. Fritz Lange, of Munich, Germany, and is thus described by the *Scientific American*: —

"The camera is a marvel of compactness, and is constructed on exactly the same principles as all cameras for taking moving photographs, although, of course, there is no attempt made to combine them so as to project the actual operations of the stomach. The camera itself is swallowed by the patient, and it contains a small electric lamp for illuminating the walls of the stomach. A photographic film twenty inches long and a quarter of an inch wide is wound at the bottom of the camera. One end of the film is fastened to the cord, which runs freely in the tube. When the cord is pulled, the film is drawn slowly past the lens. The cord and the conducting wires must, of course, be swallowed with the camera itself. When the camera reaches the bottom of the stomach, the surgeon begins to pull the cord, which runs the film past the lens. The electric light is then turned on, and after the sensitive film has been impressed with the image, the current is turned off, and another section of film brought into play, until the requisite number of pictures have been obtained. Then the entire apparatus is withdrawn from the stomach, and the films are carefully developed and enlarged."

A Baby of Fourscore.

A writer in the *Outlook* gives the following account of a visit to the Cetrosa Monastery, in Italy: —

"As our party passed through the tiny chapel, the monks were droning mass. They were truly in keeping with the old blackened wood-carvings against which they leaned, and it seemed as if these same white, motionless figures might have droned these same chants for hundreds of years. The fact that one or two had to be literally propped up in their places, from sheer old age, heightened this effect. When we remarked that the inmates of the monastery seemed to live to a good old age, our guide, with much gusto, related the following incident: It being the rule of the Order never to eat meat, one of the popes, in years gone by, sent a message to the monastery of the *Grande Chartreuse*, in France, recommending that strict adherence to this rule be broken in the cases of weak or ailing members. The prior, in reply, sent a delegation of thirty monks to Rome. When they arrived, the holy father asked the youngest member of the delegation to step forward. 'How old are you?' inquired his holiness. 'Eighty-four,' was

the prompt reply. The pope came to the conclusion that if the baby member of the convent was eighty-four years old, improvements in their methods of life were quite unnecessary, and forebore further suggestions as to their diet. The fact that the present inmates of Cetrosa range in age from seventy to ninety years is certainly a strong argument in favor of the vegetarian theory."

A Forcible Contrast.

An ancient English work by a man of great research and learning contains the following tacit comparison: —

"Let us say with the merciful Hindu that dumb creatures were sent by God into the world to exercise our charity, and by calling forth our affections, to contribute to our happiness. Let us consider them as mute brethren, whose wants it becomes us to interpret, whose defects it is our duty to supply. The benevolence we bestow on them is amply repaid by the benefits which they bring; and the pleasing return for our kindness is that endearing gratitude which renders the care of providing for them a pleasing occupation. The tender-hearted Hindu would turn from our tables with abhorrence. To him our feasts are the nefarious repasts of Polyphemus, while we contemplate with surprise his absurd clemency, and regard his superstitious mercy as an object of merriment and contempt.

"Never by primeval man were violated the rights of hospitality; never in his innocent bosom arose murderous meditation; never against the life of his guests, his friends, his benefactors, did he uplift the butcher axe. Sufficient were the fruits of the earth for his subsistence; and, satisfied with the milk of her maternal bosom, he sought not, like a perverse child, to spill the blood of nature. But not to the animal world alone were the affections of man confined; for, whether he surveyed the glowing vault of heaven, or his eyes reposed on the greeny freshness of the lawn; whether he listened to the tinkling murmur of the brook, or melted in pleasing melancholy amid the gloom of the grove, — joy, rapture, veneration, filled his guiltless breast. His affections flowed on everything around him; his soul entwined on every tree or shrub, whether they afforded subsistence or shade; and wherever his eyes wandered, wondering, he beheld his gods, for his benefactors smiled on every side, and gratitude gushed upon his bosom, what ever object met his view. The first adoration of mankind was paid, no doubt, to heaven and earth, and this worship was nothing else than a sentiment of gratitude emanating from the heart. Ridiculous, says the Christian, to worship brute bodies, which bestow this benign influence from necessity, and without the sentiment of benevolence. Yes, the savage feels and admires, but does not make nice calculations to escape from the demands of gratitude. If we are not to pay our worship to anything in heaven, or on the earth, to what, then, is our adoration due? — To an invisible something, which every man fashions according to his own fancy."

Apples.

Apples were at one time underestimated; they were scarcely considered a fruit rare enough for the consideration of the epicure, unless, indeed, they formed a part of some elaborate dessert, compounded and cooked by a skilled housekeeper Apple jellies, puddings, pies, and cakes might do, but plain raw apples were fit only for school children, vegetarians, or the poor. All this is now changed, and the apple has come to its own again.

But if its flavor has been at various times slightly esteemed or discredited, at least its wholesomeness has been steadily

recognized. "Apple-sayings" are frequent, both in our country and in England, all of which testify in favor of the fruit. In the "west countree" there are four such:—

"An apple a day sends the doctor away," is the first and briefest.

Then follow, in the order of their vigor, three more:—

"Apple in the morning,
Doctor's warning.
Roast apple at night
Starved the doctor outright."

"Eat an apple going to bed
Knocked the doctor on the head."

A little less aggressive is one of the Midlands:—

"Three each day, seven days a week —
Ruddy apple, ruddy cheek."

But more interesting than these is an old orchard verse which used to be recited on certain ancient farms on the plucking of the first ripe apples of the crop. Misfortune was supposed to follow its omission, and its utterance was quite a little ceremony, the first apple over which it was spoken being presented to a young girl, who halved and bit it before any further fruit was gathered, or at least tasted. Thus it ran:—

"The fruit of Eve receive and cleave,
And taste the flesh therein:
A wholesome food, for man 't is good
That once for man was sin.
And since 't is sweet, why, pluck and eat,
The Lord will have it so,
For that which Eve did grieve, believe
Hath wrought its all of woe —
Eat the apple!"

—*The Youth's Companion.*

Reproduced in Iron.

The London *Herald of Health* says that a Berlin correspondent reports that "the Saxon Ministry of Education has issued a regulation forbidding girls attending the public schools in the kingdom to wear corsets. The reason given for this measure is that the corset is undoubtedly injurious to health, as it checks the development of the body. The girls are expected to wear a loose-fitting jacket in the form of a blouse."

In view of some of the extraordinary developments of the corset trade in this country and America, it is to be wished that a similar regulation could be enforced in English schools. A well-known firm of staymakers are actually advertising thus: "The only corset worth considering is the corset that does not stretch. A — B —'s corsets *are modeled on the perfect human figure reproduced in iron.* After they are cut and stitched, they are damped and fitted over this form, and clamped down with a stretch of six hundred pounds *until every atom of 'give' is taken out.* Then the heat is turned on, and the corset dries into the exact shape, which it will retain as long as worn." Truly an admirable armor in which to encase a living, breathing, growing woman's form!

We had really thought that the tendency of English *corsetiéres* during the last few years was to meet the increasing hygienic demand for stays that *would* "give," and that *would* adapt themselves in course of time to the shape of the wearer! Even the popularity of the Nottingham knitted elastic stays, made to stretch with every indrawn breath, seemed a step in the right direction. But this is indeed a putting back of the clock to the dark ages of bodily torture for fashion's whim.—*Omega.*

The Long-Tube Nursing-Bottle.

Dr. Ernest Nende, of Buffalo, expresses in the *Sanitarian* his opinion that "an infant previously enjoying an environment of continual warmth and moisture entirely devoid of infection, should not have a hose several inches in length, re-

markably efficacious for the propagation and the passage of pathogenic micro-organisms, placed in direct communication with its very susceptible, excitable, and oversensitive stomach." He shows that the long-tube nursing-bottle, by affording the most efficient arrangement for the growth of germs, is the greatest source of artificial food contamination there is. He states that after its abolition in Buffalo the infant death-rate in the city was diminished one half, as compared with the year before.

A Strange Reversal of Nature.

The *Inter Ocean* tells a queer story about a boy eight years old, named Stanley Shaefer, who lives in Columbia, Mo. Says the *Inter Ocean:* —

"The child is afflicted with a most remarkable optical deformity. He can see as well in total darkness as a person with natural sight can see in the light of day. He can walk into a dark room, and find in a moment a pin or any other tiny object. Night is day for him, and day is night, for in the hours of daylight he is blind. His disposition and desires are largely influenced by his optical deformity. At night he is restless and full of life. In the daytime he is more inclined to sleep.

"His parents have some difficulty in restraining his desire to play and romp about during the hours of darkness. It is difficult for them to find safe amusement for him at midnight. All his little playmates are in bed, and the boy can derive but small pleasure in his loneliness. But at times he evades his parents, and takes a lonely midnight ramble. He has been heard romping about the neighborhood of his home in the middle of the darkest nights with only a dog for a companion.

"Little Shaefer is a faithful student, and well advanced in his books. His teacher, however, is obliged to resort to unusual measures in instructing him. Of course, a dark room is the first essential in his reading lessons. The teacher draws down all the curtains in the room, closes the doors, and endeavors to make the room as dark as possible.

"When he concludes to read a while in the daytime at home, his proceedings are peculiar. After securing his book, the boy goes to a closet and takes from a hook a most remarkable contrivance. It is almost as large as the child himself — long, black, and in the shape of a funnel. Little Shaefer carries the strange device to the place desired, puts it down with the point upward, crawls under it, and reads. The design and purpose of the unique contrivance is, of course, to exclude the light.

"'What on earth is that funny-looking thing over there?' said a visitor to Mrs. Shaefer the other day, pointing to the device as it sat on the porch of the Shaefer residence.

"'We have no particular name for it,' said Mrs. Shaefer, with a smile, 'but I will show you what is under it.'

"She walked across the porch, and quickly raised it from the floor. There sat little Shaefer learning his lessons.

"The light of the sun is especially annoying to the child, and he is rather inclined to be low-spirited and unhappy on bright, sunny days. On the contrary, cloudy weather seems to relieve him, and he is much more animated. The light of the sun is painful to him. He blinks and rubs his eyes, and gives other evidences of distress when in the sunlight. But not so with electric light. His eyes seem far better adapted to artificial illumination than to natural light. At times he can see to some extent under an electric light, which fact greatly encourages his parents, who have never abandoned the hope of effecting a cure.

"The child has been treated by many physicians and skilled oculists, but to no avail. Many kinds of glasses and spectacles have been tried, but always with unfavorable results. The fact that the eyes of the patient since birth have been in their present condition makes the case all the more difficult. He was simply born with the sense of sight, so far as light and darkness are concerned, completely reversed. If a cure is effected and his sight brought into normal condition, it will be one of the most remarkable scientific achievements of recent years."

Fond of Being Humbugged.

The *Denver Medical Times* published an address by the Hon. A. B. Seaman, which contains the following: —

"There seems never to have been a nostrum concocted, or a theory based upon a superhuman idea, which it was claimed was beneficial and would cure the ills of mankind, so utterly absurd that it did not find its followers among the best citizens of a community. Only a short time ago, in this very city, a few gamblers employed a Chinese laundryman, dressed him in Oriental costume, hired an office, secured a kettle, a fire, some water, and a few harmless herbs, and advertised the celebrated Chinese doctor, Gun Wa. His office was crowded. He examined each patient as he appeared, mumbled an unintelligible something, sold him a bottle of his concoction, without reference to his ailment, and sent his patients on their way rejoicing. It is related that during the time this emporium of healing was being conducted, one or two of the laundrymen thought that they were not receiving a fair division of the spoils, and went on a strike; but this did not interfere with its success. All the promoters of the enterprise did was to turn out one laundryman and bring in another. The Chinese method of dress — loose-fitting clothes — was such that it did not even require the making or purchase of a new paraphernalia. And yet, absurd as this all is, if you will go back and read the newspapers which were glad to publish the advertisements of this celebrity, you will find the testimonials of as good citizens, and of those claiming as high a degree of intelligence, as were ever in this community."

From Washington Irving.

In the "Legend of Sleepy Hollow," Washington Irving has put into the mind of Ichabod Crane thoughts that, although so humorously expressed, suggest anything but humorous reflections to the conscientious vegetarian. He says:—

"The pedagogue's mouth watered as he looked upon this sumptuous promise of luxurious winter fare. In his devouring mind's eye he pictured to himself every roasting-pig running about with a pudding in his belly and an apple in his mouth; the pigeons were snugly put to bed in a comfortable pie, and tucked in with a coverlet of crust; the geese were swimming in their own gravy; and the ducks pairing cozily in dishes, like snug married couples, with a decent competency of onion sauce. In the porkers he saw carved out the future sleek side of bacon, and the juicy, relishing ham; not a turkey but he beheld daintily trussed up, with its gizzard under its wing, and, peradventure, a necklace of savory sausages; and even bright chanticleer himself lay sprawling on his back, in a side dish, with uplifted claws, as if craving that quarter which his chivalrous spirit disdained to ask while living."

This description of Van Tassel's country tea-table is characteristic, and shows what the hardy stomachs of our forefathers had to contend with: —

"There was the doughty doughnut, the tender olykoek, and the crisp and crumbling cruller; sweetcakes and shortcakes, ginger cakes and honey cakes, and the whole family of cakes. And then there were apple pies and peach pies and pumpkin pies: besides slices of ham and smoked beef; and moreover delectable dishes of preserved plums, and peaches, and pears, and quinces; not to mention broiled shad and roasted chicken; together with bowls of milk and cream, all mingled higgledy-piggledy, pretty much as I have enumerated them, with the motherly teapot sending up its clouds of vapor from the midst."

Patti's Advice to Singers.

The following interesting and sensible advice is from the great prima donna :—

"I don't believe in coddling myself and making my throat too tender," said Mme. Patti to a young woman who sought her opinion. "I kept my vocal powers at their full by extreme care, but you will notice, if you have been told of my rules of life, that I 've never made myself sensitive to slight exposure. . . .

"Harden yourself; build up your constitution; don't occupy overheated rooms at any time; live out of doors at least for two hours every day, and walk and drive. That 's my advice. Then, don't be afraid to breathe plenty of good, fresh air, even if the weather is cold. The people who go about with muffled throats, overburdened with wraps — men singers who turn up the collars of their coats at the slightest breath of air, and women singers who hide themselves in a mass of carriage rugs and cover their faces with laces and woolen when carriage driving — are the ones who first begin to cough.

"On the other hand, don't go to extremes, and expose yourself in raw, damp air, especially at nightfall. Be sensible, and preserve a happy medium between wise caution and foolish coddling."

BABY CORN.

A HAPPY mother stalk of corn
Held close a baby ear,
And whispered, "Cuddle up to me,
I 'll keep you warm, my dear.
I 'll give you petticoats of green,
With many a tuck and fold
To let out daily, as you grow,
For you will soon be old."

A funny little baby that,
For though it had no eyes,
It had a hundred mouths; 't was well
It did not want to cry.
The mother put in each small mouth
A hollow thread of silk,
Through which the sun and rain and air
Provided baby's milk.

The petticoats were gathered close
Where all the threadlets hung,
And still as summer days went on
To mother stalk it clung;
And all the time it grew and grew —
Each kernel drank the milk
By day, by night, in shade, in sun,
From its own thread of silk.

And each grew strong and full and round,
And each was shining white:
The gores and seams were all let out,
The green skirts fitted tight.
The ear stood straight and large and tall,
And when it saw the sun,
Held up its emerald satin gown
To say, "Your work is done."

"You 're large enough," said Mother Stalk,
"And now there 's no more room
For you to grow." She tied the threads
Into a soft brown plume —
It floated out upon the breeze
To greet the dewy morn,
And then the baby said, "Now I 'm
A full-grown ear of corn."

— *Selected.*

EDITORIAL.

THE DRESS OF WOMEN AS RELATED TO LONGEVITY.

We will consider this subject from two viewpoints: First, the relation of woman's dress to her individual health; and second, its relation to the welfare and long life of the race.

It is no longer a question of opinion as to whether or not the practice of lacing is healthful or harmful. Physicians universally condemn the corset, tight skirt bands, and the practice which prevails of hanging the skirts from the hips. But the majority of women, while recognizing in a general way the need of a reform in woman's dress, seem to be quite oblivious to the fact that it is not simply the tight corsets, the belts, and the bands which do the mischief, but the ordinary dress as commonly worn by the average woman. During the twenty-five years in which the writer has been using his pen and voice against the conventional dress of women and in favor of reform, it has been most gratifying to see many indications of improvement. Such great progress has been made that at the present time, women who live up to their full privileges may attire themselves in garments which are really better adapted to their needs, and which give to them greater freedom of movement and more thoroughly healthful protection than do those of men.

The question of heredity as influenced by the unhealthful dress of women is a subject which has not received the attention due to it. It is a generally recognized principle that children derive their physical constitutions from the mother more directly than from the father; that is, a weak mother will almost certainly bear weak children, no matter how strong the father is. If there are exceptions to this rule in the first generation, it is certain to hold good in the second, or as late as the third generation following, for, although the child of a weak mother may have sufficient vigor for his own life purposes, he has not enough to pass down to a son or daughter a vital legacy sufficient to bring the child up to the standard which he himself has reached. In other words, acquired as well as hereditary weakness of constitution will sooner or later make itself apparent in posterity, through the inexorable laws of heredity.

The old Greeks had a proverb expressing their belief that the mother should be strong and vigorous in order that the sons might be brave and mighty in battle; accordingly, in the balmiest days of Greece, laws existed which required every woman to engage in the practice of gymnastics, and to give minute attention to all the requirements of hygienic laws, not that she might be able to enter contests in the arena or to fight battles in defense of her country, but that her sons might be victorious in all the contests of life, in peace as well as in war. To be the mother of sons who were noted for strength, vigor, and endurance was the highest honor any Grecian woman could enjoy.

Do all mothers think of these things when they treat their bodies very much as they do a mass of dough in making bread, molding it into such shapes as may happen to suit the fancy of the reigning queen of fashion, without considering that the artificial shape produced may be in the highest degree incompatible with physical health, and conduce no small extent to the development of a constitutional feebleness which their unborn sons and daughters must endure with them?

Babies are simply buds; hence they must share the character of the parent stock. A weak-waisted mother transmits to her son or daughter a predisposition to a kindred feebleness of structure. The mother whose liver and stomach are so carried out of place that they can not perform their functions in the proper manner, if she does not actually

transmit to her sons and daughters a displacement of the stomach and liver, gives to them a predisposition to deformities of this sort, making their occurrence almost certain should any exciting cause happen to arise.

Smoking fathers, tea-drinking and corset-wearing mothers, are together making our civilized race everywhere a race of degenerates. If hygienic laws were obeyed in parents and children, we should find the sons and daughters stronger, more enduring, and longer lived than their fathers and mothers. The opposite of this is the case, however, and things are getting worse instead of better. That a large responsibility rests upon women because of their neglect to care for their bodies and because of the homage they pay to fashion, can not be doubted. If every woman could be induced to look upon her body as a divine temple, as a perfect piece of workmanship, from the hands of an unseen but master artist, as the most precious possession which will ever be confided to her, and which brings with it the obligation to protect train, develop, and perfect in all its abilities, and attributes, we should soon see a mighty revolution in woman's attitude toward her clothing; fashions would be set by women trained in physiology and physical culture, students of art and of esthetics, and endowed with at least an average share of common sense, instead of emanating from women of the demi-monde of Paris, or from Parisian dressmakers who have no other interest to serve than a mercenary one, and who would not scruple for a moment to inflict upon those who meekly bow in submission to them any amount of torture, for the purpose of satisfying a whim or a fancy or of creating a market for some outlandish novelty. The thought seems never to have entered the head of the average woman that the almighty Creator knew as well how to shape the form of woman as that of man, that there is just as much necessity for her putting her sons into stays as for putting corsets on her daughters; and that there is no more sense or reason for shaping her daughter's figure than for putting her son into a mold to which he must conform in growth like a cucumber in a bottle. The woman who starts out in good earnest to learn to live one hundred years, and who desires that her sons and daughters shall follow her in such a laudable undertaking, will certainly give this matter the careful consideration which will lead her to take her stand with thousands of other intelligent women who have declared their emancipation from the tyrannous fetters of fashion, under the leadership of such noble women as Frances Willard, Mary Livermore, and others who have won the world's esteem and respect for superior intelligence and glorious usefulness; with those who believe it their inalienable right to accept without legislation what civilization has so long denied them,— the God-given freedom to breathe and move without restraint.

KEEPING COOL IN WINTER.

One of the most important principles which can be laid down concerning clothing is this: Overclothing induces debility; for if we bear in mind the fact that four fifths of the food we eat is burned for heating the body, it will appear at once why the wearing of sufficient clothing to overheat the body or greatly to lessen the amount of heat production required, must exercise a most marked effect upon the appetite. Nature, it is true, often comes to the rescue by inducing perspiration; but here another danger arises; for with clothing moistened by perspiration the body is almost certain to be so suddenly cooled by encountering a draft or by evaporation alone when the body is not in active movement, as seriously to unbalance the circulation, inducing internal congestion, colds, and not infrequently maladies of the gravest character, such as Bright's disease, paralysis, rheumatism.

Care must therefore be taken not to overload the body. It is better in cold weather to accustom one's self to wearing clothing

which involves the necessity for moderate activity in order to maintain the warmth of the body, than to dress so warmly that a little exercise is sure to induce perspiration, with the risk of an after-chill. The habit of overclothing is certainly more common with us than in England and on the continent of Europe. This is unquestionably one reason why pink cheeks are much less frequently seen among Americans than among their English cousins, unless, indeed, they are created by artificial means. The habit of coddling one's self by donning additional wraps whenever one sees a snowflake or hears the north wind blow, is a mistake. According to the newspapers, Rudyard Kipling's famous illness with pneumonia was caused by carelessness in this respect. The cold season approaches slowly, and if at the very commencement of cool weather in the fall, one takes a little care to accustom himself to the changes of the season, adding only such extra articles of clothing as are really necessary, he will, if making the experiment for the first time, be surprised at the unnecessary weight he has been accustomed to carrying around in the shape of uselessly heavy garments.

The habit of clothing the neck is particularly injurious, as the skin of the neck becomes so sensitive that even the slightest draft to which it is exposed within doors is sufficient to disturb the circulation, inducing nasal colds and catarrhs, and the endless inconvenience connected therewith. The feet must be kept dry by means of rubbers when there is danger of exposing the shoes to moisture, but heavy overshoes should not be worn except in very cold weather, and rubbers should be discarded the moment they are no longer necessary, as they prevent proper evaporation from the feet, and so expose the person to the danger of chilling from moisture within the shoes, although none may have been allowed to enter from without. So, likewise, rubber or gutta-percha overgarments must be removed as quickly as possible after wearing, as they produce moisture and chilling of the body.

The most practical method of adapting the clothing to the season is by regulation of the underclothing. Underclothing of some sort must, of course, be worn the year round, for cleanliness. The best plan is to wear next to the body at all seasons cotton or linen, so as to allow the perspiration of the skin to escape with the greatest possible facility. In cool or cold weather, one or more suits of woolen underclothing of suitable thickness should be worn outside of the linen or cotton suit. By this means suitable warmth can be secured without the irritation produced by contact of the skin with woolen fabric. Woolen garments also have the additional disadvantage of absorbing moisture slowly and retaining it for a long time, so that if a slight perspiration is produced, it is so long retained in contact with the skin as to produce the relaxing effect of a warm bath or a poultice. Then when the woolen garment becomes saturated, it dries very slowly, and thus does not take up additional moisture from the skin, leaving the latter to be bathed in unwholesome, perhaps in poison-laden, excretions, which may be to some extent absorbed, while the body is constantly exposed to the dangers involved from the excessive relaxation of the skin, and the risk of sudden chilling. Cotton and linen fabrics, especially the latter, wet quickly and dry quickly, which gives them a decided hygienic advantage for undergarments to be worn next the skin ; but wool, being a better non-conductor, is the best material for the outer garments.

The temperature of the living-room is of great importance in relation to clothing ; for if one is accustomed to high temperatures within doors, the great change occasioned by going out may make the wearing of thick wraps necessary, when otherwise lighter garments might be worn with safety. People in England and on the Continent show much better judgment in the heating of rooms than do Americans. It is true that ventilation is much neglected, except in rooms where grates are employed, which thus have automatic ventilators, but in these countries as little fuel as possible is consumed, doubtless partly as a matter of economy, but it seems to be generally recognized that fire heating is unwholesome, and that it is better within

doors, as well as out of doors, to keep the body warm by its own heat than to heat it artificially. When artificial heat is employed, it is difficult to avoid excesses, and it is only by the most constant care that the living-rooms can be so regulated as to avoid overheating or chilling by the fluctuations of temperature. In nature, sudden extremes in temperatures do not occur. Even cold wind-storms send sufficient warning ahead to give the system opportunity to accustom itself to the coming change; but one whose skin has been rendered sensitive by exposure to excesses in high temperature, such as 75° or 80°, in artificially heated rooms, is likely to be instantly chilled by the opening of a door or a window and the admission of a gust of air at a temperature perhaps sixty degrees lower, as may readily occur in the winter season. Of course, the body could not be accustomed to a temperature even approximating the low temperature to which one is exposed in the cold season. But if living-rooms are kept at a temperature of 60° or 65°, this so-called relaxing effect of the heat will not be produced. The relaxing effect consists not so much in relaxation in the mechanical sense, but is simply a common mode of expressing a physiological condition of the skin which is induced by the effort of the body to defend itself from excessively high temperatures, by dilating the vessels of the skin, and pouring out quantities of water whereby the skin and thus the blood through evaporation may be cooled. The body, when placed in an atmosphere of 60° or 65°, finds no occasion for developing this defensive action, hence this so-called relaxation does not occur; but a temperature over 70° quickly sets up this defensive process, and at the same time lessens the general activity of the body. It is this lowering of the vital activity which occasions the so-called weakening effect of high temperature, while the quickening of the vital fires produced by the moderately low temperature of 60° or below, is for the opposite reason a tonic and an invigorating element. Experiments have shown that temperatures much above or below 60° disturb the equilibrium of the body as regards the production of animal heat, 60° being practically the neutral temperature of the air, as from 92° to 95° is the neutral temperature of water.

The habit of sleeping in overheated rooms is one of the most debilitating and enervating of practices. It is far better that the night temperature should be below 50° than that it should be above 60°. It is only necessary that clothing, when light, should be properly adjusted to avoid discomfort and all risk of taking cold. The plan which the writer heartily recommends is to clothe the body at night, if not completely, as warmly as during the day. This is especially important in cold weather. In addition to the ordinary night-dress, a long warm woolen sleeping robe, with long thick woolen socks lined with cotton flannel or linen, may be worn. The bed covering should consist of woolen blankets, and should comprise a sufficient number to secure warmth; but the upper portion of the body should be so warmly clothed and protected that, although the temperature of the room might be low, there would be no danger of taking cold if the shoulders and arms should become exposed during sleep. The covering should never be so abundant as to cause perspiration during sleep; as the person is almost certain to take cold, if not at night, then during the dressing in the morning, or when coming in contact with cold drafts during the day.

Why Changes in the Weather Aggravate Pain.

It is because of the extreme sensibility of the human nervous system. The body may be called an exceedingly delicate electrometer and barometer: it is very responsive to electrical conditions in the atmosphere. Our nerves are vastly more sensitive to electricity than is a fine copper or steel wire. It is on account of this wonderful sensibility in the human body that a man who has neurasthenia is so very sensitive to changes in the weather; the wonder is that he is not more disturbed than he is.

Our bodies have a marvelous power of adjustment to their environment,— to the continual changes taking place in the air as to the quantity of moisture, the quantity and the kind of electricity, air pressure, and all the other changes which go to make up what is termed meteorology. It is no wonder that even well people are disturbed by weather-conditions, and they would be more so were it not for the fact that the body is continually adjusting itself to these conditions. It is for this reason that the whole nervous system of a person with sensitive sympathetic ganglia is disturbed by changes of weather. The abdominal sympathetic, the great abdominal brain, every nerve, every vessel, every gland, every organ, and all the vital forces of the body, are under the control of the nerves in the central portion, and the consequence is, that when these nerve-centers are abnormally irritable, there is an irritated state of the entire body, including the blood-vessels. When a person feels a sudden rush of blood to the head, it is because of this disturbance ; the ganglia are excited, the blood-vessels are contracted, and the blood can not get into them. The patient is perhaps sweating in the palms of the hands and the soles of the feet, and it is not easy to stop it. What is the matter ?—There is an irritation of the great sympathetic. So these irritated nerves affect the sweat-glands, and cause them to pour out an excess of perspiration. This perspiration occurs chiefly in the palms of the hands and the soles of the feet, because there are more nerves there than in other parts, consequently there is more excitement.

Defects of School Children.

A committee was appointed a few years ago by the psychological branch of the British Medical Association to investigate the defects of school children. From their report, published in the *British Medical Journal*, we find that they examined 50,000 school children,— 27,000 boys and 23,000 girls, —and of this number there were about 5,800 who showed visible defects, of whom 3,600 were boys and 2,200 girls.

Those who examined these boys and girls were looking only for visible physical deformities; they did not go into a minute investigation of each individual. It thus appears that the number of deformed children was nearly twelve per cent of the whole number examined. This indicates a deteriorating tendency of a very pronounced character. It was noted also that among the deformed children were many from the upper classes, so that the deformities could not have been the result of hardships and exposure, but were rather due to some cause affecting the upper as well as the lower classes.

A thousand or even a hundred years ago, the strongest man was the best man. Now it is not so; it is not the man who has the strongest muscle who is the best man, but it is the one who has the keenest brain and the nimblest fingers. It is not the man who can lift the most and carry the most, but the one who is the sharpest intellectually. Physical development has been neglected. We see the result of this in the fact that so considerable a proportion of the children attending school are allowed to grow into palpable defects.

Gastric Juice a Disinfectant.

The best and quickest agent for destroying germs is a sound stomach ; healthy gastric juice is the best of all disinfectants for this organ. If germs grow there, it is because there is not enough healthy gastric juice, and the best thing to do is to eat such food as will enable the stomach to produce an abundance of healthy digestive fluid. It is not necessary to swallow disinfectants; the proper thing is to get the stomach into such a condition that it will not need artificial disinfectants. In order to do this we must take such food as will not encourage the growth of germs.

Suppose we put a meal of fruits, grains, and nuts into a bottle, and cork it up tight; then take another bottle and put into it some beefsteak, mutton chops, oysters, or anything else that is dead. Put these two bottles away in a warm place for a week, and then break them. I dare say that the fruits, grains, and nuts in the one bottle would not

be very obnoxious—it would not be dangerous to open that bottle or to examine its contents; but the bottle that has something dead in it — everybody would be in haste to get away as soon as that bottle was opened. The same thing that happens in this bottle happens in the stomach that has not the power of disinfection. We are relieved from this difficulty, however, when we eat only foods that do not easily ferment.

His Only Vice.

I was riding in a street-car in Chicago one day, when I noticed a little fellow sitting beside me who had a great bunch on the side of his face. Pretty soon he expectorated upon the floor, and I found out what was the matter with his face — he was chewing tobacco. He was a bright-looking little fellow, and I said to him, "Sonny, this looks pretty sad, for you to chew tobacco. Don't you know that tobacco is poison?" "No," he said. "Don't you think it will injure you?" "No." "But," I urged, "it will certainly harm you." "Well," he said, "it is the only vice I have; I don't smoke, and I don't swear— I only chew." "Why don't you smoke?" I asked. "Because if I should smoke, I would get the nicotine in my lungs; I just chew, and then I spit it all out." He had evidently been studying into the philosophy of the subject, and was trying to be a good boy. I expostulated with him, and asked what made him chew, and he said that if he didn't chew, he felt "bummy." This boy was already so far advanced in the narcotic habit, that if he didn't chew, he felt wretched.

That is the way with tea and coffee drinkers, also. Anything that makes a person feel "bummy" when he dispenses with it, is a bad thing for him, whether it is tea, coffee, or whatever it may be; it is a stimulant. A person does not feel wretched if he goes without bread, and takes in its place some other wholesome food, although he has been accustomed to eating bread; and so with apple-sauce or any other article of wholesome food.

The Purity of Water.

It is very difficult to find a test for the purity of water which will satisfy the modern sanitarian, because the water may contain no germs of putrefaction and yet be full of others of a deadly character. The dangerous germs most likely to be found in water are those of typhoid fever. Germs of a deadly character can readily be recognized by pouring a few drops of water into sterilized beef tea, and then injecting it into a guinea-pig. If this water contains typhoid fever germs, the pig will be made sick; and if he dies, it is evidence that the water is very bad. This is called the biological test, because if the water contains germs which will make a guinea-pig sick, they will also make you sick.

Saccharin Injurious.

The increasing use of saccharin in foods renders it necessary that the public should be frequently warned against the use of this unwholesome substitute for sugar. The fact that saccharin is three hundred times as sweet as cane sugar and that it is chiefly produced from coal-tar makes it a very convenient substitute for sugar in sweetening fruits, and for various other purposes. It has, by some, been declared harmless because it does not cause immediately fatal symptoms when taken in moderate doses, but Payen (Hare's "Practical System of Therapeutics," Vol. 1, page 1021) calls attention to the fact that when taken in more than extremely minute doses (one and one-half grains per day) violent gastric pains are produced. A drug that is capable of causing violent gastric pains by so small a quantity as indicated is certainly dangerous for ordinary use, and is by no means a fit substitute for a food substance.

ANSWERS TO CORRESPONDENTS.

Ideal Luncheon — Corn.— A health reformer who is robust, working in an office, asks (1) what would be an ideal lunch for such a one to carry to work ; (2) if a slice of whole-wheat bread, fruit, fruit biscuit, and bromose caramels make a strengthening luncheon, and also wonders if corn is digestible ; (3) if one recovering from dyspepsia can use it; (4) if corn is starchy and fattening.

Ans.— 1. Toasted granose cakes or graham bread, with nuttose, protose, nuttolene, and fruit, and, if desirable, add fruit-coco.

2. Yes.

3. Yes, if properly cooked.

4. Yes.

Hob-nailed Liver — Starchy Foods.— H. W., California : "1. What are the symptoms of hob-nailed liver ? 2. Can it be cured ? 3. What can cause it in a person who has lived temperately for twenty years ? 4. Are toasted graham gems, nut butter, fruit, and granola a good combination ? 5. Is one pound of nut butter per week too much ? 6. If all starchy foods require several hours' cooking, how about potatoes ? 7. Are baked potatoes more healthful than boiled ones?"

Ans.— 1. A contracted liver, as shown by physical examination, and in the later stage, dropsy.

2. No ; but the patient's condition can be greatly improved and life prolonged by a proper diet.

3. Chronic dyspepsia is more often the cause of cirrhosis of the liver than alcohol.

4. Yes.

5. No ; double the amount would be none too much.

6. Potato starch is more easily digested than grain starch ; nevertheless, potatoes disagree with many persons, probably because they are not thoroughly cooked.

7. Yes.

Vertigo.— N. L. B. W., Wisconsin, aged seventy-seven, recently fell from a carriage, striking upon his head. He has since been troubled with vertigo. Does this indicate concussion of the brain?

Ans.— The difficulty is probably arterio-sclerosis due to advanced age.

Diet in Diabetes.— A. A. H., British Columbia, asks: "1. What diet do you advise for one who has a slight touch of Bright's disease? 2. Are baked apples, milk, cheese, and fish harmful?"

Ans.— 1. A pure dietary of fruits, grains, and nuts, especially avoiding all meats and irritating foods containing pepper, spices, or other condiments.

2. Yes, with the exception of the baked apples.

Pain in the Stomach — Milk or Cocoa — To Preserve Beef Blood in Liquid State — Hair Dye — Muscles — Food for Student. — G. O'V., Virginia : "1. What is the cause of and remedy for slight growling and pain in the stomach ? 2. Do you approve of drinking either milk or cocoa ? 3. What solution put in beef blood will preserve it in a liquid state ? 4. Do you advise beef blood as nourishment for an athlete ? 5. What harmless wash is there for darkening hair ? 6. What muscles are best developed in the limbs of a fast runner ? 7. Which foods are good and which are injurious for a student ?"

Ans.— 1. Doubtless errors in diet, leading to the formation of gas. The adoption of a natural dietary of fruits, grains, and nuts, taking the food dry, and but two meals daily, seven hours apart, will probably effect a cure.

2. No. Cocoa is unwholesome. Milk is a food, not a drink, and should be chewed as well as other foods. It is not the best food.

3. There are several chemical substances which will do this, but none which will render beef blood wholesome.

4. By no means.

5. Various silver salts will darken the hair; but why do it ?

6. The muscles of the front of the thigh.

7. All natural foods are good for a student, as fruits, grains, and nuts.

Hypopepsia — Bromose — Respiration — Neurasthenia.— W. A. F., Canada : "1. What does hypopepsia signify ? 2. Does it necessarily follow that if hydrochloric acid is once absent on analysis, the stomach will not again secrete it ? 3. Is bromose with or without fruit good for one with weak digestion ? 4. How many respirations should a perfectly healthy person have in a minute ? 5. When the nervous system has become debilitated, does it ever regain its natural strength ?"

Ans.— 1. Deficient hydrochloric acid and slow digestion.

2. No.

3. Yes, in most cases.

4. About eighteen.

5. Yes.

LITERARY NOTICES.

The Beauties of Temperance, in two parts, by Miss Julia Colman, New York. Eaton and Mains, publishers.

These two interesting and instructive little books have been prepared for use as helps in making the subject of temperance attractive to the young. The name of the author is a guarantee that they are brimful of good things which will be appreciated by all workers for children and young people.

The **Atlantic Monthly** is a magazine of the highest merit, not only as to the nature of its articles, but also as to its typographical excellence. It has long been considered one of the highest authorities in all literary matters in this country. Amid the numerous fads and eccentricities of many of our other magazines, it has held on its way with supreme indifference, maintaining its dignity and excellence without wavering. The contents for the October number include "Recent Changes in Secondary Education," by Charles W. Eliot; "The United States and Rome," by H. D. Sedgwick, Jr.; "Letting in the Light," by Jacob A. Riis; "The Road to England," by Thomas Wentworth Higginson. Houghton, Mifflin & Co., Boston. $3 a year.

The magazine number of the **Outlook** for October is a Dewey number, though not exclusively so. It tells in several profusely illustrated articles "The Story of Dewey's Welcome Home," "Meeting Dewey in Manila Bay," by Major-General Wesley Merritt, "Admiral Dewey's Firmness and Courage." There is the usual editorial comment on recent happenings; "Sir Anthony van Dyck: The Antwerp Anniversary;" a portrait and sketch of Joseph Chamberlain, and of "Oom Paul;" "An American Garden," with attractive glimpses of the garden in picture; "Christian Liberty;" "Country Holidays for Working-Girls;" "The Outlook and the Philippines;" "America's Working People.—VIII;" and more of equal interest.

In addition to the eagerly awaited sequel to "Sentimental Tommy," by J. M. Barrie, which will run serially through 1900, **Scribner's Magazine** makes another important announcement. It may partly be owing to the recent celebration of the 300th anniversary of the birth of Cromwell, or it may be simply because it is high time for a revival of interest in "the most typical Englishman;" at any rate, the subject of Oliver Cromwell seems to be in the air at present. This is evidenced by the fact that two of our leading magazines, whose business it is to keep in touch with the currents of thought and trends of public interests, are announcing Cromwell as an important subject in their next year's serial programs. One of these will be a history by a distinguished Englishman; the other will be written by an American, Theodore Roosevelt, and will appear in *Scribner's Magazine*. To those acquainted with Theodore Roosevelt's former writings, it will not be surprising to hear that the study of this strenuous character has been a great favorite with him, and his contribution will be a fresh presentation of Cromwell the man, the fighter, and the statesman, as seen by one whose personal experience has brought a new and more thorough understanding of his hero. It will run through six numbers, and will be profusely and richly illustrated by F. C. Yohn, E. C. Peixotto, Henry Mc Carter, and other well-known artists, as well as with many rare portraits, relics, and other valuable matter.

The articles in the October **Forum** are of great interest, a number being written by widely known men. Senator J. C. Burrows forecasts the Presidential contest of 1900 with a paper on "This Year's Elections: Their Bearing on the Presidential Election." Comptroller of the Currency Charles G. Dawes writes a paper of much importance on "The Present Outlook for Currency Reform." The Dean of Canterbury, F. W. Farrar, speaks upon "The Sunday Question." Oscar P. Austin, chief of the United States Bureau of Statistics, gives an interesting account of the rapidly growing "Commercial Japan." Professor Sohm, of Leipsic, a member of the Code Commission, tells of the true significance of "The Civil Code of Germany;" and Charles Howard Shinn considers, in his article on the "Literature of the Pacific Coast," the prominent part that Californian writers have taken in the department of fiction.

"Arabia: The Cradle of Islam," is the title of a unique article in the October number of the **Missionary Review of the World.** The author is Samuel M. Zwemer, F.R.G.S., the well-known missionary pioneer in that peninsula of the false prophet, and he writes fully and graphically of the country, the people and their religion, and the missionary work. A good map and several

fine illustrations contribute much toward making this description of special value. Other articles on Islam deal with "The Future of Turkey," "Protestant Churches in Constantinople," and "A Mohammedan View of the Mohammedan World." "Medical Missions" has also a large place in the *Review* this month. The editor-in-chief gives the concluding chapter in the life of Dr. Green, of Ceylon; Dr. H. T. Whitney contributes a paper on "The Relation of Medical to General Missionary Work;" and Rev. Levi B. Salmans describes "The Beginning of Medical Missions in Roman Catholic Countries." This is but a small portion of the very attractive table of contents for the current number of this magazine.

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It has been known for some time that Ian Maclaren has been critically studying modern church methods, and the results are now to be made public in the **Ladies' Home Journal.** His first article is called "The Candy-Pull System in the Church," and in this he frankly states what many have felt but have scarcely ventured to publicly assert with regard to social tendencies of the church. The great English author will then handle "The Mutineer in the Church," and after that, answer the somewhat startling question, "Should the Old Minister be Shot?"

With the November number **Demorest's Magazine** will go back to the old size page. This change is made at the request of many subscribers, who felt they had lost an old friend when the magazine adopted the large page two years ago.

The Philosophy of Osteopathy, by A. T. Still, discoverer of the science, is now in press, and will be issued in three or four weeks. The book will be a comprehensive treatise on the science, the first ever written, giving to the world a new field of thought in the art of healing.

PUBLISHERS' DEPARTMENT.

DON'T MISS IT.

The Midwinter Number of Good Health.

IF you wish to know all about how to keep well in the winter, be sure to get a copy of the December number of GOOD HEALTH. This issue will be devoted to winter hygiene. The leading article, by Dr. J. H. Kellogg, will treat of "The Chief Cause of Winter Diseases." There will be also an illustrated article by Dr. Kellogg, on "Gymnastics without Apparatus." This will present some exceedingly new and interesting ideas about physical development.

Dr. David Paulson will contribute an article entitled "How to Avoid Funerals in Winter." Dr. A. B. Olsen will write upon "Colds and Their Treatment," illustrating different hydrotherapeutic measures by half-tone photographs. There will be an article by Dr. Helman on "Winter Foods." Dr. F. M. Rossiter will discuss the "Care of the Feet in Cold Weather." Miss Ann E. Tabor will present some original designs for hygienic winter dress. A general holiday feature of the number will be an illustrated article on "Christmas and New Year's in France," by Mary Henry Rossiter.

Besides these attractions there will be valuable instruction as to Winter Ventilation; How to Care for Cellars in Winter; Winter Housekeeping; How to Keep the Children from Taking Cold; and numerous other appropriate subjects.

The December number of GOOD HEALTH will be a fair sample of what this journal aims to be the year around,—an up-to-date, thorough, and conscientious exponent of the latest and best principles of hygienic and sanitary reform.

Extra copies of the midwinter number for general distribution will be furnished at cost of production. Send order at once to GOOD HEALTH, Battle Creek, Mich.

DURING the last month thirteen have engaged with the Good Health Publishing Company to circulate health literature. To those desiring employment this kind of work offers special advantages both from an educational and a financial point of view. There is still opportunity for a number of men and women to engage in this line in their respective States. Application should be made at once.

OUR agents employed in the circulation of "Ladies' Guide" are received with favor everywhere. This book is destined to have a very large sale during the coming winter. One lady engaged in selling this book has averaged eighty cents an hour for every hour employed in the work,—an exceptional record only because it is her first experience.

THIS unusual interest in and demand for health literature may be accounted for by the fact that the public is becoming awakened to the importance and need of practical help on health topics.

SCHOOLS OF HEALTH are being organized in several prominent cities in Iowa and Illinois. It is to be regretted that we can not with less delay meet the demand for instruction along these lines. We are pleased, however, to note the growing interest and desire for knowledge in this direction and the evidences of good resulting from our efforts. If you want a school in your own city, write for information to GOOD HEALTH, School of Health Department, Battle Creek, Mich.

WANTED! Ten good men who have had field experience in the circulation of literature. A good salary and permanent employment. References required. Address Good Health Publishing Company, Battle Creek, Mich.

NON-TERRITORIAL EXPANSION means paying rent for a poor farm. Now is the time to secure a good farm on the line of the Chicago, Milwaukee & St. Paul Railway in Marinette County, Wisconsin, where the crops are of the best, work plenty, markets fine, climate excellent, water pure and soft, and the land sold cheap and on long time. Why rent a farm when you can buy one for less than you pay for rent? Address C. E. Rollins, Land Agent, 161 La Salle St., Chicago, Ill.

WANTED.— Persons to represent the *Self Culture Magazine*, published by the Werner Company, Akron, Ohio. One thousand dollars will be awarded February 14, 1900, by the publishers. Full information and equipment free. No one has a better chance to win than you. Write to-day, and send two references.

LADY AGENTS wanted to sell flavoring extracts and perfumes. It will pay you to write me. R. W. Snyder, 150 E. Canal St., Battle Creek, Mich.