NOVEMBER, 1894.

GOOD HEALTH

CONDUCTED BY

J. H. KELLOGG M.D.

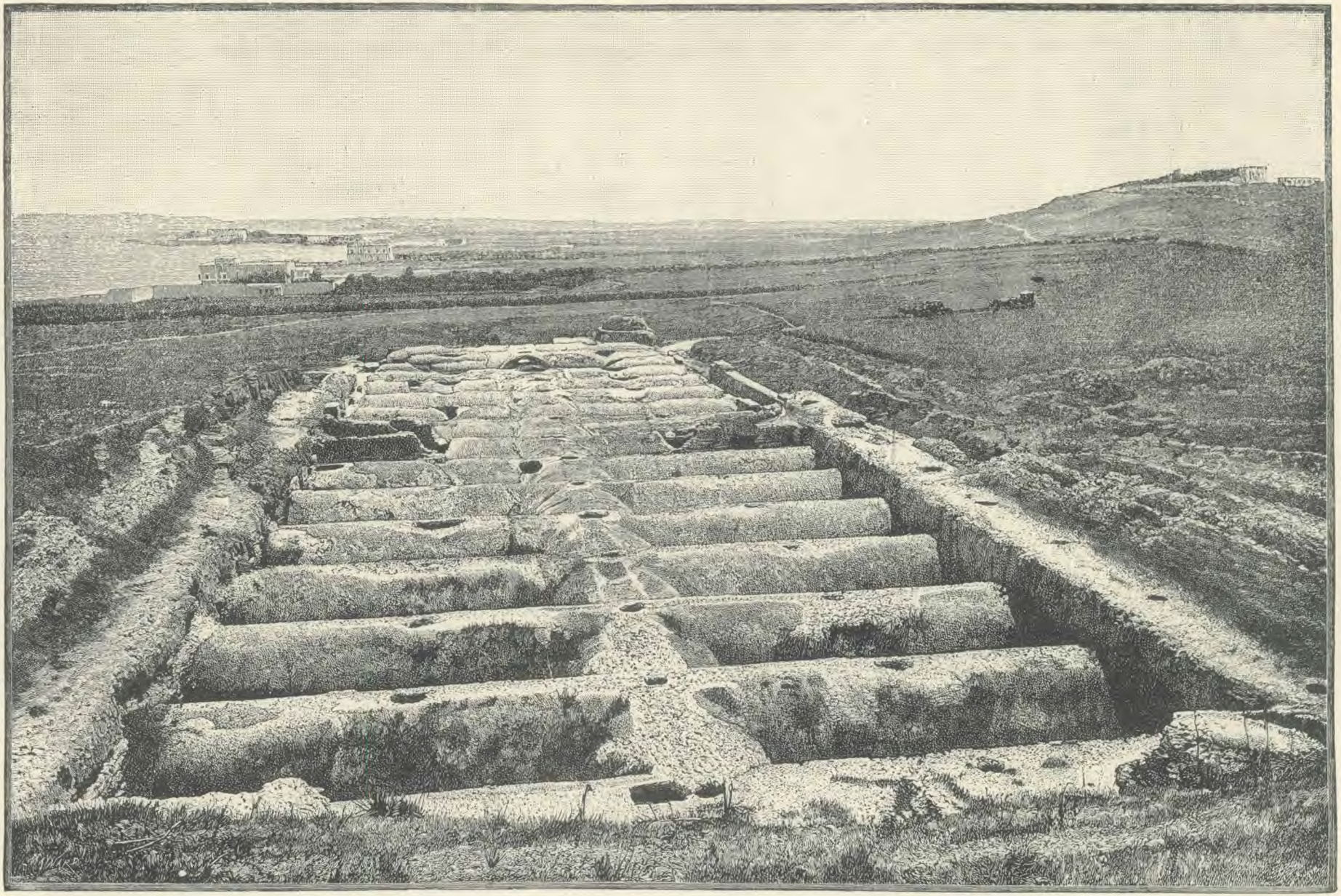
Subscription price $1.75
(Including Companion Volume)

PUBLISHED MONTHLY.

GOOD HEALTH, VOL. 29, NO. 11.

CONTENTS.

BATTLE CREEK, MICH., November, 1894.



RUINS OF ANCIENT CARTHAGE. — THE FAMOUS CISTERNS.

GOOD HEALTH
A JOURNAL OF HYGIENE
MENS SANA IN CORPORE SANO.
VOL. XXIX. NUMBER 11.
BATTLE CREEK, MICHIGAN. NOVEMBER, 1894.

BIOGRAPHICAL HEALTH STUDIES.

BY F. L. OSWALD, M. D.,
Author of "Physical Education," "The Bible of Nature," etc.

10.—Walt Whitman.

NORTH AMERICA has been called the free arena of individuality, and it is now and then worth seeing what sort of life a clear-sighted man, freed from the shackles of conventional prejudices, can shape for himself in a country like ours.

Walt Whitman, as a man and a writer, was perhaps the most self-reliant individual the world has seen since the death of Lady Hester Stanhope. Compared with the "hermit of Camden Beach," Renan was orthodox, and Henry Thoreau a man of fashion. Whitman's ruling passion was not the love of nature or of solitude, nor, as Swinburne asserts, a mania for contradiction, but the love of independence and the hatred of dogmatism and meddlesome bigotry. He valued freedom above all other earthly possessions, and with all his philanthropy he had a profound distrust of accepted opinions, and an outspoken contempt for the moral and philosophical verdicts of public opinion.

"The doctrine of your Prohibition friends has never quite suited my ideas of logic," I once heard him say as to his views on the temperance question, "and my chief argument against alcohol is the fact that it has been worshiped by the delusion-fuddled masses for so many hundred years." He had, in fact, no theoretical objection to the use of stimulants, and dreaded the drink habit chiefly on account of its progressive tendency and the implied risk of having to mortify his appetites.

The author of "The Adamites" had no talent for the practice of asceticism. As a general proposition, he held with Herbert Spencer that the testimony of our instincts should be our main criterion of good and evil, and that the wise will not despise palatable food and a snug fireside. In choosing his dress, he consulted his own ideas of comfort rather than the views of his tailor, and biographers who eulogized his "patriarchal calmness of speech and manner" (possibly a characteristic of his sick room years) would have stared to hear the emphasis of his remarks on the absurdities of fashion. "Oh, let them buy a drygoods doll and ogle it, if that 's what they want," said he, when he heard that his winter garments had been criticized as "slouchy and antiquated;" "confound their impudence; do they suppose I have nothing to do but study their French flounce and frippery journals?" He would have preferred a Turkish cap to a stovepipe hat, but compromised on a soft felt hat, and habitually wore his shirts open in front, on the theory that tight collars would aggravate a tendency to apoplexy. His Camden shoemaker had learned to humor his ideas of fitness. "Never mind your routine;" he would say in reply to professional expostulations, "what you call a good-fitting shoe is sure to be four-fifths too tight in proportion to the length. Make it agree with those measures, and rely on it that we won't quarrel about the looks of the thing."

Like Thomas Carlyle, Whitman was a housebuilder's son, and his mother (a Van Velsor, said to be descended from a rather eccentric family of early Dutch immigrants) was so occupied with other domestic duties that the little lad enjoyed the benefits of the "let-alone" plan of physical education. He

was born in 1819, at West Hills, Long Island, almost in sight of the sea, and at a very early age grew fond of wilderness rambles and self-help. His indoor education was limited to that of the public schools, but he instinctively recognized the benefits of knowledge as an aid to independence, and contrived to pick up an amount of miscellaneous information that enabled him to establish a little school of his own before his father had time to claim his services as a carpenter's apprentice. In 1836, viz., before the end of his seventeenth year, he taught school in Queens and Suffolk counties, L. I., and "boarded around," at first rather against the wishes of his parents; but, seeing that the increasing number of his pupils enabled the boy teacher to contribute to the support of his younger brothers, they let him alone, and even helped to distribute his prospectuses of a little grammar school. In his leisure hours he acquired a practical knowledge of printing, with a view to newspaper editing, till the removal of his father's family to Brooklyn, N. Y., turned his attention to real estate speculations. But Brooklyn at that period of its development was not a fast growing city, and the restless youth drifted south to Philadelphia, Richmond, and Memphis, and from that time rather abused a Yankee's privilege of versatility. His impatience of restraint had probably something to do with his frequent changes of occupation, though he plead the necessity to supplement the defects of his education by travel. At all events, the ups and downs of the next fifteen years gave him an opportunity to study life in all its phases of amenity.

He zigzagged south as far as Louisiana, then back to Ohio and New York, and tried his hand by turns at teaching, printing, publishing, farming (or at least orcharding), house building, house painting, railroading, versifying, and miscellaneous journalism. The financial success of his little book, "Leaves of Grass," turned his thoughts to literature as an exclusive vocation, and the results of his tentative efforts as a magazine essayist were, on the whole, rather encouraging. When the vortex of the Civil War drew him to Washington by the vague desire to contribute his mite of aid to the service of his country, he tried in vain to secure employment in the Quartermaster's Department or the Topographical Bureau (as a compiler or engraver of war-maps), but could not make up his mind to shoulder a musket. It was not the danger or prospect of hardships that kept him out of the recruiting office, but the horror of subordination to bullying sergeants, and the necessity of swallowing the delicacies of the Commissary contractor. "Travel by land or pray to Allah to give you a lift through the air," an experienced old Mussulman advised a young fellow pilgrim, "but beware of taking passage on a British packet, where you would have to see wretches get fat on pork, and starve yourself or share in the horrid feast;" and with a similar preference for lesser evil, Walt Whitman at last accepted a position as steward's assistant in a military hospital.

The doctrines of Florence Nightingale's gospel of fresh air and sunlight had not yet leavened the management of the American lazarettos, and the nurse of the sick was in constant danger of having to add his own name to the list of chronic invalids. In warm weather the atmosphere of the ill-ventilated wards was almost unendurable, and many of the patients were afflicted with contagious lung disorders; but the assistant steward stuck to his post for four long years. Once (in the summer of 1863) he had a fainting fit, and from that day remained subject to sick headaches, vertigo, and other omens of the stroke of paralysis which finally consigned him to the long-dreaded doom of indoor life.

For the time being, however, he seemed to recover, and after the end of the war, applied for a vacant clerkship in the Department of the Interior. His written application was so evidently superior, both in style and penmanship, to that of his fellow-candidates, that he secured the place; but when he was one day summoned to appear before his chief, who, in the style of a Grand Inquisitor, questioned him about the truth of certain rumors concerning the orthodoxy of his theological tenets, and Whitman had to plead guilty to the charge of being the author of "Leaves of Grass," he was discharged on the spot. There was no appeal from the decision, and Whitman went home, sick at heart with premonitions of bodily illness, but strongly confirmed in his detestation of dependence, and resolved to achieve his deliverance at any price.

Almost against his will, his friends secured him a position in the Attorney General's office, with an annual salary of $1400. Whitman was homesick, but realizing the necessity of getting another start in life, he did his best to justify the recommendation of his patrons, and staid in Washington till 1873, when the verdict of a medical friend indorsed his yearning for the peace of private life. He went to Philadelphia, and finally settled in a river-side village near Camden, N. J., where he established what he himself called a "literary bear-den," in a two-story frame house with big open fireplaces and a snug attic, having "boiled down the passions of his youth

to the worship of freedom and a day-and-night prayer for health."

"Why don't you try to secure both by settling on some quiet upland farm?" a sympathizing visitor asked him in 1889, when he had removed his household goods to a still smaller cottage on Mickle street, Camden. "Yes; and have to relinquish the field to a cabal of intolerable neighbors, just by the time you get your home into habitable shape," said the man of diversified experiences. "In summing up the factors of health, you should not omit peace; and there would be war to the knife between our sort of gossiping rustics and a fellow of my type. They would badger the life out of me in a year. You remember the derivation of the word 'pagans' from *pagani* — countryfolk — because polytheism lingered in the rural districts long after the city temples had given way to churches. Our *pagani*, too, cling to the specters of the past. They have not yet emerged from the shadow of the Middle Ages, and boycott every one of their neighbors who fails to join in their bigotries and accept their platitudes. If any ill-fated city dweller should hope to find peace in the moral backwoods, hand him Hazlitt's essay on rustic bigotry; make him read it, and read it again, till the words burn themselves into his memory; it is better that he should be haunted by the impression than ascertain its truth from personal experience."

A penchant for malicious gossip may not be an exclusive product of Christian village districts, but the inhabitants of large cities have no chance to concentrate their impertinent curiosity on individuals. They see thousands of strangers come and go; the excitement of business competition gives them no leisure to attend schools of scandal, and on holidays they have better pastimes.

Whitman's love of primitive nature cannot be doubted by any reader of his earlier works, and his preference for city headquarters was perhaps really prompted by the principle expressed in the maxim by Arthur Schopenhauer, who remarks that "he is lucky who learns in time not to consider this earth an Olympus, flowing with nectar and ambrosia, but rather as an inferno, where the wise will endeavor to find a fire-proof lodge." Having secured the blessing of a gossip-proof basis of operations, Whitman indulged in frequent excursions to the Jersey pine woods, to the Maryland mountains, and even to Canada and Western Colorado. His next neighbors knew him only as a courteous old gentleman, who wrote or sold books, and had a reputation for paying his house rent at punctual dates; but they did not trouble themselves to ascertain who cooked his meals, or why his door often remained closed for days together.

The old philosopher relied on his conviction that burglars would not steal unrhymed poetry, and simply locked his door when he went out in quest of fresh air. On his return he did not even find a dog to "bay deep-mouthed welcome," but a cupboard stored with crackers and dried fruit, canned vegetables, honey, and other imperishable comestibles, with a valued present from a Yankee admirer, — an apparatus for the domestic manufacture of ice. This machine, with an ample store of the requisite chemicals, made him practically independent of the seasons, and lessened the dread of his chief enemy, — the stifling midsummer heat of the Atlantic Coast States. Most of his fainting fits had come in August; and if he could weather the bake-oven season to the end of that month, he considered his lease of life settled for three quarters of a year.

From the big city across the river (Philadelphia), he could procure any desired material for his sanitary experiments. He was an empiric in matters of hygiene, tried patent drugs of all sorts with caution, and wasted several dollars on "electric" remedies for the after-effects of his paralytic affliction; but finally got hold of some suggestive books on medical reform, and for one full year did not taste a drop of medicine. He also experimented on the effects of various kinds of diet, and renounced the use of coffee as a daily beverage, though not as a medicine, having ascertained its stimulating effects on the mental faculties, especially in emergencies requiring protracted application and night work.

When he could afford to await the moving of the spirit, he preferred to retire early, after a light meal of rice and apple butter. He was a worshiper of the morning hour, — the springtime of the day, — when neither the heat of the sun nor the uproar of traffic interfered with his invocation of the Muses; but realizing, withal, the necessity of a liberal allowance of sleep, he contracted the habit of taking midday naps of two or three hours, and awakening to a second morning in the cool of the evening twilight. The early evening was his favorite time for receiving visitors. With all his horror of etiquette and regulation visits, he had learned the value of social intercourse, and found that an animated controversy could be made a sanitary substitute for outdoor exercise. The simple plan of keeping his house door locked, and watching its approaches from the curtained observatory of his study, made it possible to admit only welcome callers, of whom there was no lack after the winter of 1882, when the City of

Brotherly Love experienced a sort of Walt Whitman revival, and the little frame house on Mickle street was enrolled on the list of suburban curiosities. The Camden landlord became proud of his tenant, and anticipated his wishes in regard to various architectural improvements.

To all these blessings, "peace as a factor of health" was gradually added in the form of deliverance from the stress of pecuniary problems. The inspired essays which their author insisted on calling poems, but which the Greeks would have called didactic rhapsodies, had begun to find a ready market, and a day's work often sufficed to prepay the expenses of his singular household for a quarter of a year.

Whitman had no expensive hobbies except his passion for the curiosities of literature, and the charges of "immorality" were founded mainly on his failure to propitiate the prejudices of literary prudes. "It would be a ghastly joke, were it not such a self-revelation," says the Rev. Minot Savage, "that a man as clean as the pine woods and the northwest winds, should be adjudged by our critical Dogberrys to be 'immoral.' Whatever else he is, and whatever any one may think of his religion, he is a great, bracing moral force to any one who studies him with even common intelligence. To class him with the 'French School' of sensualists shows about as much discrimination as did the Pharisees when they accused Jesus of drunkenness or of having a devil."

When the weary pilgrim to the heights of literary fame at last emerged into the sunlight of comparative prosperity, he was twenty years too old to marry, but he was never a woman hater, and his objections to matrimony, or rather to its responsibilities, are exactly expressed in the pathetic verses of George Herwegh, his fellow-apostle of democratic independence: —

"Nach Dir, nach Dir steht mein Verlangen
Du schönes Kind, Oh wärst Du mein,
Doch Du willst Bänder, Du willst Spangen,
Und ich soll dienen gehn? — Nein, nein:
Die Freiheit will ich nicht verkaufen,
Und wie ich die Paläste mied,
Lass ich getrost die Liebe laufen,
Mein einz'ger Reichthum ist mein Lied."

It was not that Whitman valued the comforts of family life less than others, but that he valued freedom more.

That his "literary bear-den" had begun to fill up with the comforts of civilized life may be inferred from the following description in one of his last autobiographical letters: "My floor, three quarters of it having an ingrain carpet, is half covered by a deep litter of books, papers, magazines, letters and circulars, rejected manuscripts, memoranda, bits of light or strong twine, a bundle to be expressed, and one or two venerable scrap books. In the room, stand two large tables (one of ancient, solid mahogany, with immense leaves) covered by a jumble of more papers, a varied and copious array of writing materials, several glass and china vessels or jars, some of them containing cologne water, others real honey, granulated sugar, a large bunch of beautiful fresh yellow chrysanthemums, some letters and enveloped papers, ready for the post-office, many photographs, and a hundred indescribable things besides." Then follows a description of his library, including the works of Emerson and Epictetus, "good-sized print, no type less than long primer," says the author who had realized the importance of economizing his eyesight. "There are three windows in front," he continues; "at one side is the stove, with a cheerful fire of oak wood, near by a good supply of fresh sticks whose faint aroma is plain. On the other side is the bed, with snow-white coverlid and woolen blankets. Toward the window is a huge armchair, a Christmas present from Thomas Donaldson, of Philadelphia, timbered as if from the spars of some stout ship, and covered with a great wide wolfskin of black and silver." A slender chair would not have answered the purpose, for three years before his death the old city hermit weighed more than two hundred pounds, and must have been a son of Anak in the days of his vigor.

After another attack of paralysis, in 1891, he had to supplement his household furniture with an invalids chair on wheels, but his robust mental constitution held out to the last. His survival under circumstances that deceived the diagnosis of the ablest physicians, can, indeed, be explained only by the indomitable optimism of the patient, who refused to be discouraged, and like Baron Trenck, writing humorous essays on the wall spiders of his Magdeburg dungeon, found themes for cheerful reflection in the punishments of his very sick room. Constitutional cheerfulness, though it may not always carry its consoling hopes to the mists beyond death, certainly tends to postpone its definite conquest, and the "apostle of manhood" could justly boast that during his twenty years of cripple-life, his soul had not been sick for a single day, after he had solved the problem of practical independence.

(To be continued.)

A DIETETIC FAD.

BY W. H. WAKEHAM.

A RECENT number of the English magazine *Natural Food* contains an article entitled, "Twenty Reasons for Adopting Natural Foods," written by W. S. Manning, the honorable secretary and lecturer of the Natural Food Society, London, England. By "natural food" is meant "fruit and nuts of sub-tropical climes, spontaneously produced." "The central feature of this system," according to an editorial on the first page of the issue referred to above, "consists in abstention from bread, cereals, pulses, and starchy vegetables, and in the substitution of food fruits." Bread is designated, by the propagators of this theory, "the staff of death;" and the use of farinaceous foods is declared to be among the greatest of dietetic errors, as they are, it is maintained, "unnatural and disease-inducing foods, and the cause of the nervous prostration and broken-down health that abounds on all sides."

We have no contention against the abundant use of fruit and the moderate use of nuts. On the contrary, we believe that the food value of fruit is not generally recognized; nor has it been overstated by the advocates of the so-called natural food reform. To whatever extent, then, Dr. Densmore and his co-agitators have extended a knowledge of the food value of fruits and nuts, they should receive the thanks of all rational food reformers. But against the anti-starch crusade conducted by the members of this society, we enter a protest, some of the reasons for which will appear in this article.

Among the "twenty reasons" in favor of an exclusive diet of fruit and nuts we find the following: —

"There are at least three direct and distinct evils attending the use of whole-meal bread: (1) The mineral matter of the bran produces degeneration of the tissues and arteries; (2) the silica and saw-like edges of the bran often set up serious local inflammation in the intestines; (3) the excess of starch in every form of cereal food involves excessive strain upon the digestive system to transform it into blood."

Let us briefly examine these statements. Of the first it may be said: (1) It is the opinion of only a few, and lacks confirmation by scientific physicians. (2) All physiologists agree that the various mineral elements in food are necessary to build up bone and nerve tissue; but (3) the utter inconsistency of the argument is seen in the fact that nuts (which are highly recommended as an article of great dietetic value) contain more of the mineral substances than grains. From a recent reliable authority on foods I quote the per cent of salts in a number of the grains and nuts in common use, for comparison: Wheat contains 1.9 per cent; rye, 2.3; barley, 2.4; oats, 3.3; and rice, 0.8. Of the nuts, we find the chestnut has 3.3 per cent of mineral elements; the walnut, 2; hazelnut, 2.5; sweet almond, 3; peanut, 3.3. The average for the five grains given is 2.1 per cent, while that of the nuts is 2.8.

Concerning the second statement it may be said that while it is undoubtedly true that to some persons whose alimentary tract has, through disease, become abnormally sensitive, the use of coarse bran would be objectionable, this fact argues nothing against its general use by persons of ordinary digestive power; for it is just as true that thousands have found by experience that the innutritious portions of the various grains furnish the necessary stimulus to impart vigor to the digestive functions.

The statement that the use of starch causes "excessive strain upon the digestive system," and that starch is not digested in the stomach, is best answered by the fact that in numerous experiments made in the laboratory of hygiene connected with the large medical and surgical Sanitarium at Battle Creek, Mich., it has been demonstrated that when food is properly masticated, digestion of starch takes place principally in the stomach. The saliva continues its work for some time after the food enters the stomach, so that in cases in which the digestion is approximately normal, little starch is found in the stomach fluid at the end of an hour. This fact simply annihilates several of the foundation stones upon which the anti-starch theory is based.

Another "reason" of the "twenty" supposed to militate against the use of starch is that a certain Yokohama doctor said concerning the Japanese: "As to hysteria and nerve prostration, it may be said that they are so frequent as to be the rule among this nation." And he ascribes it to the "poor diet,— vegetables and starchy foods."

One must be hard pressed for reasons to attempt to deduce from the above statement an argument against the use of starchy foods. If the people of Japan are really in the condition above described, and if the cause is really an impoverished diet, the

remedy is not necessarily abstention from farinaceous food, but a larger proportion of nitrogenous food. To the rice, which is a staple food, add beans, peas, lentils, milk, or some other food substance in which the muscle and nerve-forming elements are found in abundance, and then a liberal amount of the fruits of that country, and the effects of an impoverished diet will soon disappear.

Again we quote from "twenty reasons," etc.: "Another argument against bread is that grain foods are nowhere produced spontaneously by nature, but nearly all of the cereals have been raised from grasses by man's inventiveness."

This is a favorite "argument," but unfortunately for its defenders, it has nothing in its favor but the *opinions* of a few botanists. Like Darwin's "development" theory, it is simply a hypothesis. Not only has it not been proven that from the beginning "cereals have been raised from grasses by man's inventiveness," but in the very nature of the case it never can be demonstrated. The existence and general use of the cereals for food by the earlier races of mankind is attested by both sacred and profane history. Bread made from meal was a staple article of diet in the days of Abraham (see Gen. 14: 18 and 18: 6).

Herodotus (B. C. 446) says: "But the soil is so particularly well adapted for corn that it never produces less than two hundred fold. In seasons which are remarkably favorable, it will sometimes rise to three hundred fold. The ears of their wheat, as well as their barley, are four digits in size." (Quoted in "Facts for the Times.")

Viewing the comparatively diminutive specimens of grain now produced, one may imagine how much "man's inventiveness" has done for the cereals in the last 2000 years. The "raised" should be spelled with a "z."

Concerning the origin of wheat, a high authority speaks as follows: "What was its origin was not known; and opinion has differed as to whether more than one species is involved, or whether all the varieties now known may not have been originally derived from one. . . . Recently, however, M. Frederick Houssay is alleged to have discovered the plant wild in the mountains to the east of Kurdistan." (Encyclopædia Britannica.)

From the same authority the following concerning barley is taken: "The opinion of Pliny, that it is the most ancient aliment of mankind, appears to be well founded, for no less than three varieties have been found in the lake dwellings of Switzerland, in deposits belonging to the stone period."

In giving the primitive law regulating man's diet, the Lord said: "Behold, I have given you every herb bearing seed, which is upon the face of all the earth, and every tree in the which is the fruit of a tree yielding seed; to you it shall be for meat." Gen. 1: 29.

We have yet to see any statement that bears even the semblance of an argument to show that "every herb bearing seed" does not necessarily embrace the cereals and legumes. The statement has been made that the "herb bearing seed" refers to nuts; but nuts are more naturally classed with "every tree in the which is the fruit of a tree bearing seed." Webster defines "herb" thus: "A plant having a soft, succulent stalk or stem, that dies to the root every year, and this is distinguished from a *tree* and a *shrub*, which have ligneous, or hard, woody stems." We leave the reader to decide whether or not grains belong to the class of vegetable productions known as herbs.

But does the "herb" of Gen. 1: 29 embrace the cereals? — Dr. Lees, in commenting on this text, says: "'Every herb': Hebrew, *kal asev*. *Asev*, as full-grown herbage (including all kinds of grain), is distinguished from *desheh*, young and tender grass. 'Every tree': Hebrew, *kol-hah-atz*; viz., every plant of woody fiber, in distinction from flexible sprouting plants." (Temperance Bible Commentary.)

Evidently the argument that grains were raised from grasses by man's inventiveness is itself one of the inventions of man which Solomon recognized in his day as deviations from primitive uprightness. Eccl. 7: 29.

But the principal objection we have to the anti-starch propaganda is that while ostensibly, and perhaps theoretically, it favors vegetarianism, the practical results of the system are antagonistic to it. Flesh meats of all kinds are recommended in preference to grains and vegetables. To millions of people living in the north temperate zone, fruits of the proper quality and quantity to support life are practically inaccessible. The belief that starchy foods are "disease producing" will drive these millions to the maximum consumption of the flesh of animals. Vegetarians can hope for but little aid from these theorists. This is practically admitted by the leading advocates of this system, as witness the following: —

"All persons about to experiment with the non-starch food system are urged at first not to use nuts; but to use instead whatever animal food they have been accustomed to. The central feature of this system consists in abstention from bread, cereals,

pulses, and starchy vegetables, and in the substitution of food fruits." (Editorial in *Natural Food* for Oct., 1893.)

According to this, one may continue the use of "whatever animal food he has been accustomed to," — beef, pork, sausage, etc.,— and be in perfect harmony with the "central feature" of the so-called "natural food" reform. A wonderful *reform*, truly!

Again from the same article: "Invalids and all persons whose digestive organs have become so weakened that the use of so natural a food as fruit causes flatulence, irritation, or any other inconvenience, are advised at first to confine themselves to a diet of milk or fish or flesh until such a restoration has been accomplished as will enable them gradually and with benefit to add fruit to their dietary."

Think of advising invalids and persons with weak digestion to use such a combination as fruit and flesh meats! Another precious bit of medical advice is that all persons who do not use plenty of fresh fruit should drink a *pint of hot water three or four times a day.* Dr. Densmore's knowledge of dyspepsia is evidently very empirical, or he would know that there are thousands of persons suffering with hyperacidity of the stomach, in whose cases such constant gastric stimulation would greatly aggravate the malady. The same authority recommends the daily use of laxative drugs for all persons making the change from their ordinary diet to the "natural food."

One more extract from the official organ of the anti-starch association must suffice: —

"The excessive strain and wear and tear involved in many callings in modern life *make stimulating and easily assimilated foods an absolute necessity apparently.* These terrible conditions are the result of ages of wrong doing; and until mankind emerges from its present transitional conditions, and more perfect social and economic environments prevail, it is to be feared *a certain proportion of mankind will have to be bred to be meat eaters.* . . . The great majority of mankind in civilization are in a condition of ill health, and exist under more or less unnatural conditions. *They are probably no more able in their present state to be exclusively supported on natural food* than the London cab horse would be able to be fed only on the grass in Hyde Park."

The italicized portions in the above fully sustain my position that the promulgation of the anti-starch theories is practically opposed to vegetarianism, and will prove inimical to the interests of rational dietetic reform. And we earnestly raise our voice of warning against all theories which theoretically or practically cause people to "abstain from foods ['every herb bearing seed,' etc., Gen. 1 : 29] which God hath created to be received with thanksgiving of them which believe and know the truth. For every creature [created thing] of God is good [for the purpose for which it was created], and nothing [of those things made to be eaten] to be refused, if it be received with thanksgiving: for it is sanctified [set apart for man's use in the beginning, Gen. 1 : 29] by the word of God and prayer. If thou put the brethren in remembrance of these things, thou shalt be a good minister of Jesus Christ; nourished up in the words of faith and of good doctrine, whereunto thou hast attained." 1 Tim. 4 : 1–5.

A World Renowned Nurse. — As the child of wealthy parents, Florence Nightingale was well educated. From early childhood the care of the sick was a favorite occupation with her, and in 1849 she entered a school of deaconesses as a voluntary nurse, to qualify herself to minister to the sick. In 1854, at the solicitation of the British Secretary of War, she went to Constantinople as the superintendent of a staff of nurses to care for the soldiers of Great Britain who were wounded in the Crimean war. By her rare executive ability and knowledge of what was necessary, she made the hospital, which she found in a most deplorable state, a model in the thoroughness and perfection of its appointments. So arduous were her labors that she frequently stood for twenty consecutive hours giving directions. Notwithstanding this, her pleasant smile and kind words made her almost idolized by the army. She returned to England in the autumn of 1856. Her services have secured her the sincerest gratitude of the English people and a world-wide renown. Queen Victoria sent her a letter of thanks, with a superb jewel. A subscription of $250,000 was raised to found an institution for the training of nurses under her direction; and the soldiers of the army, by a penny contribution, raised a sum sufficient to erect a statue in her honor, but this she refused to allow.

The Archbishop of Seville, who died at the age of one hundred and ten years, when asked the secret of his longevity, said: "By being old when I was young, I find myself young now I am old."

AN ENGLISH WRITER ON MEAT EATING.

PHYSIOLOGISTS there are who tell us that the conformation and equipment of the human body, especially all that appertains to the digestive tract, would seem to indicate that man is intended for a mixed diet; and yet the way that whole peoples seem to thrive on a vegetable diet, and somewhat scanty withal, must make us consider. The peasantry of Western Ireland and Scotland have fed for many generations on a diet of grains and roots, and yet to this day they furnish a formidable fighting element to the armies of Great Britain. Not only do the soldiery of these races garrison England's possessions from Canada's icy mountains to India's coral strand; but it is from these people almost exclusively that our athletic element is drawn. Our pedestrians, our football players, pugilists, oarsmen, nay, even our circus riders, abound in Celtic names to such an extent as to show that however much our institutions may have fostered the pride and mettle necessary for emulative contests, the stamina dates farther back; and that Duncan Ross, John Sullivan, Hanlon, etc., came from an ancestry which never tasted meat. The diet of the French peasantry has for centuries consisted mostly of bread, yet they enacted the French Revolution, and fought the marvelous battles of the First Napoleon. The soldiers of Hernando Cortez were fed on a sort of maize, or Indian meal, during a campaign that, for display of fortitude, courage, and religious devotion, stands almost alone amid the world's great achievements.

It is related of Charles O'Conor, by acclamation one of the most brilliant ornaments of the American bar, that after his third attack of apparently fatal illness, and after the last offices of the church had been administered for the third time, he rallied and appeared once more to confront his enemies — successfully — in the noted ring trials of 1872. When this amazing vitality was commented upon in the presence of his physician, that gentleman replied: "He 's living on ten generations of hard-riding Irishmen." All his life he had been a man of most abstemious habits; and, if report spoke truly, his hereditary tastes were derived from an ancestry used to Lenten fare.

On the other hand, let us glance at the effects, so far as they can be gathered, of an exclusive meat diet. The only large body of people who live chiefly on meat are the North American Indians, except certain tribes of the cattle-hunting natives of Buenos Ayres. The prairie Indians have done well enough in their way. They make excellent skirmishers. Given certain coigns of vantage, such as the lava beds, a handful of Modocs could contrive to keep the United States army busy and perturbed for a year or so. But as an athlete, the Indian scarcely fulfills his early promise. He has been out-fought at every point; white wrestlers have thrown him, white pedestrians have run away from him, and city marksmen from Creedmoor can show him how to shoot. Close investigation has shown that his health is poor, with a tendency to consumption far beyond the reach of cod liver oil. And as a citizen, the less said about him the better.

As for the South American beef-eaters of Buenos Ayres, I am informed by persons who have lived there, that the first effects noticed in Irish or other European, or even North American emigrants to that place, are a steadily increasing sallowness of skin and a shortness of breath; while, notwithstanding the extreme healthfulness of the climate, the people are not long-lived or energetic. How much of all this is due to their meat diet it would be impossible to say; but it is difficult to avoid contrasting this state of things with the sight that greets you when riding on the outside of a Scotch or Irish stage-coach, or of a Spanish *diligencia*. There the hope, or better still the display, of a few copper coins arouses the tattered boy-population, who will follow the coach for miles, sometimes at full speed of galloping horses, in hope of a stray penny. — *Sel.*

SUNLIGHT. — We need no better evidence of the real value of the light of the sun than its abundant, if not limitless, supply. Indeed, our observations in the vegetable world teach us that no plant, shrub, twig, or vine, however small and insignificant, can possibly grow, thrive, and come to maturity in the dark; and we may reasonably infer that the same vitalizing influences are required by the animal kingdom. A paleness and weakness is soon observed when a plant is deprived of its natural right to grow in the sunlight; while the animal, under similar circumstances, becomes stunted and inactive, loses its unused sight, and becomes a worthless creature. How injudicious, how destructive of

health, therefore, it must be to shut out the light from our rooms, particularly those which are more generally used by the family, simply to prevent the fading of the carpet, this apparently being regarded as of more consequence than the freshness, the glow of health, and the real vitality of the individuals of the family. It should be remembered that it is far easier to spread a covering over a carpet or to replace it by a new one, than to pay increased doctor bills, or to restore the health of our loved ones. This principle applies with special force to the sick room, which is so often darkened by the ignorant, or those who have not given the subject due consideration. Instead, the sunlight should be admitted to the greatest possible extent, the eyes of the patient being protected, if necessary.— *Dr. J. H. Hanaford.*

Sleeplessness a Danger Signal.— A late writer very aptly remarks :—

"When a person is unable to secure from seven to ten hours of quiet sleep, something is wrong. If the trouble arises from the neighbors' cats or the frolics of belated revelers, the matter is not serious. But if he finds his eyes wide open, his brain in a whirl, and his nerves tense after striving for awhile to woo the drowsy god in a comfortable bed, his condition is a wholesome warning that he is working too hard, worrying too much, is eating something which disagrees with him, or is on the way to being attacked by some disease.

"The sleepless person will do well to set his wits to work at once in regard to his condition. A celebrated preacher attributes his long-continued endurance of severe work to his practice of gauging his endurance by his sleep. 'It is my first note of alarm when overworked,' he says. 'I do not wait until headache comes, or indigestion, or a severe cold; but after two nights of what does not seem like good, restful sleep, I stop work and do something different. One of the best things is a little vacation at home with the family, an afternoon in my tool room, or a drive with my wife. I am sure the working hours of my life have been much lengthened by this plan.'

"Sleeplessness is apparently on the increase, and there is very great temptation to enter on the indiscriminate use of narcotics as a remedy. Nothing could be more dangerous. A writer in the *Congregationalist* well says: —

"'Seek, first of all, to discover the underlying cause of your own wakefulness, which may be totally different from that of your neighbor, and require quite different treatment. There are certain fundamental conditions necessary to refreshing sleep, with which every adult should be familiar. If these are carefully observed, and "nature's sweet restorer" still refuses to be wooed, then consult a competent physician. But the individual himself knows, on retiring, whether his feet are warm and his head cool; whether the room is well ventilated and the bed moved away from the wall, to allow a free circulation of air; whether he needs a brisk walk or light physical exercises to counteract the effect of sedentary occupations; whether the bedclothes are too heavy; whether his system is surfeited with indigestible food, or depleted by scanty nourishment. Nature's needs are few and simple. Satisfy her demands in respect to these and other essentials, and she will be generous with her gift of peaceful slumber. Thought and study seldom interfere with the recuperative influence of sleep. But ambition and worry, the hopes and fears, the loves and hates, of our lives, wear out the nervous system."

How to Grow Old.— Concerning the ability to accept old age in the best spirit, Marion Harland asserts that hundreds of women allow themselves to grow old and narrow; they kill the youth in their hearts when they see the first silvery threads in their hair, by making themselves believe that there is nothing good to be had out of life after this period, and by convincing themselves that every word of their neighbor, every action, covers a selfish motive.

She continues: "Who are the people that grow old earliest? Those who work, who keep in touch with the things of the day, who associate with the young of both sexes, who know how to enjoy a hearty laugh and tell a good story, who are engaged in congenial and elevating pursuits? Not a bit of it! No woman need fear that occupation will shorten her life. Quite the contrary? A lack of interest in life, a want of something to do, will age more quickly than any toil. The woman who wishes to grow old gracefully will not permit herself to become careless in her attire, and she ought to know from observation that an intelligent, kindly look on the face will take away years of her age, and make her seem twenty years younger to those who know and love her. And the woman who loves, whose children are dear to her, who has friends who need her, never falls into that condition of old age from which we shrink with horror. Disease will do its work, of course; but if she has a reasonable degree of health, any woman may keep her heart young while she lives."

FOOTBALL FOLLY.

PHYSICAL exercise is a good thing. It is essential for health. Gymnastics and physical training of various forms are certainly greatly neglected in this country, and unquestionably a physical deterioration has taken place in the American people in consequence of this neglect to give proper attention to the development of the body. Nevertheless, extremes are possible even in so good a thing as exercise, and we know of no better illustration of this fact than is afforded in the game of football which has long been so popular at some of our colleges and universities. As generally conducted, this game is an actual war, and the combatants are by no means solicitous for the physical welfare of their antagonists, and generally, in the excitement of the game, become quite reckless of their own interests. Scarcely a summer passes without the record of several deaths due to injuries received in football encounters; and the list of broken bones, sprained ankles, and external and internal injuries of various degrees of gravity that occur every year as the result of football, would swell to hundreds. Some idea of the fierceness with which these games are fought, may be gained from the following paragraph clipped from a recent paper: —

"Harvard has started out her football team in fine style. Summing up 'the easy practice' last week, it is stated that Gray, a most valuable man on the 'gridiron,' had his leg broken; the 'backs,' Brewer, Wrightington, and Brown, are laid up with ankles; and Connor, who had a good chance for 'fighting tackle,' had his collar-bone broken. The long-haired kickers must console themselves with the philosophy that 'accidents will happen.'"

In the opinion of the writer, it is high time the barbarous game was suppressed. There seems to be a strange inconsistency in the state of public opinion in relation to this matter. There are very few States in the Union where prize fighting or fighting without prizes is tolerated. If two men get together in a hall or on a public square and spend a half hour bruising each other, they are arrested and properly punished. But if about a score of men gather upon a public square for the same purpose, one half fighting against the other half with all the vehemence and ferocity of beasts of the forest, only keeping within the limits of certain rules which by no means afford adequate protection to life and limb, the public gather by thousands and applaud, and the officers of the law find no occasion to interfere.

The purpose of this article is to help educate popular sentiment to a state of greater consistency. There are ample means for the proper training and development of the body, without resorting to measures which are brutal in character and which incur the danger of inducing lifelong injury and perhaps an immediately fatal result.

THE girls of the German Physical Culture Association, Philadelphia, wear skirts that reach to the knee, a blouse, and trousers. Many of these shapely young women would put to the blush, with athletic skill, thousands of young men about town, who are daily locked in counting-rooms and factories, and who never take the least exercise. They run like deer, and are as strong and as graceful. There is strong argument for gymnastics in the ever present dignity acquired by these maidens. It is not hard to tell a girl who has been under gymnastic rules. She can walk like a soldier, knows how to carry every part of her body, and is all in all a thing of beauty.

WALKING FOR HEALTH.

A SEXAGENARIAN writes on this subject to *Belford's Magazine*, as follows: —

"It is astonishing how many half-sick persons we meet in the course of a day. Most of these people are not seriously ill; that is, no vital point has been fatally affected. They can be restored to perfect health. All they need do is to give nature a chance.

"Luigi Cornaro, of Venice, was a man of weak constitution. Moreover, he tells us that from early manhood until he was thirty-five he led a reckless life, indulging in every form of dissipation in the fastest city of Europe. His health gave way, and for the next five years he was a constant sufferer. At forty he was told by his physicians that nothing could prolong his life beyond two or three years. Then he resolved to change his whole mode of living. He became an ascetic in diet, and in the matter of occupation, gave his mind to 'the contemplation of fine scenery, noble buildings, beautiful combinations of color, and music.' Such studies kept him most of the time in the open air, and compelled him to take many and considerable pedestrian tours. He attributed his recovery largely to dietary reforms; but it is evident that his active life in the fields and in cities that he visited, had much to do in building up his system. The result was that at the age of eighty-three he began a series of written discourses, entitled, 'The Advantages of a Temperate Life,' the last of which was prepared when he was ninety-five.

"Ralph Waldo Emerson was not only a puny boy, but he came of a consumptive family. Three or four of his brothers died young. But Ralph was an intense student of nature, and nothing gave him so much delight as to be in the open air. It was his habit to take long walks, working at his desk in the forenoon, and tramping in the afternoon, and under this common-sense system of physical discipline he became strong and healthy.

"Professor E. L. Richards, of Yale College, says: 'I never enjoyed such good health as I have since I began the practice of taking long walks. I began experimentally, but found that after a good tramp I could eat and sleep well; and that determined me to try long spins. When walking, I feel like a new man. I eat three immense meals every day, and sleep soundly at night. I think the walking remedy for dyspeptics and sufferers from organic disease will become quite popular in the near future. I have not called upon a doctor to prescribe for me for years — all due to my little tramps.'

"Says Dr. Felix L. Oswald: 'Instead of raw March winds and cold draughts — in other words, outside air of low temperature — being the cause of colds and catarrhal affections, it is the warm, vitiated, indoor air that is the cause, while outdoor air is the best remedy.' He declares that there is no doubt that by exercise a catarrh can be gradually worked off, 'and that the combination of exercise, abstinence, and fresh air will cure the most obstinate cold.' There is no room to question the accuracy of this prescription. It is the teaching of experience. Air is both food and drink to the lungs. It is more. Like water to the body, it washes them clean. It is best when pure and bracing. One great advantage the persistent walker has is in getting used to all kinds of weather. Exposure to cold and damp will do him no harm, although it might be fatal to others.

"Few things, if any, are so effectual in building up and sustaining the physical organization as walking, if resolutely and judiciously followed. It is a perfect exercise, which taxes the entire system. When you walk properly, every member and muscle, every nerve and fiber, has something to do. Every sense is employed, every faculty alert. Progress under such conditions is the very eloquence of physical motion. What is the effect? — The flesh is solidified; the lungs grow strong and sound; the chest enlarges; the limbs are rounded out; the tendons swell and toughen; the figure rises in height and dignity, and is clothed with grace and suppleness. Not merely the body, but the whole man, is developed."

SWISS MARKSMEN. — With reference to the Swiss archery competitions, Professor Hein, of Zurich, writes: "The Swiss have been distinguished in archery for centuries. I had occasion, a short time ago, to speak with one of these far-famed huntsmen. This clever marksman assures me that all who attain skill in shooting are strictly temperate men or abstainers. Even temperate men have to become abstainers about a week before entering into a *schutzenfest* (competition). The best marksmen not only abstain from alcohol, but live exclusively on milk, butter, cheese, eggs. They must also go to bed betimes at night, and many of them do not smoke tobacco. Heavy smokers are never first-class marksmen."

THE MODERN WOMAN.

THE day when fragility of frame and lack of bodily health were considered the correct conditions of refined womanhood has happily passed. The *fin-de-siecle* young woman is a girl of fine physique. Like her brother, she has been trained in gymnasiums. She no longer laces herself with a bodice of steel, like the girl of a century ago. Nor is the wholesome, every-day girl of the present time addicted to the use of cordials and various other stimulants so commonly mentioned in the works of a century ago as the household remedies for fainting women. Much as we may prate of the good old days and of the homely customs of our grandmothers, and talk of the Herculean tasks they accomplished, it is wise to investigate critically exactly what their daily tasks were, and how they met them, before passing judgment as to their superiority over the women of to-day. . . .

But great as the intellectual advance has been, it is in no way commensurate with the advance in physical health. The athletic young woman is as much a product of modern society as the college-bred girl. With the broadening of the intellect there has naturally come a demand for strong physical health, to meet the demands of study. Fainting is virtually an old-fashioned disease. It is almost as rare for a woman to faint to-day as it is for a man. Yet in olden times it was considered the proper thing for a woman to faint at any shocking occurrence and even on most trivial occasions. The presence of a mouse, a run-away accident, the news of a tragedy, the death of a friend, one and all were occasions when, according to novelists, the average woman dropped into a swoon, and the crisis was left to the care of their masculine protectors or of the maid-servants of the time, who were fortunately superior to this weakness. The young lady of feeble appetite and of a languid courage and pallid cheeks was the ideal of fashion.

The ridicule of literature and the advance of common sense has long ago dispelled the illusion that ill-health was synonymous with refinement. We are beginning to have the true idea of the matter, and to look upon the presence of pallor, languid manners, and feeble appetite as indications of disease, and therefore repulsive. The young women of to-day affect nearly all the athletic exercise of their brothers. They enjoy boating, long country tramps, driving, skating, and all outdoor exercises. . . .

It has been proved by statistics that the children of college-bred women stand a better chance of surviving the ills of infancy than those of others. This is undoubtedly largely the result of the more intelligent care that the child of the educated woman receives, but it is also due to the strong physical health of the athletic woman.

The wisest people of the present day believe that the highest intellectual development of the individual must be consonant with his highest physical condition, — not that we must crucify the flesh in order to give scope to the life of the intellect and the spirit. Modern Christianity is a vital and a practical force, not a sentiment. The deaconess of the nineteenth century, which is the highest type we have of the pale æsthetic sisterhoods of mediæval ages, is a woman of classic education, trained in the gymnasium as well as in household cares and hospital duties, who brings the breadth of her culture and the gentleness of her womankind to her Christian work. Charity with her is not merely a graceful ornament, but a practical work, which calls forth all the powers of her nature. She is so trained physically that she does not faint or fail when duty calls her. The same courage and strength are needed in the family, and the mother who faints in emergencies has no place in the present age of usefulness.—*New York Tribune.*

MODERN CONCESSIONS TO PHYSICAL CULTURE.— The world has as yet scarcely shaken itself free from the suspicion that strength is allied to grossness and immorality; that the flesh and the devil are two portions of the same entity, and that to despise the one we must disdain the other. Something unholy still attaches to the superb development of the human form, as if its perfection were a menace rather than a promise of the divine soul upon which it has been grafted. The senses are regarded more as allurements to evil than to good, more as wary assailants than as faithful sentinels through whose outposts light and joy may enter the citadel of the spirit. We confuse the turmoil of passion with the heyday of health, and the Scriptural texts which denounce the first are supposed by implication to condemn the second. It is for this reason that so many well-meaning people withhold their consent, or at least their coöperation, from the spread of the doctrine of physical culture. Even those whose conscience has forced upon them a conviction of its harmlessness cannot accept the theory of its efficacy

in any form beyond that of wholesomeness. It is sufficient concession to modern ideas to allow that the young may indulge in hygienic measures without brutalizing their higher nature, or losing hold of moral force in the same ratio in which they gain command of nerve and sinew. They are prepared to grant no more than that it is better for the material purposes of life that the race should be sound rather than infirm, and that the new methods may further this result. — *Lippincott's Magazine.*

JOHN WESLEY ON EXERCISE.

John Wesley, the great Methodist divine, although not an educated physician, was possessed of so great a fund of common sense and of such remarkable powers of observation that he became almost as noted among the common people for his instructions in relation to health and the treatment of disease as for his theological teachings. He even wrote a medical work which, although it contained many things of which we could not approve, was, nevertheless, in its recognition of rational and natural remedies, more than a century ahead of the times when it was written.

Mr. Wesley recognized fully the value of exercise as a means of preserving health. He was always a man of active habits, and declared that he owed his excellent health to the fact that when he went up to London to school, his father charged him, in his parting instruction, that he should run three times around Charter-House Square every morning before breakfast. This practice he adhered to during his whole school life, and with the result that he was thereby kept in excellent health, and a good physical foundation laid for the busy life which he afterward led. By request, a friend recently measured the distance around Charter-House Square, and reports it to us to be 445 yards, or a little more than one fourth of a mile. Three times around the square would be three fourths of a mile. A vigorous run of three fourths of a mile, if practiced regularly for six months, would convert many a pale, puny, listless school boy or girl into a rosy-cheeked, bright-eyed, vigorous youth or maiden. Exercise is the best of all tonics, and is worth even more than a schoolmaster as a means of sharpening the wits.

Exercise and Long Life. — All authorities that have treated on longevity, place exercise, moderately and regularly taken, as one of the main factors of a long life. That there are many exceptions does not alter the fact that physical exercise is as useful in keeping one healthy as it is in prolonging life. Good walkers are seldom sick, and the same may be said of persons who daily take a certain prescribed amount of exercise. Exercise is both a preventive and a remedial measure. In my own practice I have seen a case of persistent transpiration that followed the least bodily effort, and which annoyed and debilitated the person at night — this being a condition left after a severe illness — disappear as if by magic after a day or two of exercise on a bicycle. Pliny relates that a Greek physician who took up his residence in Rome was wont publicly to declare that he was willing to be considered a charlatan if at any time he should ever fall ill, or if he failed to die of any other disease than old age. Celsus, in speaking of the same physician, observes that his faith in the benefit to be derived from exercise was so great that he had in a great measure abandoned the administration of internal remedies, depending mostly on hygienic measures and exercises. As an evidence of the correctness of his views, Pliny tells us that this physician lived to be a centenarian, and then only died from an accident. *National Popular Review.*

Physical Exercise a Cure for Obesity. — A late writer says in reference to Mr. Gladstone: —

"If we look at his conformation, we shall see that he is a spare man, — one who has not developed, as age has advanced, the large stomach and the accumulation of fat which so impede and strangle every function of the body. Part of this leanness is probably inherited, but more is due to his unceasing activity. No man or woman ever will grow enormously fat if he or she perseveres with physical exercise. When have we known a man at eighty-five who so carried out this law of activity as has Mr. Gladstone? Those who live in London have often seen that unusually upright figure, which below the shoulders might have belonged to a man of thirty-five, and they must have been impressed by the rapidity and ease of his movements. It is a known fact that he would often walk for several hours daily; and until recently he actually engaged in such strong physical exercise as chopping down trees. All physical recreation is good for those whose lives are intellectual."

Home-Culture

WHY BABIES CRY.

BY FLORENCE HULL.

How many mothers make an attempt to learn the natural language of infancy? Cries and gestures make up this language, and are the baby's sole means of communicating distress. Much of the ignorant dosing and awkward handling to which the little things are subjected might be spared them if their parents were able to distinguish the different meanings of the sounds they make. A little attention will enable one to discover that a lusty, vigorous cry indicates temper and willfulness; I venture to say that this is scarcely ever heard until the baby has *learned* to be angry, either through seeing signs of ill temper in others, or through being unnecessarily thwarted in his natural impulses.

Tight clothing, rough edges of garments scratching against his tender skin, wearisome postures, and being used as a plaything, are some of the reasons for high temper in an infant. It seldom manifests itself except through irritation or from the instinct of self-defense. The tendency to passion is inherited, but it took occasion to develop it; and if the early plastic period which stretches over the first year or so, could be passed with less friction than usually marks this part of a child's life, there would be far less irritability and nervousness than now exists.

A recent writer remarks that we treat a baby "as if he were an unmitigated fool," and I don't know but it is true. We assume that when he cries, he needs to be "hushed," just as if the noise he makes were a sort of automatic creaking, from loosened screws. He is taken up, and jerked up and down or rocked to distract his attention, and fairly bullied into silence. It really seems as if we might give baby credit for a little sense; his note of trouble may mean something, after all. We are dull, we don't make distinctions, but we owe it to the child to take some pains to learn his language.

By observation and study we can find out enough to make us aware that there are many variations in what we carelessly call "crying." Suffering has a characteristic note; there is the sharp cry of pain, varying from the full, loud cry of colic to the terrible sharp, sudden shriek indicating brain trouble. Sometimes the difficulty is located in one of the ears, but oftener there is meningeal irritation. Catching, breathless cries, accompanied with flushed face and hurried breathing, indicate pleuritic or pulmonary trouble. Whimpering and fretfulness suggest intestinal disorders.

A healthy child will not give utterance in the night to a sudden shriek unless there is some cerebral irritation or hip-joint disease. He will fret or cry loudly if he simply wants attention, or if there is some small thing bothering him. A baby who has been well trained to cleanly habits will not endure the feeling of a wet napkin, and mothers who would prevent chafing, with its accompanying pain, will have dry towels thrown across the foot of the crib, so that a baby waking from this cause may speedily be made comfortable, when he will drop asleep without more ado.

Nearly all affectionate parents recognize the "coaxing cry" which is less a cry than a "coo." The cry of hunger is less easy to distinguish; but it usually partakes of the nature of a wail, a sort of prolonged bellow, more or less vehement, according to circumstances. If a baby is regularly and properly fed, he seldom finds it necessary to pierce the ears of his guardians with this roar.

The intelligent interpretation of the infant's mode of speech includes a knowledge of his *silent* expressions. His gestures are significant. In every case where a little one puts its hands often upon its head, pulls its hair, ears, or cap, cerebral irritation is to be apprehended. A case of the most serious brain in-

flammation I have ever known might have been averted if the young mother or nurse had been aware that the baby's habit, established for months before the culminating crisis,— of plucking out his hair,— indicated a tendency to this terrible disorder. Constant rolling of the head on the pillow is another certain symptom. The normal condition of a healthy child while awake is motion; so when he remains perfectly passive, evincing a fear of being disturbed, it is proper to suspect, fever being absent, some lesion along the spinal column or hip joint. This remark must not occasion needless alarm; *persistent* passivity is meant, and this will be accompanied by other unmistakable signs of weakness. But hip-joint disease is so common, and causes such terrible suffering, that parents cannot be too careful in making a thorough examination, or in having it made by a competent medical authority, whenever the child shall show signs of restricted leg motion, or if either leg looks blanched or slightly crassed. It is natural for a baby to use his legs as freely as his arms; and if he does not delight to kick, there is something amiss with him.

M'RANDY'S SURPRISE PARTY.

THE new girl gave her name as M'randy Sayles. She was a short, stout little body, with a pair of shoulders that squared themselves determinedly, a round face profusely decorated with freckles, and a shock of yellow-red hair, ending in two tight braids at the back. She wore a faded green dress, a stiffly starched gingham apron that much soap and water had despoiled of its original color, and shoes that were undeniably patched. We girls looked at her as she marched into the schoolroom that first day, and then looked at each other.

"I do n't like her!" telegraphed Helen Campbell; and of course that settled it,— none of us liked her.

"She has n't pretty hair," said Sue the minute we were together at recess.

"And I can't bear freckles," said Lizzie. "I mean so many of 'em," she hastily amended; for Sue's tiptilted nose was not altogether spotless.

"And such an apron!" chimed in Helen. "Anyway, she lives in that old house in the hollow." Yet it was not her poverty that troubled us. Our little village school was too democratic for that, and most of us came from plain homes. It was only an unreasoning dislike, born of a childish whim, and persevered in with thoughtless selfishness. We did not mean to be cruel. We simply did not choose M'randy into our games; and at noon we frequently left her to eat her dinner alone, while we wandered away by twos and threes with our well-filled baskets. When we were starting in pursuit of wild flowers or berries, some one of us was sure to whisper, "Do n't ask that M'randy Sayles." And so, as the weeks went by, she was left much to herself.

There was a wistful look in the honest gray eyes sometimes, and the good-natured face grew a trifle sober; but there was a sturdy independence about the little woman that could not be easily discouraged or overridden. She joined heartily in every pastime that offered her a chance; and she neither moped nor sulked, but found what pleasure she could in looking on.

But one day she astonished us by suddenly taking the initiative. Right in among us she marched at the morning recess, and, leaning back against a tree, announced abruptly: —

"I 'm going to have a party."

Now, a party, in our school-days, was a rare and wonderful event, one of the greatest delights that earth afforded; and we stared at M'randy with an astonishment that began instantly to partake of respect.

"Who says so?" demanded Sue, with a touch of awe in her tone.

"I say so," answered M'randy, with an emphatic nod of her head. "You see it 's going to be a s'prise party," she continued, flushing a little under the unusual attention she had attracted, and vigorously twisting her sunbonnet strings by way of aiding explanation. "It's going to be to-morrow afternoon, when there won't be any school; and everybody that comes must bring something to eat,— anything they want to,— down to the crooked pine at three o'clock. All you girls are invited,— everybody that wants to come."

"Humph! I guess likely we won't want to come," said Lizzie, trying rather doubtfully to rally to the defense of first principles.

"It 's for whoever 'll come," repeated M'randy, turning away.

"Where 'll it be?" one of the girls called after her.

"At a nice place, where there 'll be lots of fun," answered M'randy. She had given her invitation, and would add nothing more.

We were all in a state of excitement, and discussed

the matter at every available opportunity. We remembered, indeed, that the invitation came from M'randy Sayles; but, though a few affected indifference, and spoke of attendance as doubtful, each one of us was secretly eager to go, and determined upon doing so if leave could be obtained. How that point was managed in all the homes there is no record to show; but certain it is that when the appointed hour came, every one was at the trysting-place,— clean dresses, white aprons, and tempting baskets doing honor to the invitation.

Evidently M'randy had not expected so general a response; and her round face grew brighter and brighter, until it was as full of sunshine as a face could be.

"All ready? Come on," she said.

We followed through the grove and down the road to a little house at the edge of the meadow, and there our leader paused. We knew the place. Mrs. Burns took in plain sewing, quilting, even washing and ironing occasionally, for any one in the village who wanted such work done,— anything by which she could provide for herself and Annie. Little Annie, delicate always, had attended school in an irregular fashion before the attack of scarlet fever which left her lame and helpless; but we had almost forgotten, in the year that had passed, that she had ever been one of us.

"A party at Widow Burns's!" exclaimed some of the girls, pausing in dismay and disappointment. But M'randy and those in advance had already been admitted; and, after a moment's irresolution, the others followed. The house was in its neatest order, and Mrs. Burns's quick welcome showed that she had expected us. "Though I didn't think there 'd be so many," she said, laughing and nodding cheerily. "Annie is so pleased. Just look at her!"

She was well worth looking at,—her cheeks flushed and her eyes sparkling with the delightful surprise.

"Isn't it nice? How did you ever think of it? O mamma, isn't it nice?" she repeated joyously; and the mother laughed, with tears in her eyes.

Such an afternoon as that was! M'randy took the lead naturally. "Her foot was on its native heath" here, and, indeed, Mrs. Burns and Annie appealed to her constantly. It was M'randy who thought of game after game in which Annie could join, and who suggested adjourning to the yard, and carrying Annie's chair out to the porch, when the house grew too small for our merriment. Then she helped Mrs. Burns to construct a long table on the porch when tea-time came, and to arrange upon it the contents of the baskets we had brought; and a tempting sight it was, with fruits and dainties enough to coax Annie's appetite for many a day after her guests had departed.

After that, in the pleasant twilight, Mrs. Burns asked us to sing. And as we sang our Sabbath-school hymns, our hearts grew hushed and tender, and more than one cheek flushed at the undeserved praise when the mother thanked us for coming, and said, as she bade us good night, "You do n't know how much good you 've done."

It had done us good, even though we were rather a quiet party as we walked homeward through the grove. When we reached the crooked pine, our parting-place, M'randy suddenly inquired,—

"Well, are you sorry you went?"

"No! no, indeed! We had a splendid time!" was answered in chorus. And then Lizzie asked curiously,—

"M'randy, how did you come to think of it?"

"Well, I go there so much; and, then, I—I kind o' know how it feels to be lonesome," said M'randy, slowly. "But what made me think of it most of all was the last Sabbath-school lesson,— about, 'When thou makest a feast,' you know. Jesus said what ones to do it for,— that's all."

Brave, true-hearted, kindly little M'randy! She did not look poor or common to any of us as she turned away in the gray light that evening. We said not a word to each other of a change of feeling or purposes; but when she came into the school-yard the next morning, just as we were choosing for a game, Helen Campbell's voice rang out as eagerly as if the newcomer were a nugget of gold,—

"I choose M'randy Sayles!" — *Kate W. Hamilton, in The Standard.*

A Costly Fur.— A late woman writer, an authority in relation to furs, says: —

"Do women know why it is that astrakhan, or Persian lamb, costs so much money? It is not because in and of itself this fur is especially beautiful or becoming, for it is neither. It is the cost of life that is paid for. Just as the female kid is about to give birth to her young, she is killed, and the skin stripped from the unborn, but often living, little one. This inhuman practice is owing to the fact that only in this way can the soft, fine silkiness of the fur be preserved. After birth it becomes harsh and wiry. Two lives have to be taken to get one small skin, and this is what makes astrakhan so expensive."

HOW TO MAKE TIME.

THERE are people who, though always seeming busy, get very little done; others get a great deal done, and yet always seem to have the command of leisure. What is the explanation of the difference between the two? How is it that many busy people have time to spare? We believe that the secret of the mystery is — sometimes, not always — that the leisured class of busy people never dawdle; the driven class occasionally indulge in this weakness.

We are told sometimes that it is impossible to pass lessons of experience on. Notwithstanding this discouragement, let us try whether an experiment made by one mother cannot be adopted by others, and thus leisure for many be obtained.

A very clever woman, who died not very long ago, was much impressed by noticing that the busiest people have often the most time. Being herself a very busy person, and scarcely knowing what it was to have half a day's real leisure, she resolved to find out exactly what she did with her time. To this end she arranged to keep an account book, wherein the record was to be, not of pounds, shillings, and pence, but of hours and minutes. She noted down the exact time at which she began or left off each task; this told the tale, which was that the time between beginning one task and ending another was lost. Sometimes ten minutes only, sometimes half an hour would elapse; and when these odd minutes were added up, it was found that occasionally it happened that the time lost was really longer than the time employed.

After making this discovery, Mrs. —— looked back over her days. She then remembered that after she had finished a piece of work, she used to allow herself to be attracted, say, by a few words in a newspaper, which she would pick up and read standing; or looking out of a window, she would watch anything that caught her eye, or go out and tie up a flower, or gather a bouquet. Time thus lost was not always actually wasted, yet it yielded neither pleasure nor rest; there was nothing to show for it, and it certainly added to the "driven" feeling, besides stealing all possibility of leisure. Thenceforth our friend set about her work in a different fashion. She made a practice of going steadily on from one thing to another until the work which had to be done was finished, trying to dove-tail one task in with another. In a very short time she found that no one with the same amount of work to do had so much leisure as she.

Perhaps busy mothers who read this will feel inclined to say, "What a painful life women must lead who cannot stop to read a few lines, or to tie up a flower!" It must be remembered, however, that we are thinking now of those whose lives are full of duty and responsibility, and who feel very much the want of a little leisure. To such women a regular period of leisure would mean increased health, energy, enjoyment of life, opportunity for culture, and ever so much more besides. It seems sad to think that this valuable leisure may be frittered away without any one's knowing how it goes. Snatched minutes of rest do little good, they simply make the individual who has snatched them feel guilty, and thus add to her anxieties. But a substantial piece of rest that is felt to be a reward for "something accomplished, something done," is a help and blessing. If by arranging her work a little, a mother can secure such leisure, surely she would do well to make it her own.

To keep an account of time is chiefly valuable because it makes those who find the days too short for all that ought to be got into them, and out of them, realize that time spent in dawdling is actually wasted. It is astonishing how frequently, without an aid of this sort to bring the fact home to them, busy people will throw away the time whose flight they constantly deplore.

We all know, for example, the excellent, well-meaning, energetic but fussy, person who never begins a task without explaining to every friend with whom she comes in contact how very busy she is, how little time she has to spare, how she cannot do this, that, or the other thing she would like to do, because she has so much devolving upon her. Such an individual wastes the time of others as well as her own. We know too, the equally well-meaning and equally energetic person who wastes time because she does not work with her head as well as her fingers. She is in so great a hurry that she does not think before she acts, and so makes two journeys where one might have been sufficient, and never saves her own strength. Then there is the woman who wastes precious time because she has the habit of beginning one task before she has completed another. These workers are always in a muddle. They have not learned how to *make* time.

A wise man has told us that "time is the stuff that life is made of" As thrifty housewives aim at cutting material for garments to the best advantage, getting a sleeve out of this fragment, and gussets or linings out of that, so thrifty women should aim at

getting as much as they can out of the limited supply of time at their disposal. If they would divide it profitably, they must aim at getting out of it, not only the solid pieces of good housewifery, skillful needlework, and wholesome cookery, but also a little pleasant leisure for their own mental culture and recreation. May we assure them that this addition is most likely to be obtained by those who understand the worth of minutes?—*Phyllis Browne, in Mothers' Companion.*

A PRECIOUS THING DESTROYED.— An English peer once called upon the famous Josiah Wedgwood, and desired to see his pottery factories. With one of his employees, a lad of about fifteen years of age, Mr. Wedgwood accompanied the nobleman through the works.

The visitor was a man of somewhat reckless life, and rather vain of his religious unbelief. Possessing great natural wit, he was quite entertaining in conversation, and after awhile forgot himself in expressions bordering upon profanity and by occasional jests with sacred names and subjects. This seriously disturbed Mr. Wedgwood.

The boy at first was shocked by the nobleman's irreverence, but soon became fascinated by his flow of skeptical drollery, and laughed heartily at the witty points made.

When the round of the factories had been made, and the boy was dismissed, Mr. Wedgwood selected a beautiful vase of unique pattern, and recalled the long and careful process of its making, as they had just seen it at the vats and ovens. The visitor was charmed with its exquisite shape, its rare coloring, its pictured designs, and reached out his hand to take it. Mr. Wedgwood let it fall on the floor, and it broke to atoms. The nobleman uttered an angry oath. "I wanted that for my collection," he said. "No art can restore what you have ruined by your carelessness."

"My lord," replied Mr. Wedgwood, "there are other ruined things more precious than this, which can never be restored. You can never give back to the soul of that boy who has just left us the reverent feeling and simple faith which you have destroyed by making light of the religion which has been his most sacred memory and inheritance. For years his parents have endeavored to teach him reverence for sacred things, and so to influence his mind that his life and conduct should be governed by religious principles. You have undone their labor in less than half an hour."

The nobleman, though greatly astonished at such plainness of speech, respected a brave and honest man; and he did not go away without expressing his regrets, and admitting the justice of the reproof. —*Sel.*

BEAUTY OUT OF UGLINESS.— A lady who in her girlhood was discouraged by her lack of beauty, but lived to become a leader of society, with hosts of sincere and loving friends, once told the following story of the incident which gave her hope and inspired her to usefulness: "If I have been able to accomplish anything in life, it is due to the words spoken to me in the right season, when I was a child, by an old teacher. I was the only homely, awkward girl in a class of exceptionally pretty ones, and being also dull at my books, became the butt of the school. I fell into a morose, despairing state, gave up study, withdrew into myself, and grew daily more bitter and vindictive.

"One day the French teacher, a gray-haired old woman, with keen eyes and a kind smile, found me crying. 'What is the matter, my child?' she asked.

"'O madame, I am so ugly!' I sobbed out. She soothed, but did not contradict me. Presently she took me into her room, and after amusing me for some time said, 'I have a present for you,' handing me a scaly, coarse lump covered with earth. 'It is round and brown, as you are. Ugly, did you say? Very well. We will call it by your name then. It is you! Now, you shall plant it and water it, and give it sun for a week or two.'

"I planted it, and watched it carefully; the green leaves came first, and at last the golden Japanese lily, the first I had ever seen. Madame came to share my delight. 'Ah,' she said significantly, 'who would believe so much beauty and fragrance were shut up in that little, rough, ugly thing? But it took heart when it came into the sun.' It was the first time that it had ever occurred to me that in spite of my ugly face, I, too, might be able to win friends, and to make myself beloved in the world." —*Christian Herald.*

THE day is long past when children can be kept innocent through ignorance. The innocence of virtue, the knowledge that will give them power to choose the pure and good, is the only fortification that can protect them from the dangers and evils of social impurity.

USES OF STALE BREAD.

If properly made from wholesome and nutritious material and well preserved, there are few other foods that can be combined into more varied and palatable dishes than left-over bread. To insure the perfect preservation of the fragments, the loaf itself should receive good care. Perfectly sweet, light, well-baked bread has not the same propensity to mold as a poorer loaf, but the best of bread is likely to become musty if its surroundings are not entirely wholesome. The receptacle used for keeping the loaves should be frequently washed, scalded, and dried. Crumbs and fragments should be kept in a separate receptacle and as thoroughly cared for as is the bread. It is well in cutting bread not to slice more than will be needed, and to use one loaf before beginning on another. Bread grows stale much faster after being cut.

Whole or half slices of bread which have become too dry to be palatable may be utilized for zwieback, which may be made by placing the bread on perforated tins or in a dripping pan and toasting in a moderate oven for a half hour or longer, until it is browned evenly throughout the entire slice. Such zwieback may be prepared in a considerable quantity and kept on hand in readiness for use. It will keep any length of time if stored in a dry place. It is serviceable for toasts, is excellent used with hot milk or cream, and makes a good substitute for the old-fashioned dumplings served with fruits and meats.

Broken pieces of bread not suitable for zwieback make excellent *croutons*, a most palatable accompaniment for soups, gruels, hot milk, etc. To prepare the *croutons*, cut the fragments as nearly uniform in size as possible — half inch cubes are convenient — and place them in tins in a moderate oven. Let them become crisply dry and lightly browned, but not scorched. They are preferable to crackers for use in soups, and require so little work to prepare, and are so economical withal, that one who has once tried them will be likely to keep a supply on hand. The crumbs and still smaller fragments may be utilized for thickening soups and for various dishes, recipes for some of which we give in this number: —

Scalloped Cauliflower. — Prepare the cauliflower, and steam or boil until tender. If boiled, cook in equal parts of milk and water. Separate the cauliflower into bunches of equal size, place in a pudding dish, and cover with a white or cream sauce. Then sprinkle with bread crumbs, and brown in the oven.

Scalloped Tomatoes. — Take a pint of stewed tomatoes which have been rubbed through a colander, thicken with one and one fourth cups of lightly picked crumbs of graham or whole-wheat bread, or a sufficient quantity to make it quite thick, and salt if desired, and one half cup of sweet cream. Mix well and bake for twenty minutes.

Scalloped Turnips. — Prepare and boil whole white turnips until nearly tender; cut into thin slices, lay in an earthen pudding dish, pour over them a white sauce sufficient to cover, made by cooking a tablespoonful of flour in a pint of milk, part cream if preferred, until thickened. Season with salt, sprinkle the top lightly with grated bread crumbs, and bake in a quick oven until of a rich brown.

Savory Lentils. — Take equal quantities of stewed brown lentils that have been rubbed through a colander to remove the skins, and unfermented bread crumbs. Moisten with a little rich milk or cream, season with salt and a very little powdered sage, and brown in a moderate oven. E. E. K.

Corks may be pressed into bottles more firmly if they are boiled before wanted for use.

Filling for Cracks in the Floor. — If the boards of a bare floor do not fit perfectly, have the spaces filled with putty or with a mixture which has been often recommended of late, made of old newspapers soaked in a paste made of flour and water. The proportions of this are one pound of flour, three quarts of water, and one tablespoonful of powdered alum. The newspapers should be torn into bits, and the whole thoroughly boiled and mixed until of the consistency of putty. It may be colored with a little of the staining mixture, and should be forced into the cracks with a knife, when it will soon become hard and dry like *papier maché*. — *Christian Union.*

It is a good plan to have a basket near the ironing table, and as garments which need mending are ironed, drop them into it. This will prevent torn articles of clothing from being put away into drawers without being repaired, and neglected perhaps till they are wanted to wear.

THE VAPOR AND RUSSIAN BATHS.

In both the vapor and the Russian bath the body is enveloped in water of a high temperature in the form of steam. The principal uses of these hot baths are to stimulate the skin and other eliminating organs to greater activity, and so increase the power of the body to rid itself of the waste products from tissue changes, and also of such poisonous elements as germs and ptomaines, which infect the body and cause disease. These baths are also a useful measure in getting rid of superfluous flesh.

The appliances needed to give a vapor bath are some means for generating vapor or steam, a stool or cot on which the patient may sit or lie, and measures for confining the vapor around the body.


THE VAPOR BATH.

A box is generally used for this latter purpose in sanitariums and bathing establishments, it being in size usually about three feet square and three feet six inches deep. It should be fitted with a divided hinged lid, with a hole in the middle to allow the head to remain outside. The patient removes his clothing, seats himself on the adjustable stool, and if his feet are cold, puts them in a warm foot bath. The stool is raised or lowered until the neck is even with the edge of the box. A cool, wet towel is loosely bound around the neck, and the two sides of the lid closed, leaving the body entirely inclosed in the box except the head. The steam is now turned on slowly, and the temperature raised to from 108° to 120° for fifteen minutes or half an hour. The patient must be closely watched, and removed at the first sign of congestion of the head or faintness, unless the symptoms can be relieved by sponging the face, changing the towel around the neck, and giving a glass of cool water to drink, or by lowering the temperature of the bath. After the patient has perspired freely, and it is time to take him out, turn off the steam and give him a graduated spray, beginning with a warm temperature, and gradually lowering it to 80° or 75°, or even lower. Then wipe the patient quickly, and let him rest in a cool room for a time before dressing and going out in the open air. An oil rub after the spray will leave the skin in good condition. A graduated douche, a pail pour, a cool plunge or full bath, a saline sponge, or a soap-and-water shampoo is always demanded before the spray or other cooling measure is used, to get rid of the coating made up of dead cells, waste matter, etc., which covers the skin. Be sure the skin is warm and dry before allowing the patient to dress.

The Russian bath differs from the vapor in the patient's being placed in a small room fitted up with a marble slab on which he may either sit or lie, and the head being included, steam is inhaled as well as enveloping the body. In some establishments the slabs are of different temperatures, and the patient is changed from one to the other until the required temperature is reached, generally 115° or 120°. The time for remaining in the bath, the preparation, and the after treatment are the same as for the vapor bath.

A homemade vapor or Russian bath may be gotten up in any family when needed. For the bath, use a cane-seated chair covered with a warm towel. Prepare a foot tub or pail with about six inches of warm water in it for the feet. In the meantime, have some small pieces of stone, iron, or brick heating in the stove or fireplace, and a tub or kettle with a quart or two of water in it. When the stones, bricks, or iron are red hot, seat the patient on the chair, with his feet in the tub, and cover him with a blanket or quilt, and, over all, an oilcloth to keep in the steam. Adjust these coverings snugly around the neck and fasten with safety pins, letting them come down so as to trail on the floor, so arranged that the opening will come at the back. Then set

the kettle under the chair, and taking one of the stones, bricks, or pieces of iron up with the tongs, lower it gently into the water. Do not drop it with a splash, lest you should burn the patient, and do not use too large a stone or brick, or the vapor may be too hot. When the first brick has cooled, drop in another in the same careful manner. Repeat this until the patient is in a free perspiration,— ten, fifteen, or twenty minutes,— being careful to keep the towel around the neck cool. Wipe the perspiration off the face, give plenty of water to drink, and do not allow the head to become congested or the patient to faint. When he is ready to be cooled off, a pail or dipper pour, a wet-sheet rub, or a cool saline or other sponge bath may be administered, ending with an oil rub. Then, being lightly covered, the patient should rest on a cot or bed until the tendency to perspire ceases and the skin feels dry and warm, before dressing. If too weak to sit up, three cane-seated chairs set in a row, or, better still, a woven wire cot, may be prepared for the patient to lie down upon, first covering it with a narrow sheet folded. Place under it three tubs of water, and cover the patient with the blanket, comforter, and oilcloth, letting them hang down and drag on the floor on both sides and at the foot, and bringing them around at the head so as to close all openings except where the patient's head comes out. They must then be fastened snugly to keep in all the vapor. When all is ready, begin at the feet, and put a small hot stone or brick in each kettle, and drop the covers quickly, so as to keep in the steam. The same after treatment will be required as for the bath previously described.

A box for vapor baths may be made by tacking oilcloth on a frame, or any carpenter can make a box with the divided lid notched out to fit around the neck, the vapor being generated by an oil lamp and a tin kettle, and conducted into the box by a rubber hose. The heat and moisture act upon the circulation, calling blood to the surface, increasing the heart's action, and raising the temperature somewhat. This results in increased cell activity of all the tissues of the body, and also in increased oxidation and elimination of waste matter. The vapor bath is useful in decreasing flesh in corpulency. In cases of dropsy due to kidney or portal obstruction, it is a valuable measure for eliminating the poisons in the blood and tissues, and freeing the tissues from accumulations of fluid. In such cases the perspiration may be prolonged by putting the patient to bed and covering him up warm. When treating a case in which the heart's action is weak, always consult a physician; and watch the patient's pulse carefully while in the bath. Such patients would better take the bath lying down, and the vapor should not be made too hot.

A vapor bath is an excellent treatment when the patient is threatened with an acute disease, as malarial or typhoid fever, also in chronic malarial poisoning. It is also useful to eliminate tobacco, alcohol, lead, and morphine, in chronic poisoning by these drugs. In cases of skin disease, whether due to parasites, microbes, or other poisons, it is one of the most useful curative measures, increasing the activity of the glands of the skin, and softening the hardened secretions which were obstructing the ducts. It also softens up, and by the aid of a shampoo brush, removes dead epidermic cells. This bath is also useful taken at the beginning of a cold; but great care must be exercised to cool off thoroughly before going out. The patient should lie down in bed for a time, and would do well to fast a meal or two, and it is better to take the bath just before going to bed. Unless these precautions are observed, the patient may find his cold worse, instead of better, for the treatment.

In either acute or chronic cases of inflammatory rheumatism, great relief is often experienced from a vapor bath or steaming the inflamed joint by giving a local vapor bath. This can be done by laying the inflamed member on a cane-seated chair or stool, or suspending it in a netting sling from a hook in the ceiling over the pail or tub containing hot stones, and then covering it with the blankets and oilcloth so as to keep the steam around it and produce local sweating, the other parts of the body being outside. This acts like a very powerful poultice, and may be kept up for an hour or two. It is often useful in relieving the tension due to the swelling in cases of erysipelas, carbuncle, and other septic inflammations. The parts may be sprayed or cool water poured over them afterward, and then packed in cool or tepid compresses. Steaming the face by holding it over a pail of hot water, keeping the vapor in by covering up except around the nostrils, will often prove useful in acne and other skin diseases affecting the face.

Indeed, the vapor bath has its place, and may be made useful and accomplish good results as a home treatment when given properly and in suitable cases. But it is a powerful measure, and may be a harmful one if given improperly or in unsuitable cases, as to patients weakened by chronic lung disease, hemorrhages, fevers, etc., by imprudent exposure, or neglect to cool off properly.

SUNLIGHT IN THE SICK ROOM.

SUNLIGHT is one of nature's most potent forms of energy,— all the organic life of our globe is due to the vitalizing effect of light. In darkness both animal and vegetable existence wanes, and the higher orders of life die out entirely. Sunlight is an enemy to disease germs, many of the most persistent of them, as the tubercular bacillus, being destroyed in a few minutes by the direct rays of the sun. But one who goes often into the many gloomy, darkened sick rooms where invalids spend day after day behind closed shutters and dark curtains, is led to ask why this widespread photophobia afflicts the human family when suffering from disease. I have often questioned the attendant in the sick room as to why the shutters were not opened wider, and both room and patient given a sun bath every fine day. Frequently the answer has been, "Oh, the sun shines right in the patient's face, and almost puts his eyes out when the curtains are up; and the reflection of a white wall is as bad as the direct light, causing headache and making him nervous."

The room of the lying-in woman is often kept dark under the pretext of saving the baby's eyes, no one seeming to think that the eyes might be protected by a screen or by turning the child's face away from the window. An umbrella may be so arranged as to make a shade, or a high-backed rocker may have a dark shawl thrown over it and placed so as to shut off the direct rays of the sun. The bed should be so situated as to avoid facing the windows directly or having the reflection thrown in the face of the patient from some white surface. A little forethought will secure the patient all the good effects of sunlight without any of the slight discomforts. The bed, if mounted on good casters, may be rolled to different positions in the room at different times of the day; and when the sun ceases to shine in at the window directly, the bed may be brought close up to it, and the patient arranged so he can look out-of-doors without fatigue, and be cheered by a view of the distant groves or hilltop, the strip of green grass, or even a patch of blue sky. I have often found this to rest rather than tire the eye. When the patient wishes to sleep, either by night or by day, the room should be carefully shaded, and pains taken to exclude all flickering streaks or bars of light. Never turn down a kerosene lamp or shut a gaslight partially off. They will send forth poisonous gases, and contaminate the air for both patient and nurse. It is better to take the lamp entirely out of the room into the hall or another room, or turn the gas entirely off, leaving a jet burning in an adjoining room, and matches just at hand to make a light in the sick room when needed. Care should be exercised to have the lights so arranged in relation to the bed that they will neither shine nor be reflected in the patient's face. This is often very annoying, especially to delirious patients in cases of typhoid and other fevers, where the nervous system is much disturbed.

Some chronic invalids grow to have a morbid dread of sunlight, and so shut themselves away from their fellows in a continuous dim twilight until they have an almost insane dread of daylight. Such persons must be gently led into sunshine and active life again, if they are ever to recover; for the darkness in which they dwell will destroy both mind and body. The convalescent from all acute diseases needs sunlight, and it is an excellent measure to expose the whole or part of the uncovered body to the direct rays of the sun every warm, bright day, if the bed or couch can be so arranged as to permit the taking of a sun bath. The sunlight also enables the nurse to see dust and dirt in the room, on the furniture, and even in the air. It may fade the plush of the chairs and sofa, and dim the bright colors of rugs and carpets, but it will bring color to pale faces, brighten dim eyes, and give courage to weak minds, and strength to feeble limbs.

So let us welcome the sunshine, not only into the sick room, but also into every living and sleeping room, attic, basement, cellar, and closet. It will banish moths better than tobacco, cedar, or camphor gum; and combined with plenty of fresh air, it will destroy microbes better than chloride of lime, carbolic acid, or any other vile-smelling disinfectant. It is in damp, dark corners that must and mold flourish. The bright sunlight makes dirt, dampness, and disorder appear very unsightly. Curtains and shutters have their use, but it is mostly at night that they are needed, to shut out the darkness and prying eyes, not in the daytime, to exclude the light. Florence Nightingale says that an invalid ought to follow the sun from its rising until its setting, by changing his room as the sun shifts from one side of the house to the other. It might be well for housekeepers and those who live much indoors if they too were to have the rooms of the house so arranged that they could work all day in the sunlight.

EMACIATION.

CHILDREN lose flesh and regain it with extreme rapidity; the condition of their flesh, then, is of very great import, but this very important sign is commonly very imperfectly interpreted. People are content with a gross estimate as determined by a superficial examination, with scarcely ever a resort to the balance, which so correctly reveals the slightest fluctuations of flesh.

I shall presently insist upon the advantage of weighing children at least once a month, and even at shorter intervals, whenever their health appears to suffer any appreciable impairment. I attach considerable importance to this practice. A well-nourished child, who is only jaded by work or exercise, should maintain its weight, and even increase its growth, while producing increase of stature, which should not, if of a healthy character, lead to diminution of weight; so that, when the latter occurs with a certain persistency, it is a sure index of a morbid condition, which the physician should repair.

When a child loses flesh, the words "worms," "teeth," and "growing" are pronounced, and that is all that is said about it. Put no faith in them. Worms (much less common and much less dangerous than is usually supposed) are a cause of emaciation only when present in considerable numbers; moreover, other special symptoms are produced, and the child passes worms at more or less frequent intervals. Dentition, or teething, which is too readily trumped up as an occult cause of emaciation, can be admitted only when the process is evident, and when it is accomplished in a somewhat tumultuous and irregular manner; under other circumstances, this explanation is purely hypothetical, and really dangerous. It becomes especially so whenever an habitual diarrhœa exists, invariably attributed by mothers to the influence of the teeth, and looked upon by them as a favorable crisis, which should be encouraged. A child who has grown very thin is commonly a child in whom an acute disease is impending, or in whom a chronic disease has already begun. Brain diseases almost invariably begin with a progressive emaciation, and this symptom, provided it cannot be explained by one of the causes indicated above, becomes sadly significant to the physician.

One cause of emaciation which it is also desirable to recognize, although of a purely moral sort, is the feeling of jealousy which certain children feel, even very young ones, when they think that other children, upon whom they see care and caresses lavished in their own presence, are preferred to themselves. Sad and precocious example of the ravages which the passions may exercise upon health! St. Augustine has drawn the portrait of a jealous child, "who, with pale face and troubled eye, regards another child who sucks with it." We meet them from time to time; but at this age the passions are freely expressed, not concealed, and so it should be as easy to recognize this cause of emaciation as to remedy it.

From the foregoing it will be seen that it is necessary to keep a close watch of children who are losing flesh, not being content with mere words, and to lay the problem before a physician, as there is almost always urgent need of solving it.— *Mothers' Work with Sick Children.*

WHEN a child complains of languor and chilliness, and is inclined to hover near the heater or stove, always take its temperature. It may be the beginning of some serious acute disorder or, still worse, an indication of tubercular disease.

NEVER startle your patient by any unexpected or abrupt action. Always give him time to prepare for any new treatment or medicine. When the physician makes a change in the drug prescribed or the treatment to be given, always let the patient know something about how the new remedy will taste, and what it is for, or what the new treatment is, and how it is expected to act.

NEVER keep food in the sick room, and cover up water when it is necessary to keep it in the room for ever so short a time. Both absorb disease germs readily, and may re-infect the patient. A nurse should never eat in the sick room.

Do not expose a patient who is perspiring freely to cold draughts. Care in this respect is especially necessary when the fever has subsided, and the patient is convalescing. Always remember, however, that a patient is in more danger of taking cold in an overheated, close room, than in one that is cool and well ventilated.

GOOD HEALTH
J. H. KELLOGG, M. D., EDITOR.
BATTLE CREEK, MICHIGAN.

AMERICAN CONSUMPTION OF DISEASED MEAT.— American meat has, for some years, enjoyed so unsavory a reputation abroad that it has become necessary for the government to provide a regular corps of inspectors for meat that is to be shipped abroad, and to put its seal upon all foreign shipments of meats, in order to secure any sale for this class of American food products abroad. But this inspection is, for the most part, confined to meats that are shipped to foreign countries. American consumers of meat are not thus protected. A man who has for many years been employed in a metropolitan stock yard, stated to the writer less than a year ago that he had many times assisted in smuggling diseased cattle into side pens, from whence they were conveyed to slaughter houses and prepared for the market. He assured us that it was not at all difficult to evade the inspectors, that it was a matter of every-day occurrence, and that thousands of these cattle were thus slaughtered and consumed annually.

Recently this fact has become so notorious that the mayor of Chicago has found it necessary to take the matter in hand, and has issued peremptory orders that the licenses of all slaughtering establishments should be permanently revoked when it is found that diseased animals have been killed in them. The Chicago *Tribune*, which is always on the alert for matters of this sort, has been looking this matter up, and publishes in a recent issue the following report of an interview with a Health Commissioner, which conveys information sufficiently startling to induce every consumer of beef to ask himself the question: Is it safe to indulge in the use of the flesh of animals as food?

"It is the duty of the State inspectors to inspect cattle on the hoof; of the city inspectors, to inspect meat only. There are not enough State inspectors for the work, and I have had my five inspectors given the power of the State men. The Health department inspectors condemned 1,350,337 pounds of meat last year as being unfit for human food. I do not presume we caught a fractional part of the whole amount. In justice to the largest packers, I want to say that no diseased meat is ever found in their establishments. But there are numerous proprietors of small establishments who resort to every possible device to get a diseased animal into the pens without the knowledge of the inspectors. It is those fellows we are after. The United States government inspects every pound of meat that goes to foreign countries, and I think the people of Chicago should be given the same protection that foreigners have."

THE DEADLY CIGARETTE.— One of the largest life insurance companies refuses to take risks upon the lives of persons who have been habitual smokers of cigarettes between the ages of eight and eighteen. Shopkeepers and business men are discovering that the usefulness of boys who smoke cigarettes is so rapidly impaired that they are likely to prove of little service, and hence decline to employ them. In view of the enormous extent of the cigarette vice, we are more than pleased to note that Mr. Hubbell, a prominent lawyer of New York, has started among the schools of New York City a movement, the purpose of which is the organization of an Anti-Cigarette-Smoking League. Each member of one of these leagues is required to sign a simple pledge to abstain from the use of cigarettes until the age of twenty-one. Thousands of boys have already joined this movement, and it is hoped that it may extend throughout the country.

A POTATO GOSPEL.— When Prof. Alcott, the eminent and learned cousin of the late renowned A. Bronson Alcott, of Concord, visited England in 1842, and instituted in that country a campaign against flesh-eating, he was soundly berated by Carlyle, who denominated the views which he advocated a "dom'd potato gospel," and went on with his tobacco smoking, chewing, and his consumption of dyspepsia-producing viands, the effect of which the

world has seen in the pessimism and heartless irony with which his books abound. Even a potato gospel might have been a saving grace for Carlyle. A potato regimen would certainly have been an improvement upon that to which he was accustomed. Nevertheless, Carlyle, as well as many others who probably have never made a careful study of the teachings of vegetarians, was mistaken as to the scope and meaning of vegetarianism. Vegetarians, as a rule, are not particularly partial to vegetables, using the word in its technical sense as employed to distinguish certain vegetable products from fruit, nuts, and grains. A vegetarian is simply one who abstains from the use of flesh food, or the eating of dead things, excluding from his dietary whatever cannot be employed as food without the taking of animal life. The diet of the intelligent vegetarian consists chiefly of grains, fruits, nuts, milk, and eggs. The potato and other wholesome vegetables are not excluded from his bill of fare, but are by no means regarded as the essentials of a vegetarian regimen, nor, even, is it one of the most valuable constituents of an irreproachable bill of fare.

There is an evident growth of popular sentiment in favor of vegetarian principles, especially in England and on the continent of Europe. A change of public opinion is also visible in this country. A Vegetarian Congress which constituted one of the series of congresses held in connection with the World's Fair was largely attended, and no small degree of interest and enthusiasm was manifested by the audiences which gathered to discuss this question. The increasing prevalence of disease among domestic animals, and the impossibility of preventing the slaughtering and the consumption as food of animals afflicted by various maladies, thus involving risk to the consumers, may be mentioned as one of the many causes which are leading intelligent men and women to study this subject, and which is developing skepticism respecting the necessity of flesh food for the maintenance of health, and even the propriety of its use as an article of food.

Tight Lacing and Gallstones.— Prof. Marchand and Dr. Marburg two years ago called attention, in the *Deutsche Medicinische Wochenschrift*, to the fact that gallstones and tight lacing are frequent coincidents. According to Dr. Marburg, the relation of tight lacing to the development of gallstones is rendered very clear by noticing the situation of the gall ducts in the liver caused by tight lacing. The furrow caused by lacing runs directly across the right lobe of the liver, as the result of which there is a tendency to atrophy of the gall bladder. When tight lacing has been practiced to an extreme degree, an artificial fissure is formed in the liver, giving rise to what is termed the "lacing lobe," which carries with it the gall bladder. The constricted portion of the liver is found to be just at the point of junction of the gall bladder with its duct. In these cases, according to Prof. Marchand, it is common to find the gall bladder greatly distended, extending far beyond the border of the liver, and frequently an examination made post-mortem reveals the presence of gallstones.

Stagnation of the bile is well known to be one of the most important causes of the formation of gallstones. A change in the composition of the bile, from catarrh resulting from congestion of the mucous membrane and the thickening of the bile due to failure of the gall bladder to completely evacuate itself, gives rise to the formation of small masses which serve as nuclei for calculi; hence anything which obstructs the free outflow of bile through the cystic duct, must favor the formation of gallstones.

Marchand is also of the opinion that many cases of cancer of the liver should be attributed to tight lacing. It is only a few years since Lungenbuch was obliged to open an abdomen to remove a "lacing lobe" of the liver which had been so completely separated from the rest of the organ as to cause its death, rendering its removal necessary.

In view of such facts as this, is it not the duty of every physician to take especial pains to warn his patients against the evil effect of this pernicious practice? Few women are conscious of the fact that they are injuring themselves by tight lacing, and yet at least ninety-nine out of every hundred women in the United States are addicted to this evil practice in some degree.

Microbes in Ice.— The French government has recently undertaken an investigation of the extent to which microbes are to be found in common ice. M. Riche was employed to conduct the bacteriological study of ice, and found that specimens which, to the eye, are perfectly transparent and seem to be wholly free from any sort of impurity, may contain as high as seven times the amount of organic matter which is considered tolerable for potable water. In one specimen of ice examined, each cubic centimeter (one fourth dram) was found to contain 175,000 microbes. The organic matter contained in this ice was forty times that considered allowable for drinking water.

THE DIETETIC VALUE OF SUGAR.

RECENTLY several subscribers have asked for an opinion as to the dietetic properties of sugar. As to whether sugar is a food is a question which has never been raised among persons acquainted with the chemistry of foods and scientific dietetics; but Claude Bernard proved long ago by careful experiments that sugar alone is not a food, and that an animal fed upon sugar alone soon loses its strength and vigor, and dies of starvation. Sugar is one of the constituents of a perfect food, but must be associated with the other elements found in food — at least with the nitrogenous — to render it capable of sustaining life.

The love of sweet substances is unquestionably a really natural instinct, since saccharine flavors abound in those food substances which constitute the most natural diet for the human family; and if our diet were wholly composed of natural foods, there would be no occasion for writing this article, for no natural food contains so great an excess of sugar as to be capable of producing harmful effects when eaten by a healthy person. When, however, sugar is separated from its natural association with other food elements, and presented in concentrated form, as that made from the ordinary cane sugar, it becomes capable of producing injurious effects of a very decided character. The following are the chief injurious results which may arise from the excessive consumption of sugar in its concentrated form: —

1. *Acid Dyspepsia.* — Acidity, or sour stomach, is a very common result of the use of sugar in its ordinary form, or in the form of candy, sweetmeats, etc. Under the action of certain germs, sugar is converted first into alcohol and carbonic acid gas, and later the alcohol is decomposed into acetic acid and water or vinegar. It is in this way that vinegar is made from cider, wine, and other sweet liquids. When taken into the stomach, sugar undergoes this same change. The first symptoms of this form of fermentation in the stomach are eructations of gas and distention of the stomach due to the alcoholic fermentation. Sometimes months or years may elapse without the appearance of other symptoms, but sooner or later the stomach will become sufficiently disabled from frequent distention and the over-stretching of its muscles, to prevent the prompt discharge of its contents; and the longer retention of the food substances within the stomach will give opportunity for the acetous, or acid-forming, fermentation, the symptoms of which are soreness and burning at the pit of the stomach, and sometimes vomiting or regurgitation of sour liquids.

2. *Catarrh of the Stomach.* — In its concentrated form, sugar gives rise to an excessive formation of mucus in the stomach. By constant repetition this may in time become a habit, and then catarrh of the stomach will be established. The irritation of the mucous membrane by the products resulting from the fermentation of sugar is also provocative of catarrh. The free use of sugar is unquestionably one of the most common causes of gastric catarrh. Some of the worst cases of this disease with which the writer has ever met have been from this source. In one well-marked case the lady had been in the habit of eating a three-pound box of highly flavored candy regularly every week.

3. *Indigestion of Starch.* — Physiologists have demonstrated the interesting fact that in order that the ptyalin, or starch ferment, should continue its work of converting the starch into sugar, it is necessary that the sugar resulting from the action of the ptyalin should be absorbed as rapidly as formed. When absorption does not take place with sufficient rapidity, and the sugar in solution is allowed to accumulate, the action of the ptyalin ceases. The same principles apply to the action of the other ferments —

pepsin, pancreatin, etc. It thus appears that when sugar is taken with starchy foods, its effect is to interfere with their digestion, as it will at once render the mixture so highly saccharine that the ptyalin will not act upon the sugar as efficiently as it would otherwise do. Cane sugar cannot be absorbed as such, but must be digested. It is converted by the action of the intestinal juice into grape or malt sugar, which prepares it for absorption; but this action does not take place until after it enters the intestine, consequently cane sugar is neither absorbed nor digested in the stomach; and so long as the food substances remain in the stomach, it is also present, interfering with starch digestion. Further interference with digestion is occasioned by the fermentation of the sugar, which, under the influence of the germs which are always present in the stomach, may ferment, although it does not digest; and the fermentation thus started may extend to other of the food substances, vitiating the products of digestion, and interfering with the whole digestive process.

4. *Disturbance of the Liver Functions.*— A condition commonly known in this country as torpid liver, called by the French, "hepatism," is very generally present in persons who consume sugar in large quantities. The condition is characterized by general disturbance of all the functions of the liver, which are so numerous that we can do little more than barely mention them here. They may be briefly stated, together with the effects of sugar upon the several processes, as follows: —

(1) *Bile Making.*— Bile produced by the liver contains a considerable amount of waste substances, or dregs of the body, some of which are exceedingly poisonous in character, so that when retained in sufficient quantities, a state of poisoning results. This condition is not indicated by jaundice, but by dingy appearance of the skin, dullness of the white portion of the eye, specks before the eyes, metallic taste in the mouth, and when extreme, by light or clay-colored stools or fæcal discharges, and a very dark color of the urine. Sometimes, however, jaundice results from catarrh of the biliary passages, what is known as infectious jaundice. This always begins with catarrh of the stomach. From the stomach the catarrhal inflammation extends to the upper portion of the small intestine, or the duodenum, from which it extends to the liver itself through the ducts which convey the bile from the intestine. When this catarrhal process becomes intense enough to cause closure of a biliary passage of considerable size, a sufficient amount of bile will be absorbed into the system to make the skin and the white of the eye saffron or yellow colored, and the patient is said to have jaundice. This sort of jaundice is different from the jaundice produced by gallstones. In the latter form of the disease the occurrence of jaundice is sudden, and is accompanied by severe pain, or hepatic colic, due to the passage of a gallstone. When the stone has passed from the gall duct, the bile flows again, and the jaundice disappears. Infectious jaundice is preceded by catarrh of the stomach, and often by a dull pain beneath the ribs of the right side in the region of the duodenum. It is also characterized by chills occurring daily or irregularly, accompanied by fever. These chills often continue for several months and are usually attributed to malaria. The excessive use of sugar is a very common cause of this disease.

(2) *Sugar-making and Regulating Function.*— One of the most curious functions of the liver is its sugar-making and regulating function. All the sugar and starch taken as food after digestion and absorption, are carried to the liver by the portal vein. Only a very small portion is allowed to pass through the liver, the greater part being stored up in the liver cells by convertion into a form of starch known as glycogen. This glycogen is subsequently, in the intervals between meals, slowly digested by means of a ferment derived from the blood corpuscles, and thus converted into sugar again. By this arrangement the sugar is thrown out of the body regularly and in small amounts, instead of being thrown into the blood in great quantities as rapidly as it is digested. This regulation of the supply of sugar is of great importance, for the reason that sugar is chiefly used in the body for the production of force and heat, the demand for which is more or less regular, as in the case of the furnace or locomotive.

This function of the liver may be compared to the automatic stoking, or fuel-feeding arrangement, sometimes connected with large boilers.

When sugar is used in large quantities, as is likely to be the case when it is taken in its free form, so great a quantity is sometimes carried to the liver that it is unable to retain as large a portion as is necessary, and more than the usual amount escapes into the blood. The blood normally contains only two or three parts of sugar in one thousand parts of blood. When the sugar rises above three parts in one thousand, the kidneys, which are always on the alert to regulate the condition of the blood, take alarm, and, seizing upon the excess of sugar, throw it out of the body in the urine, so as to protect the blood corpuscles and other delicate tissues of the body from the injurious effects certain to follow an

excess of sugar in the blood. When sugar is thus present in the urine, the case is said to be one of diabetes. It is a well-recognized fact that this disease is more frequently produced by an excessive use of sugar, or saccharine substances, than by any other cause. The liver apparently becomes exhausted in its effort to retain the excessive amount of sugar taken in, and lets a portion slip through; and as the disease advances, a larger and larger quantity of the sugar eaten passes through in this manner, and thus the amount of sugar in the urine increases from a few grains per diem at the outset to several ounces, or, as the writer has sometimes seen, nearly a pound.

(3) *The destruction of ptomaines and poisons of animal or vegetable origin, the conversion of tissue poisons into less dangerous forms, the retention of mineral poisons,*— in other words, the protection of the body against poisoning. These are very important and interesting functions of the liver. When a man takes alcohol, a part of it is taken into the liver, which destroys what it can of the poisonous substance, allowing only a portion to escape into the body. The same is true of nicotine, strychnia, and other poisons. Poisons are constantly produced in the alimentary canal which the healthy liver is able to destroy, wholly or in part, thus protecting the body against their injurious effects. Poisons produced by the tissues as the result of tissue activity, are, by the action of the liver, converted into less poisonous substances, and prepared for elimination through the kidneys. When the liver becomes disabled as the result of excessive consumption of sugar, so that it is no longer able to perform these important and delicate functions efficiently, systemic poisoning appears as the result of the accumulations of the tissue poisons and the absorption of those formed in the alimentary canal by decomposition of the food under the action of germs. This poison is increased when the liver is in a state of disease, for the reason that the bile is an antiseptic. When it becomes vitiated or diminished in quantity, its antiseptic power is lacking, and the intestinal contents, especially those of the colon, undergo decomposition to an unusual extent by throwing into the blood great quantities of intensely poisonous substances. It is the presence of these poisons which gives to the fæcal discharges of persons suffering from a diseased liver an unusually intense and loathsome odor.

Persons whose livers have been disabled by the excessive use of sugar or otherwise, are much more subject to injury from alcohol, tobacco, and other poisons which may be taken into the body, than are those who are in a normal state. For this reason, cheese, oysters, meat, and other foods especially likely to contain poisonous substances, or to encourage their development within the body, may be injurious in such cases. Meat was formerly recommended as the principal article of diet for patients suffering from diabetes, but the more critical observations made of this disease in recent times have shown that systemic poisoning and death are very likely to result from a diet largely composed of meat in the cases of those suffering from this disorder, which fact is doubtless due to the disabled condition of the liver.

(4) *Blood Functions of the Liver.*— Before birth, the liver is active in the production of blood corpuscles; after birth, it is supposed to be a grave of the blood corpuscles, being one of the organs in which corpuscles are destroyed when they become old and incapable of further usefulness. This delicate function, as others in which the liver is concerned, must be seriously interfered with by the excessive use of sugar or other foods which impair the integrity of this important organ.

(5) *Excessive Fat Production.*—All the sugar used as food must be utilized in the body in one of three ways,—for heat production, for force production, or for the production of fat. When a larger amount of sugar is taken than can be utilized in connection with the other elements of food in heat or force production, if not eliminated by the kidneys as sugar, it may be deposited as fat; thus the use of sugar tends to obesity. An excessive accumulation of fat gives rise to many inconveniences. Its accumulation in the chest and abdomen causes shortness of breath by diminishing the capacity of the chest. It sometimes accumulates about the heart, overburdening this organ so that it cannot perform its functions properly. Its general accumulation throughout the body imposes a burden upon the muscles which may be so exhausting as to seriously interfere with a person's usefulness. The condition of a man obliged to carry another man of half his own weight or of equal weight upon his shoulders continually, wherever he went, would be indeed pitiable; but it is not an uncommon thing to find very fleshy persons weighing fifty per cent more than they should, or even twice their natural weight. There is no substance more capable of producing a rapid accumulation of fat than is sugar.

Accumulation of fat in the body also induces a tendency to fatty degeneration,— a diseased process in which the normal tissues are replaced by fat. This is particularly liable to take place in the mus-

cles, which thus lose their strength, and in the walls of the blood vessels, which may become so weakened as to rupture, causing apoplexy of the brain or of some other part of the body, with resulting paralysis or other form of disablement.

In conclusion, it should be noted that the sugar of commerce is doubtless in some way physiologically different from the saccharine element as it naturally exists in sweet fruits. The writer has been convinced of this by observing the fact that persons who are unable to eat sour fruits sweetened with sugar without suffering from acid dyspepsia, arising from fermentation of the sugar, are able to eat such fruits as sweet apples, figs, etc., with impunity. We have, in the use of sugar, an excellent illustration of a principle which is very wide in its application; namely, that in departing from the simple ways of nature we always incur a risk of injury. As we have often remarked in the last twenty years, the only apology for the use of sugar in its ordinary state is the gratification of an abnormal or exaggerated taste. We can well dispense with this element altogether. The acidity of acid fruits may be modified by a suitable admixture of sweet fruits. Certainly, the addition of sugar to starchy foods, as cakes and other sweet pastries, and to grains, is not only wholly unnecessary, but physiologically inexcusable, since starch itself is by the process of digestion converted into sugar; so that, in adding sugar to starch or starchy foods, we are practically adding sugar to sugar, the sugar constituting not only a redundancy, but interfering with the digestion of the starchy foods, as previously pointed out. The less sugar taken in its free state, the better for digestion.

ANSWERS TO CORRESPONDENTS.

SLEEPING UPON THE BACK — THE HALL WATER TREATMENT. — T. M. S., Ill., inquires: "1. Is it injurious to the head to habitually sleep upon the back? 2. Do you consider the Hall water treatment adapted to the preservation of the system in a proper condition? 3. Might it not eventually prove injurious?"

Ans. — 1. Not as a rule. Some persons, for special reasons, must avoid this position.

2. Dr. Hall was not the discoverer of the enema. The only credit he can claim is that of having recommended that the enema should be regularly used by all people as a method of emptying the bowels, a theory which has given its author notoriety, but no deserved or lasting fame.

3. The habitual use of the enema is likely to result in injurious consequences except in cases in which the bowels have already been deranged by disease, and have lost their power to evacuate their contents.

HORLICK'S MALTED MILK — PUMPKIN SEEDS FOR TAPEWORM. — Miss E. D. asks: "1. Is Horlick's Malted milk of value? 2. Please state how pumpkin seeds are to be prepared when to be administered for tapeworm?"

Ans. — 1. It is of some value in certain cases.

2. The shells should be removed and the meats made into a paste by crushing and rubbing together.

RED AND OILY NOSE. — "A reader" asks for "some harmless recipe for excessive redness and oiliness of the nose."

Ans. — This difficulty is often due to a disease of the stomach and of the sympathetic nervous system. Local remedies are of little value. The cause must be removed.

WEAKNESS — COFFEE — DEAFNESS, ETC. — B. C. M., Mass., writes that he is old and slightly weak, and daily feels the need of something to brace him up. He asks: "1. Will not a cup of weak coffee taken without milk or sugar after breakfast and dinner be beneficial? 2. Ought I to continue the habit of bathing my head in cold water upon rising in the morning? 3. What home treatment would you recommend for slight deafness?"

Ans. — 1. No.

2. Yes, and an extension of the bath to the whole body, administered carefully, will be found beneficial.

3. The difficulty is probably due to nasal or pharyngeal catarrh. If the deafness is not relieved by the use of the volatilizer (see advertising columns), a specialist should be consulted.

CROOKED LEGS IN A CHILD — INABILITY TO TALK, ETC. — R. W., Ont., asks the following questions: "1. What home treatment would you prescribe for a child of two and a half years whose legs are slightly crooked? 2. This child is strong and well, and understands what is said to him, but is scarcely able to talk at all. Is this an unusual case? 3. Could you suggest the probable cause of the trouble?"

Ans. — 1. The child will probably require a surgical operation. I cannot speak positively upon this point without personal examination; a good surgeon should be consulted.

2. No.

3. Possibly rickets.

THE CORSET WAIST — MOLES. — E. C. Y., So. Dak., asks: "1. Do you approve of the corset waist? 2. Would you advise the removal of moles from the face? 3. If so, by what process?"

Ans. — 1. No.

2. There is no harm in removing these blemishes.

3. The best method is to snip them off with the scissors; they can be cured by the use of electricity and other means, but removal by the scissors is the shortest and best operation.

RELIEF DEPARTMENT.

[THIS department has been organized in the interest of two classes: —

1. Young orphan children, and
2. The worthy sick poor.

The purposes of this department, as regards these two classes, are are follows: —

1. To obtain intelligence respecting young and friendless orphan children, and to find suitable homes for them.

2. To obtain information respecting persons in indigent or very limited circumstances who are suffering from serious, though curable maladies, but are unable to obtain the skilled medical attention which their cases may require, and to secure for them an opportunity to obtain relief by visiting the Sanitarium Hospital. The generous policy of the managers of the Medical and Surgical Sanitarium has provided in the Hospital connected with this institution a number of beds, in which suitable cases are treated without charge for the medical services rendered. Hundreds have already enjoyed the advantages of this beneficent work, and it is hoped that many thousands more may participate in these advantages. Cases belonging to either class may be reported in writing to the editor of this journal.

It should be plainly stated and clearly understood that neither orphan children nor sick persons should be sent to the Sanitarium or to Battle Creek with the expectation of being received by us, unless previous arrangement has been made by correspondence or otherwise; as it is not infrequently the case that our accommodations are filled to their utmost capacity, and hence additional cases cannot be received until special provision has been made.

Persons desiring further information concerning cases mentioned in this department, or wishing to present cases for notice in these columns, should address their communications to the editor, Dr. J. H. Kellogg, Battle Creek, Mich.

☞He wishes especially to state that those who apply for children will be expected to accompany their applications by satisfactory letters of introduction or recommendations.]

THE cases of Nos. 242 and 243, two boys five and seven years old, have been brought to our attention. A few months ago they were left fatherless, and their mother has no property, and no means of support except her hands. Working away from home ten hours a day, she has very little time for the care of her children, so desires to place them in a family, preferably on a farm, so that, when they are out of school, they will not have an opportunity to run the streets. These boys have brown eyes and hair, and are said to have good dispositions.

A LITTLE German boy (No 244), nine years old, is in need of a home. He has blue eyes and light brown hair, and is now living in Florida with his mother, who is unable to care for him. He is said to be kind-hearted, and we doubt not, if he is surrounded by good influences and receives proper instruction, that he will be an honor to those who will thus direct his steps in the right path.

No. 245 is a little girl eleven years old, living in Michigan. Her father desires to place her in some home where she will have good school advantages and kind motherly attention. The child is of a cheerful disposition, quick to learn, and has had good care. The father does not wish to give the little girl away, and will assist in supporting her. What he wishes is a home for her, as he is not keeping house. Will some one assist in this matter?

LITTLE Earl (No. 246), a Michigan baby seven months old, is in need of some kind motherly body to care for him, who will give him the care and attention that it is very necessary he should have at such a tender age. He is a pleasant and good natured child, with blue eyes and light hair. Here is another opportunity for some one to train a child for usefulness.

No. 250 is a little girl nine years old, living in Kansas. She is at present with her mother, who has two younger children to care for, and owing to her financial condition, wishes to place the child in some good family where she will receive Christian care and training. She has gray eyes, dark, curly hair, and is of an affectionate disposition. Will some one offer assistance in this case?

TWO ORPHANS (Nos. 251 and 252).—We have just received word respecting a girl and boy aged respectively eleven and six years. They are now living in Indian Territory with kind relatives, who have cared for them since their parents' death. The relatives are no longer able to care for the children, and request that they both be placed in the same home, where they will receive Christian training. The children have brown eyes and light hair, are in good health, and are now living in the country. The children know scarcely anything of the care or love of an own mother and father, as they were deprived of such care when very young. Is there not a home in the Southern or Western States that will open its door to these children who are in such great need?

DURING the month of February last, two children, a brother and sister, were placed in homes in the State of Kansas. We have just received the following encouraging word in regard to the little girl: —

"I—— has been at our house since February. She has good health and seems to be well pleased with her new home. She is quick to learn, and has the best lesson of any in her class at Sabbath-school. She is also attending day school, and seems to be learning very fast."

The little boy has a good home in a family whose children are nearly all grown and are away from home. We learn that he also is getting along well.

These children were motherless and the father an invalid, so it was necessary that some home be provided for them. Thus two more children are having excellent opportunities, who otherwise would probably have been deprived of many privileges which are necessary for their best development.

About one year ago the case of a half-orphan boy was reported to us as being in need of a home. The father was dead, and the mother's hands were so crippled from having been burned that she was not able to do much work. But a few months passed and word was received that the mother had died, so this boy, but eight years old, was left with no one to care for him. One of our agents took an interest in the boy, and after corresponding with different persons, at last secured a good home for the child. A letter just received from the new father will give some idea as to how he is progressing: —

"Replying to your inquiries concerning the boy, I will say that we feel that a blessing has come to our house in the reception of this little boy. We never had seen him until he came into our possession. We took him 'sight unseen,' and felt that it was our duty to do so. So far as he is concerned, we can say that we are more than pleased, although he is somewhat difficult to manage in some respects. Never having been trained any, and running wild, it has been somewhat of a task to make him feel like yielding to our will, but now I think we have gained the point, and are somewhat comforted with the prospect before us. When he came to us, he could neither read nor spell, but he knew some of his letters. Before he began going to school, about a month ago, he was able to read with us in morning worship, and had read five books through — such as the 'Child's Bible,' 'First Steps,' etc. He is now reading in the fourth reader, and is studying arithmetic, geography, etc. I do not know how he will succeed, but we hope to be a blessing to him. A few days ago he wrote his first letter in a very intelligent manner, and without dictation, and it was written so that any one could read it. We are satisfied that he has ability, and if it can be turned in the right direction, it can be used to the glory of God."

Persons making applications for children advertised in this department are requested to send with their applications the names and addresses of two or more persons as reference. If possible, these should be known, either personally or by reputation, to some member of the Board of Trustees.

VISITING DAYS AT THE HASKELL HOME.

Persons intending to visit the Haskell Home will please note that the visiting days are Sunday, 4 to 6 P. M., and Wednesday, 2 to 6 P. M. It is necessary to make this announcement, as so large a number of visitors have been calling at the Home that the very interest of the friends, which we have no desire to discourage, has been something of a hindrance to the workers.

J. H. Kellogg.

CHOTHING FOR THE POOR.

The call for clothing of all kinds and the numerous offers to supply assistance of this sort, have led us to organize a Clothing Department to receive and properly distribute new or partly worn garments which can be utilized for the relief of the very poor. In connection with this work it is very important that a few points should be kept in mind and carefully observed: —

1. Clothes that are so badly worn that repairs will cost more in money or labor than the garment is worth, will of course be of no service. Garments that are old, though faded, or which may be easily repaired by sewing up seams, or made presentable by a few stitches judiciously taken at some point in which the fabric is nearly worn through, may be utilized to most excellent advantage. But garments so badly worn that they need extensive patching, or clothes which have become much soiled and grimy by long use in some dirty occupation, should find their way to the rag bag instead of the missionary box.

2. Freight must always be prepaid. It costs as much to send 25 pounds or any amount less than 100 pounds as to send the full 100 pounds; consequently it would be well for those who think of sending clothes to be used in this department, to put their contributions together in one shipment, so as to get the benefit of the 100-pound rates. *We are obliged to ask that freight should be prepaid as a means of preventing loss to the work in the payment of freight upon useless packages.*

3. Clothes that have been worn by patients suffering from any contagious disease — such as typhoid fever, erysipelas, consumption, and skin disorders of all sorts, as well as scarlet fever, measles, mumps, diphtheria, and smallpox — should not be sent. Infected clothes may be rendered safe by disinfection, but we cannot trust to the proper disinfection of such garments by those sending them, who, in the majority of cases, are quite inexperienced in such work; neither should those who unpack the clothes be exposed to the risk of contamination while preparing them for disinfection at this end of the line. Such clothes should, as a rule, be destroyed. If they are not destroyed, almost infinite pains is required to render their use perfectly safe.

4. All articles received here are carefully assorted and classified, and are then placed as called for, where they will do the most good.

5. Clothing intended for the Chicago Medical Mission should be sent to 40 Custom House Place, Chicago, Ill.

LITERARY NOTICES.

"THE BOOK OF THE FAIR," by Hubert Howe Bancroft. The Bancroft Company Publishers, Auditorium Building, Chicago, Ill.

The world now recognizes the Columbian Exposition as one of the most stupendous of educational influences, especially for the young. Very early in the day, its originators and its builders decided to avoid all such sensational features as would merely arouse wonder, without leading to inquiry and improvement of the mind. The choice of the attractions offered by all the nations and peoples of the world, the classification of the exhibits, and the work of organization, from first to last, were all guided by this motive,— a determination to present a great object lesson to the world in its departments of art, science, industry, intellect, and religion.

But in order that education should derive the greatest advantage from this storehouse of human knowledge, a textbook is necessary, and fortunately there is one work which has clearly earned its title to that distinction. "THE BOOK OF THE FAIR," by Hubert Howe Bancroft, is for all educational purposes better than the Fair itself, just as one can learn more from a good book on geology than from even the everlasting hills. "THE BOOK OF THE FAIR" presents the entire Exposition within reasonable limits, in a clear and condensed manner, and in permanent form. He who has this book has the Fair always with him, and may draw from it as from a living spring of knowledge.

A CURIOUS article entitled, "Where the Teak-Wood Grows," by Mrs. Marion Manville Pope, appears in the *Century* for October, illustrated with pictures from photographs of elephants that work in the teak-wood yard at Rangoon, Burmah. The article is occupied with a description of the teak-wood industry, and incidentally draws a painful contrast between the foresight of the government of Burmah and the neglect of the United States in the matter of forest preservation. Dr. Ernest Hart, editor of the *British Medical Journal*, who has given much attention to hypnotism, spiritualism, etc., presents in this number, under the title of "The Eternal Gullible," the confessions of a professional "hypnotist," showing to what an extent hypnotism has become a business in London. Dr. Hart says: "While, however, admitting, as I have already said, that hypnotism is a reality, I repeat that the great bulk of the 'phenomena' described by observers, reputed to be 'scientific,' is founded on imposture. What is true in hypnotism is not new,— for it is only old-fashioned mesmerism masquerading under a newly-coined Greek name,— nor is it of any practical use to mankind. The 'cures' attributed to its agency are exactly similar to those wrought by 'faith-healing,' when they are not altogether imaginary." Prince Serge Wolkonsky also contributes a note on the Parliament of Religions at the World's Fair, to which he was a delegate from Russia. It is in the nature of a plea for a wider toleration than has thus far obtained in the religious world.

THE *Quarterly Illustrator* for October, November, and December, gathers in a store of summer memories. Through its pages one may live the outdoor season over again with any of the two or three hundred artists to whose near and distant haunts it shows the way. And yet the *Quarterly Illustrator* does not confine itself entirely to summer. Louis Moeller, whose subjects range through all the seasons of life rather than of the year, furnishes the frontispiece of this brisk number; and his illustrations accompany a terse, comprehensive criticism by F. Wellington Ruckstuhl. In another forcible article Clarence Cook laments the tendency of clever Americans to expatriate themselves, and give to foreign subjects the ability which, by staying among its own people, might Americanize American art.

B. O. FLOWER, the Editor of the *Arena*, writes a strong paper in the October number, on the increase of the military spirit in the United States. On the question of militarism Mr. Flower is a Quaker, and he would like to see in our American democracy a resort to arbitration and reason for the settlement of all domestic and foreign troubles. He believes with Hosea Biglow, "As for war, I call it murder;" and he views the increase of militarism in our schools, and the multiplication of armories in our cities as a discouraging sign that there still lurk depths of barbarism beneath the drama of civilization even in America, and that, as St. Beuve pointed out, we are but twenty-four hours from savagery and carnage.

PUBLISHERS' DEPARTMENT.

THE desire of the managers of the Sanitarium is, and the aim of the conductor of this journal will be, to make GOOD HEALTH for 1895 surpass all its predecessors in interest and value. One of its attractions for the coming year will be a series of illustrated articles on Sloyd, by Mrs. Mattie F. Stearns, the superintendent of Sloyd work at the Haskell Home, Battle Creek, Mich. Mrs. Stearns is a genius in her line, and will make the subject of Sloyd not only interesting but profitable for both old and young.

Another interesting feature of the journal for 1895 will be a series of articles by Mrs. Frances M. Steele, of Chicago, on various subjects pertaining to woman's dress. Mrs. Steele has given much attention to this subject, and is one of our most talented, interesting, and instructive writers upon this important subject.

***

THE Battle Creek Sanitarium has a full complement of patients for the season. Notwithstanding the hard times, a sufficient number of people will insist upon being sick to keep the institution well supplied. The managers are doing their utmost to conduct the institution in such a manner as to secure the greatest good for the greatest number in the shortest possible time. There has never been a time in the history of the institution when a sick person could accomplish so much at so small an expense and in so little time in the way of getting well, as now. Numerous improvements, appliances, and conveniences have been added from time to time, and it is safe to say that of those who visit the institution, those who have had the largest opportunity for observation, either in this or foreign countries, are certain to be the most contented and best satisfied with the advantages offered.

***

THE following note relative to a recent entertainment for the Sanitarium patients was handed us with a request to publish, by one of the guests at the reception referred to below: —

"The Sanitarium patients recently gathered by invitation and spent a delightful evening at Dr. Kellogg's spacious new residence, 'The Oaks,' on Manchester St. Carriages ran between the Sanitarium and 'The Oaks,' bringing those who wished to attend the reception, and there were very few of those able to get out who did not avail themselves of the opportunity. The reception was an exceedingly informal and home-like gathering. Clusters of oak leaves on the bough, touched with October's crimson, were disposed here and there throughout the rooms, and with a few potted plants formed the only decoration. The general combination of simplicity and good taste in the different features of the entertainment, combined with the cordial welcome given, and the careful and courteous attention of the host and hostess, made the occasion a highly enjoyable one to the guests. The various departments of the household were thrown open to the inspection of those who were more especially interested in the kind of work done in each, and were a revelation of orderliness and convenience.

It was interesting to notice that the groups of visitors were larger in the kitchen and basement than in the library and reception rooms. Careful housewives gathered many new and exceedingly practical ideas from the general management of the former places, while in the latter the museum, filled with curios from various parts of the world, attracted many on-lookers. The Sloyd room particularly received much attention. An evening class was in session, and the obliging teacher went over and over the explanation of the principles underlying this system of mechanical training to the visitors, who came and went, often returning again with others, or to ask fresh questions. The pretty finished specimens, the different patterns, the blackboard drawings, as well as the work the children were engaged upon, all were carefully examined, for, to many of the visitors, this branch of educational work was comparatively new.

"In this way, and with music and conversation, the evening passed all too quickly, and the guests returned home in time to observe the Sanitarium rules in regard to retiring, many of them with new ideas to work out when they go to their own homes, and all with the consciousness of a pleasant break in the round of Sanitarium events."

***

NEW SANITARIUMS.—The popularization of medical knowledge among the people within the last few years has greatly increased the appreciation of the need of medical institutions in which the sick shall be trained into health. The public, as well as educated physicians, have come to see the folly of undertaking to atone for one's physical sins by the swallowing of a few drops of some medicinal compound. It is now better understood than formerly that health is the result of right living, and that ill health is the result of the transgression of physical laws. Chronic disease is the result of a constitutional change effected by bad conditions of life or erroneous habits. For the correction of the morbid states of present chronic diseases, a more or less prolonged course of training, including correct diet, proper rest, systematic bathing, and the application of the various rational methods of treatment known to the modern physician, is, in the majority of cases, essential. These advantages are obtainable only in a first-class, scientifically conducted sanitarium. The Battle Creek Sanitarium has won so wide a reputation for the treatment of chronic invalids that urgent demands have for years been made upon the managers for the establishment of branch institutions in various parts of the country. It has been impossible to meet these demands heretofore, in consequence of the lack of well-trained and experienced men to fill positions as managers and physicians. This lack no longer exists to such a degree as formerly, and consequently steps have been taken for the establishment of these institutions at points where they seem to be greatly needed. All these branch establishments are to be under the direction of the S. D. A. Medical Missionary Board, which has the general direction of the Sanitarium at Battle Creek, the Haskell Home, the Chicago Mission, and connected enterprises.

***

ARRANGEMENTS have been recently perfected for the opening of a sanitarium at College View, Neb., one of the suburbs of Lincoln, the capital of the State. The nucleus of this enterprise is a fine building and grounds donated for the purpose by A. R. Henry, Esq., of Battle Creek, Mich. Mr. Henry has long been one of the managers of the Battle Creek Sanitarium, and, as a member of the Board of Managers, he has been greatly interested in the principles represented by this institution. His generous gift has interested a number of others in the enterprise, and it is expected that within a few weeks of the present time a small institution will be opened at College View, with Dr. A. N. Loper as physician. Dr. Loper was for some time connected with the Sanitarium at Battle Creek, first as a student, later as a physician, and is prepared to do excellent work.

The demand for a branch sanitarium in Colorado has been long and loud. About a year ago a Hygienic Boarding House, known as The Sanitarium Boarding Home, was opened at Boulder, Colo. The success of the enterprise has been so great that the first little cottage in which work was begun has been exchanged for a larger building, and two other buildings have been hired for the accommodation of patients. The time has evidently come when a physician is needed in connection with the work, and it is now expected that Dr. O. G. Place, for several years connected with the Battle Creek Sanitarium, will be on the ground to take hold of the work in connection with this enterprise within a few weeks of the present time.

***

BATTLE CREEK SANITARIUM HEALTH FOODS.—These foods, which have now been in the public mouth, so to speak, for nearly eighteen years, have won for themselves an unsurpassed reputation. Tons of these excellent preparations are shipped from the Sanitarium Health Food department every week. Orders are received from all parts of the United States, from Europe, and even from distant parts of the world. Granola, one of the favorite preparations, is unquestionably the best food, ready for use, which has ever been devised. It is incomparably superior to any similar preparation, and has no competitors. A nice catalogue with price list has been issued, and will be sent to any address on application to the Sanitarium Food Co., Battle Creek, Mich.

***

WINTER TOURS VIA THE MICHIGAN CENTRAL.—November 1, the Michigan Central placed on sale round-trip tickets to all the principal winter resorts in Florida, Georgia, South Carolina, Alabama, Louisiana, Mississippi, Texas, and New Mexico. Tickets will be on sale until April 30, 1895, and limited for return until June 1, 1895. For full particulars, rates, etc., call on or write to Geo. J. Sadler, ticket agent, Battle Creek, Mich.

***

ALWAYS IN THE LEAD.—The handsomest illustrated brochure of the season has just been issued by the General Passenger Department of the Chicago, Milwaukee & St. Paul Railway, giving a woman's opinion of the compartment sleeping cars run on the solid vestibuled electric-lighted trains of that line between Chicago, Milwaukee, Kilbourn City (the Dells of Wisconsin), La Crosse, Winona, St. Paul, and Minneapolis. It contains a time-table of express trains to and from points above named, as well as between Chicago, Cedar Rapids, Sioux City, Council Bluffs, and

Omaha. It gives the sleeping and parlor car rates between Chicago and the principal cities west.

Write to Harry Mercer, Michigan Passenger Agent, 82 Griswold Street, Detroit, Mich., for one of these charming little pamphlets, and a new map of the United States furnished free.

* *
*

COMFORT IN TRAVEL.

A CHARMING little illustrated brochure with the above title has just been issued by the Michigan Central R. R. Company, in the interests of its elegant and commodious passenger service. The tiny booklet is a marvel of good taste and mechanical execution, and its dainty pictures — each a gem in its way — show many of the comforts and luxuries furnished by the Company for its patrons while en route, and give also a variety of choice landscape views on its great through lines of travel. Comparing the railway travel of the present day with its luxury of Wagner sleeping coaches by night and parlor cars by day, with the dust and cinders, the heat, the cold, and the general disagreeableness of a journey thirty years ago, the writer says: —

"There were no vestibuled platforms then, no automatic air brakes, no steam heat and perfected system of ventilation, no Pintsch light illuminating the car with its soft radiance. And the wildest Utopian never dreamed of dining in elegance, luxury, and leisure while the train sped ceaselessly onward. These are comforts and luxuries which the traveler on the Michigan Central has become so accustomed to that he takes them as a matter of course, without a thought of the days when they were not, nor of the labor and skill, the expenditure and vigilance, that have made them possible, until he has the misfortune to travel over a less favored line. These, in their entirety, are not to be suddenly obtained, even by princely expenditure. They are evolved during a long series of years, and attain their chief value by being operated by a well-trained and disciplined corps of faithful, experienced, and vigilant officials, who bring to bear at once the highest degree of ability with the greatest courtesy to the traveling public."

To those who have had but little experience in traveling, or who have taken no extended journeys during the last few years, the following description of the ideal comfort and unnumbered conveniences of a Wagner Palace Sleeping Car will read like a chapter from a fair tale. These coaches run through between the great centers without change, so that the one great dread of the inexperienced traveler, "changing cars," is at once obliterated.

"Nothing could be finer, nothing more luxurious or in better taste, than these cars, which are triumphs of skill and of art in their construction and furnishing. One of these is a Private Compartment Car, which certainly represents the ideal mode of conveyance. Surrounded by all the comforts and much of the elegance of home, it seems as if every possible want of the traveler had been anticipated. The space is divided into elegant private rooms,— five on each side of the car,— entered from a hall running along the side. Each compartment is provided with complete toilet arrangements, lavatory with hot and cold water, electric bells, and a handsome gas chandelier. There is additional room for a table, where one can write letters if desired. Sliding doors connect several of the compartments, permitting them to be arranged en suite, for the convenience of families or parties of friends. It is impossible to describe adequately the beautiful upholstery or furnishings of the car, its cabinet work, in which is represented a variety of the rarest and most expensive woods, its silken hangings, or the manifold devices which contribute so much to the comfort of the occupant. The Compartment Car became quickly established in popular favor, especially with ladies, by whom privacy and dainty surroundings are particularly appreciated.

"In the standard Sleeping Cars the drawing-rooms have also their private lavatories; the toilet rooms are unusually spacious and convenient; the whole train is provided with electric communication, illuminated by the Pintsch light, heated in winter by steam from the engine, and, in short, is complete in every detail. The train, too, is vestibuled from end to end, making it a series of richly decorated apartments, connected by carpeted and well-lighted passage ways, enabling one to pass from car to car with the same ease and safety as from room to room."

The Michigan Central also runs first-class day coaches, which are as perfect in their way, and as comfortable, not to say luxurious, as parlor cars. In the Dining Car one finds the same evidence of lavish expenditure, governed by a refined taste and an especial regard for comfort. Snow-white napery, sparkling crystal, fine china, and bouquets of flowers adorn the tables. To dine well and leisurely at ease is a pleasure which is further enhanced by the beautiful scenery that constantly glides by the eyes of the passenger on the Michigan Central. There is also a barber shop in the forward coach, and adjoining his small but thoroughly equipped apartment there is a bathroom in which one may take his bath at the rate of fifty miles an hour.

A strong feature of the Michigan Central is its extensive through-car system, by which passengers may reach all important points with but little, if any, change in cars,— a convenience which is appreciated by all travelers, but especially by families and by ladies traveling unattended. These through coaches are of the finest character and construction. They run not only between Chicago, Detroit, Buffalo, New York, and Boston, over the Michigan Central's Main Line and New York Central & Hudson River and Boston & Albany Railroads, but also between St. Louis and New York *via* the Wabash and New York Central, and St. Louis and Boston *via* the Wabash, West Shore, and Fitchburg R. R.

From Detroit, the center of the Michigan Central system, through cars run south to Cincinnati, over the C., H. & D., and north to the Saginaw Valley and Straits of Mackinaw, and westward to Grand Rapids. They run also between Chicago and Grand Rapids and Muskegon over the C. & W. M. and G. R. & I. roads, and in summer time these lines are extended to Charlevoix, Petoskey, Bay View, and Mackinaw.

One of the most important of these through car lines is that running from Chicago to Portland, Me., passing through the heart of the White Mountains by daylight; while another line runs also from Chicago *via* Niagara Falls to Clayton at the head of the St. Lawrence.

J. FEHR'S

"COMPOUND TALCUM"

"BABY POWDER,"

The "Hygienic Dermal Powder" for Infants and Adults.

Originally investigated and its therapeutic properties discovered in the year 1868 by Dr. Fehr and introduced to the Medical and the Pharmaceutical Professions in the year 1873.

COMPOSITION.—Silicate of Magnesia with Carbolic and Salicylic Acid.

PROPERTIES.—Antiseptic, Antizymotic, and Disinfectant.

USEFUL AS A GENERAL SPRINKLING POWDER,

With positive Hygienic, Prophylactic, and Therapeutic properties.

GOOD IN ALL AFFECTIONS OF THE SKIN.

Sold by the Drug Trade generally. Per Box, plain, 25c.; perfumed, 50c.; Per Dozen, plain, $1.75; perfumed, $3.50.

THE MANUFACTURER:

JULIUS FEHR, M. D., Ancient Pharmacist,

HOBOKEN, N. J.

Only advertised in Medical and Pharmaceutical prints.

NON-ALCOHOLIC KUMYSS

AFTER careful and long-continued experiments, we have devised a method of preparing kumyss which is not only free from alcohol, but also possesses other advantages of a superior character. Ordinary kumyss contains a considerable amount of alcohol, due to the fermentation of cane sugar, which is added for the purpose of producing carbonic acid gas. The amount of alcohol depends, of course, upon the amount of sugar added and the age of the kumyss. The sugar is made to ferment by the addition of yeast. Kumyss made in this way contains yeast alcohol, and, if the alcoholic fermentation is not complete, a variable quantity of cane sugar. In addition, ordinary kumyss contains a variety of toxic substances, resulting from the development of the miscellaneous microbes which are usually found in milk.

The improved form of kumyss which we offer is made from sterilized milk, and by processes which render it absolutely uniform in quality. The method of manufacture is such that its constituents are definite and constant. It is more palatable than ordinary kumyss, in consequence of the absence of foreign microbes, and is particularly suited to cases in which milk in its ordinary form disagrees with the patient, and in which so-called "biliousness" is a troublesome symptom. Cases of hypopepsia are rapidly benefited by it. It is also of great service in the treatment of gastric neurasthenia, or nervous dyspepsia.

It is extensively used in some of the largest medical institutions in the country, and has received the highest commendation from those who have investigated its merits. This kumyss is put up in pint and quart bottles, and will be shipped to any address at the following price: —

Pint Bottles, per doz., - - $2.00.

Sanitarium Health Food Co.,

BATTLE CREEK, MICH.

INVALID CHAIR CUSHION.

This cushion adds all the comfortable effects of upholstering to any ordinary chair, as it covers both the seat and the back. Will adjust itself readily to a wheel-chair, as well as to ordinary chairs and rockers.

CARRIAGE  CUSHIONS.

RUBBER BATH TUBS.

When a bath tub is obtainable that can be folded up and carried in an overcoat pocket, no one need be without the facilities for bathing. When inflated, this tub is perfectly stable, although made entirely of rubber. Its many advantages will be apparent when it is considered that it may be used in any room, and afterward folded up and tucked away in a drawer.

Prices on Application.

SANITARY AND ELECTRICAL SUPPLY CO., BATTLE CREEK, MICH.

CHICAGO & GRAND TRUNK R. R.

Time Table, in Effect June 3, 1894.

GOING EAST. Read Down.						STATIONS.	GOING WEST. Read up.					
10 Mail Ex.	8 Erie Lim.	4 L't'd Ex.	6 Atl. Ex.	42 Mixd Tr'n.	2 Pt. H Pass		11 Mail Ex.	1 Day Ex.	3 R'd L't'd	23 B. C. Pass.	7 Erie L't'd	9 P'fic Ex.
a m	a m	p m	p m				p m	p m	pm		p m	a m
8.40	11.25	3.10	8.15	a m	.....	..D.Chicago A..	7.28	4.50	9.10	.....	10.30	8.00
11.10	1.20	5.05	10.30	6.00	.....	...Valparaiso...	5.05	2.45	7.10	.....	8.30	5.45
p m												
12.40	2.35	6.30	12.00	10.05	.....	..South Bend..	3.10	1.20	5.44	.....	7.10	4.10
1.29	3.07	7.12	12.45	12.40	.....	...Cassopolis ..	2.15	12.40	5.18	.....	6.30	3.28
2.21	.....	.....	†1.33	3.42	.....	..Schoolcraft..	1.20	12.02	.....	.....	.....	.....
2.33	.....	7.55	1.48	4.50	a m	...Vicksburg...	1.10	11.53	.....	p m	.....	2.37
3.40	4.30	8.36	2.40	6.20	7.00	..Battle Creek:	12.25	11.15	3.55	9.35	5.18	1.50
4.33	5.11	9.26	3.25	.....	7.47	....Charlotte...	11.14	10.29	3.07	8.40	4.33	12.53
5.10	5.40	9.55	4.00	.....	8.20	....Lansing....	10.40	10.02	2.40	8.00	4.03	12.20
6.30	6.30	10.45	5.03	.....	9.30	.....Durand....	9.35	9.05	1.55	6.50	3.20	11.28
7.30	7.05	11.17	5.40	.....	10.05	.....Flint.....	8.35	8.35	1.28	5.47	2.53	10.35
8.15	7.35	11.50	6.15	.....	10.43	.... Lapeer....	7.49	8.02	1.00	5.10	2.25	10.01
8.42	.....	a m	6.35	.....	11.06	...Imlay City...	7.28	.....	.....	4.48	.....	.....
9.50	8.45	1.00	7.30	.....	12.05	Pt. H'n Tunnel	6.25	6.50	11.55	3.50	1.20	8.45
	p m	p m					a m	a m	a m	p m	p m	p m
9.25	9.25	.....	.....	.....	.....	.... Detroit.....	.....	6.40	10.40	34.05	....	8.45
	a m	a m	p m					p m			a m	p m
.....	8.40	8.30	5.25	.....	.....	.... Toronto....	.....	10.10	.....	.....	7.20	1.00
	p m	p m	a m					a m			p m	
.....	8.05	7.50	7.25	.....	.....	... Montreal ...	.....	6.00	.....	.....	10.15	.....
	a m	a m	p m					p m			a m	
.....	8.12	8.12	7.15	.....	.....	.....Boston.....	.....	7.30	.....	.....	11.30	.....
	a m	a m	p m					a m	a m		a m	p m
.....	3.05	7.55	4.25	.....	.....	.Susp'n Bridge.	.....	1.20	7.05	.....	8.40	2.25
	a m	a m	p m					a m			a m	p m
.....	4.15	8.30	5.40	.....	.....	.....Buffalo.....	.....	12.00	.....	.....	6.15	1.00
	p m	p m	a m					a m	p m		p m	p m
.....	4.52	9.23	8.03	.....	.....	...New York...	.....	8.20	6.10	.....	5.00	8.00
		a m	a m								p m	p m
.....	.....	8.12	10.20	.....	.....	.....Boston.....	.....	.....	.....	.....	3.00	7.00

Trains No. 1,3,4,6,7,8,9, run daily; Nos. 10, 11, 2, 23, 42, daily except Sunday.

All meals will be served on through trains in Chicago and Grand Trunk dining cars.

Valparaiso Accommodation daily except Sunday.

Way freights leave Nichols eastward 7:15 a. m.; from Battle Creek westward 7:05 a. m.

† Stop only on signal.

A. B. MCINTYRE, *Asst. Supt., Battle Creek.*

A. S. PARKER, *Pass. Agent, Battle Creek.*

MICHIGAN CENTRAL

"The Niagara Falls Route."

Corrected Aug. 12, 1894.

EAST.	*Night Express.	†Detroit Accom.	†Mail & Express.	*N. Y. & Bos. Spl.	*Eastern Express.		*Atl'antic Express.
STATIONS.							
Chicago.....	pm 9.30		am 6.50	am 10.30	pm 3.30		pm 11.30
Michigan City.	" 11.35		8.50	pm 12.17	5.20		am 1.19
Niles	am 12.45		10.15	1.15	6.25		2.45
Kalamazoo	2.15	am 7.20	11.55	2.30	7.40		4.35
Battle Creek...	3.00	8.10	pm 12.50	3.05	8.18		5.22
Jackson.....	4.30	10.00	2.55	4.20	9.35		6.50
Ann Arbor.....	5.40	11.05	4.05	5.10	10.25		7.47
Detroit.....	7.10	pm 12.20	5.30	6.10	11.25		9.20
Buffalo.....				am 12.25	am 6.45		pm 5.20
Rochester.....				3.17	9.55		9.00
Syracuse.....				5.15	pm 12.15		10.45
New York.....				pm 1.45	8.45		am 7.00
Boston				4.15	11.45		10.50

WEST.	*Night Express.	*N.Y. Bos. & Chi. Sp.	†Mail & Express.	*N. Shore Limited.	*Weste'n Express.	† Kalam. Accom.	*Pacific Express.
STATIONS.							
Boston		am 10.30		pm 2.00			pm 7.15
New York.....		pm 1.00		4.30	pm 6.00		9.15
Syracuse.....		8.25		11.25	am 2.10		am 7.20
Rochester.....		10.25		am 1.17	4.10		9.55
Buffalo.....		11.20		2.20	5.30		pm 3.30
Detroit.....	pm 8.45	am 6.05	am 7.20	8.30	pm 12.55	pm 4.35	am 11.10
Ann Arbor.....	10.25	7.05	8.43	9.25	1.53	5.57	am 12.15
Jackson.....	11.40	8.10	10.43	10.30	2.55	7.35	1.25
Battle Creek...	am 1.17	9.20	pm 12.15	11.43	4.13	9.13	2.55
Kalamazoo	2.10	9.58	1.00	pm 12.22	4.52	10.00	3.36
Niles.....	4.00	11.13	3.00	1 40	6.14		5.00
Michigan City.	5.09	pm 12.10	4.25	2.45	7.13		6.00
Chicago.....	7.10	2.00	6.35	4.30	9.00		7.50

†Daily. †Daily except Sunday.

Kalamazoo accommodation train goes west at 8.05 a.m. daily except Sunday.
Jackson " " east at 7.27 p. m. " "

Trains on Battle Creek Division depart at 8.10 a. m. and 4.20 p. m., and arrive at 12.10 p. m. and 7.15 p. m. daily except Sunday.

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

GEO. J. SADLER, Ticket Agent, Battle Creek.

The Volatilizer

A NEW INSTRUMENT FOR THE TREATMENT OF

CONSUMPTION, COLDS, COUGHS, NASAL CATARRH, AND ALL CHRONIC DISEASES OF THE NOSE, THROAT, AND LUNGS.

This instrument, which is the result of long experience in the use of medicaments in the treatment of various affections of the air passages, is intended for the purpose of applying medicated air to the nose, throat, lungs, eustachian tubes, and ears. It has been tested in the treatment of a large number of cases at the Battle Creek Sanitarium and elsewhere, and is believed to be the most effective instrument for the purpose which has been devised. It is comparatively inexpensive and durable, being made of nickeled copper, so it is scarcely possible for it to get out of order.

A Nebulizer and Volatilizer Combined.

A nebulizing tube accompanies the instrument, so that if for any reason the use of a Nebulizer is desired, the instrument can be used for this purpose also, so it is not only a Volatilizer but a Nebulizer as well.

A list of formulæ adapted to different conditions accompanies each instrument.

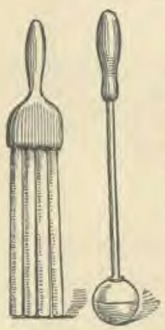
PRICES:

Spun Brass, Nickel Plated, Complete, -	$2.50
Without Bulb and Nebulizing Tube, -	1.50
When sent by mail, add for postage, -	.12
Solutions for use with Volatilizer, per oz.,	.20

SANITARY AND ELECTRICAL SUPPLY CO.,

BATTLE CREEK, MICHIGAN.

Muscle-Beaters



SIMPLE, cheap, and efficient instruments for securing some of the effects of massage. By their habitual use one can obtain most beneficial results without the aid of an expert.

SEND FOR CATALOGUE.

SANITARY AND ELECTRICAL SUPPLY CO.,

Battle Creek, Michigan.

Cannon-Ball Massage

CANNON BALLS are effective in combating certain forms of disease, as well as in destroying life. An eminent German physician discovered a few years ago that by means of a cannon ball covered with leather a patient suffering from inactive bowels may often effect a cure by the regular use of the cannon ball, rolling it along the course of the colon, beginning low down at the right side. This remedy has been in successful use for many years at the Battle Creek Sanitarium.

Send for Catalogue. **SANITARY AND ELECTRICAL SUPPLY CO.,** Battle Creek, Mich.

A Natural Flesh Brush

This is the product of an Egyptian plant called the Loofah, or dish-rag gourd, which grows along the Nile. It excels every other natural or artificial product for use as a flesh brush. Conveniently arranged with tapes, as shown in the cut, it can be applied to every part of the body. It will last indefinitely.

SEND FOR CATALOGUE.

SANITARY AND ELECTRICAL SUPPLY CO., BATTLE CREEK, MICH.

The Umschlag

ONE of the most useful inventions of Dr. Priessnetz, the father of modern hydropathy, was the umschlag, or heating compress, as it is sometimes called by the Germans. There is no better remedy for indigestion, inactive bowels, or sleeplessness, than this simple measure, when properly applied. The umschlag consists of a properly-adjusted bandage, moistened and worn about the body at night, to be replaced by a dry bandage during the day.

Send for Catalogue.

SANITARY AND ELECTRICAL SUPPLY CO., BATTLE CREEK, MICH.

SANITARIUM

TWO CELL
THREE CURRENT

MEDICAL BATTERY

The Advantages Claimed for this Battery Are:

Efficiency, Durability,
Simplicity of Construction,
Ease of Management,
Cleanliness, and lastly,
Small Cost of Maintenance.

THE CELLS HAVE THE FOLLOWING ADVANTAGES:

The elements are zinc and carbon.
The excitant is a solution of muriate of ammonia (sal ammoniac) and water.
There are no fumes or strong acids to corrode battery parts.
They will run for medical purposes many months without the slightest attention.
There is no consumption of the zinc element when battery is at rest.
They are perfectly sealed, so that evaporation is impossible.
High electro-motive force. Small internal resistance. Great power of recuperation.

Price, with Electrodes, complete, $10.00.

SANITARY AND ELECTRICAL SUPPLY CO.,

BATTLE CREEK, MICHIGAN.

HEALTH FOODS

In the effort to meet the necessities of a large Sanitarium, with its great variety of patients, we have produced a number of food preparations adapted to different diseased conditions, the merits of which are such as to secure for them a very large and increasing sale, not only to persons belonging to the invalid class, but those who wish by "good living" to avoid disease. The following are the leading preparations: —

	Cts. per lb.
Oatmeal Biscuit	12
Medium Oatmeal Crackers	10
Plain Oatmeal Crackers	10
No. 1 Graham Crackers	10
No. 2 Graham Crackers	10
Plain Graham Crackers, Dyspeptic	10

	Cts. per lb.
Water Crackers	10
White Crackers	10
Whole-Wheat Wafers	10
Gluten Wafers	30
Rye Wafers	12
Fruit Crackers	15
Carbon Crackers	15

	Cts. per lb.
Wheat Granola (bulk 10)	12
Avenola (bulk 10)	12
Granola (bulk 10)	12
Gluten Food No. 1	50
Gluten Food No. 2	40
Gluten Food No. 3	20
Infant's Food	50

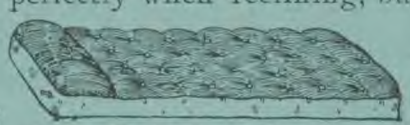
Sample packages containing specimens of each of our foods sent postpaid for 50 cents. Selected samples, 25 cents.

All grain preparations can be supplied in large or small lots, as we keep a fresh supply constantly on hand of goods which are largely made expressly for us, of a superior quality of grain. Address

SANITARIUM HEALTH FOOD CO., BATTLE CREEK, MICH

AIR MATTRESSES.

THE Air Mattress has proved itself to be unequaled for *comfort and durability*. Not only does it fit the form perfectly when reclining, but may easily be made hard or soft by regulating the quantity of air contained. It is always perfectly clean, free from vermin or unpleasant smells. It requires no springs, as nothing is more elastic than air; and it is always "made up." It is cool and soothing in summer, and warm and comforting in winter. In cases of sickness it is indispensable, as it prevents bed-sores.



MADE IN ALL SIZES.

This cut shows Camp Mattress folded  in a shawl-strap ready for traveling.

PRICES ON APPLICATION.

SANITARY AND ELECTRICAL SUPPLY COMPANY,

BATTLE CREEK, MICHIGAN.

MEDICAL AND SURGICAL SANITARIUM,

BATTLE CREEK, MICH.

The Oldest and Most Extensive Sanitarium Conducted on Rational and Scientific Principles, in the United States.

SPECIAL ADVANTAGES:

An elevated and picturesque site. Remarkably salubrious surroundings.
Baths of every description.
Electricity in every form.
Massage and Swedish Movements by trained manipulators.
Pneumatic and Vacuum Treatment.
All sorts of Mechanical Appliances.
A fine Gymnasium, with trained directors.
Classified Dietaries.
Unequaled Ventilation, perfect Sewerage.
Artificial Climates created for those needing special conditions
Thoroughly Aseptic Surgical Wards and Operating Rooms.
All Conveniences and Comforts of a First-Class Hotel.
Incurable and Offensive Patients not received.

Not a "Pleasure Resort," but an unrivaled place for chronic invalids who need special conditions and treatment not readily obtainable at home.

For Circulars, address,

SANITARIUM, BATTLE CREEK, MICH.