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GOOD



HEALTH

CONDUCTED
BY

J. H. KELLOGG M.D.

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NATIVES OF MADAGASCAR.

(From La Tour du Monde.)



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BIOGRAPHICAL HEALTH STUDIES.

BY F. L. OSWALD, M. D.

Author of "Physical Education," "The Bible of Nature," etc.

1.—John Tyndall.

A HISTORIAN of the Argentine Republic records a memorable anecdote about the last Spanish Viceroy, whose troops had been worsted in eight successive engagements with the Patriots, or "Rebels," as the Spaniards preferred to call them.

"Can't we fathom their system and take our measures accordingly?" asked the Virey in a private interview with one of the defeated generals.

"They have no system at all, sir," said the general; "they are mere bush whackers, without the slightest idea of the true art of war."

"I wouldn't be too sure of that," said the Virey; "it strikes me that men who have won eight out of ten fights against superior numbers must have contrived to master the art of war in some important particulars."

For similar reasons we should be cautious in condemning the hygienic principles of men who have managed to preserve their health for a long number of years under circumstances of exceptional difficulty. The partisans of the extreme vegetarian school, for instance, were scandalized to learn that John Tyndall, the coryphæus of science, was avowedly fond of milk and eggs; but a plurality of those same dietetic Puritans were probably slaves of sanitary superstitions from which the British Humboldt had thoroughly freed himself and many of his personal acquaintances. "The sun was very hot," he describes an episode in his ascent of the Titlis Alps, "but there was a clear rivulet at hand, deepening here and there into pebbled pools, into which I

plunged at intervals, causing my guide surprise, if not anxiety; for he shared the common delusion that bathing when hot, in cold water, is dangerous. The danger, and a very serious one it is, is to plunge into cold water when *cold*. The strongest alone can then bear immersion without danger."

The sanitary confession of faith implied in these few lines clearly recognizes the principle destined to effect a reform of our entire system of physical education, viz., the trustworthiness of our natural instincts. From numerous passages in Tyndall's chronicle of his summer journey, it is equally certain that he had recognized the absurdity of the cold drink superstition—the alleged danger of counteracting the heat of the midsummer sun by quenching the thirst with cold spring water. Tyndall's physiological rationalism, as well as his practical experience, convinced him and several of his traveling companions that a draught of nature's beverage must be most salutary at the very time when the voice of instinct calls out most loudly for it; and like Herbert Spencer, he probably refused to believe that "this universe of ours has been contrived on the diabolical principle of making evils attractive and blessings repulsive."

John Tyndall was born in 1820, at Leighlin Bridge, Ireland, in the grassy valley of the Barlow, with the Black Stairs mountains on one side and the "Cones" on the other, next to the neighborhood of Lismore Castle, perhaps the most picturesque district of the Emerald Isle. Cromwell's colonists settled here in

force, three hundred years ago, and Tyndall's father called himself a "Saxon by descent, though an Irishman by geographical accident." There were two Tyndalls, or Tindals, among the British scholars of the Middle Ages, one a reformer and martyr, the other an outspoken freethinker, and it is possible that the ancestor of the great naturalist hunted deer at Tyndall Hill in the Norfolk haunts of Robin Hood, and thus laid the foundation of that passion for outdoor sports which he ascribes to hereditary influences.

"I have sometimes tried to trace the genesis of that interest in fine scenery," he says in the preface of his "Hours of Exercise." "It cannot be wholly due to my own early associations, for as a boy I al-

teristics of dissimilar ancestors, and John Tyndall seems to have combined the perseverance, love of nature, and intellectual candor of the Teutonic races with a good deal of solid humor and combativeness.

The "geographical accident" of his birth was not propitious to the cause of teetotalism, but after his fourteenth year Tyndall was too busy to find time for convivial excesses; he seems instinctively to have recognized the fact that his success in life depended upon the activity of an unclouded brain, and besides he had rather early in life adopted the theory that the habitual use of strong liquor would invalidate their remedial effectiveness, and he at last used alcohol sparingly, as a medicine of rather doubtful value, and in no sense to be included among the necessities of daily life.

His friends often accused him of gross intemperance in the indulgence of his passion for outdoor exercise, and Tyndall would have been obliged to plead guilty to several specifications of that indictment, if he had not often noticed the suggestive fact that recovery from the effects of extreme physical fatigue is apt to mediate recovery from other bodily ailments, such as asthma, insomnia, and indigestion. "Exhaustion," as he expresses it, "brings on a deep, trance-like sleep, which gives the *vis medicatrix nature* a chance to perform her work unhindered." His school teacher



TYNDALL'S PEAK AND THE MATTERHORN.

ready loved nature, and hence to account for that love, I must fall back upon something anterior to my own birth. There was a time when the most pleasurable activities of our race were among the mountain woods and waters, and I infer that the transmissions of that time must have come down with considerable force to me."

Tyndall's father was a zealous Protestant, with his political sympathy mostly on the other side of St. George's channel; still it is probable that the boy had Celtic blood in his veins, and happened to draw a prize in the hereditary lottery of mixed races. The offspring of race mixtures may inherit only the worst traits of his ancestors, or else the brightness transmitted from one side may be obscured by reflex shades from the other. But now and then a child of international affinities may inherit the best charac-

teristics of dissimilar ancestors, and John Tyndall seems to have combined the perseverance, love of nature, and intellectual candor of the Teutonic races with a good deal of solid humor and combativeness. The "geographical accident" of his birth was not propitious to the cause of teetotalism, but after his fourteenth year Tyndall was too busy to find time for convivial excesses; he seems instinctively to have recognized the fact that his success in life depended upon the activity of an unclouded brain, and besides he had rather early in life adopted the theory that the habitual use of strong liquor would invalidate their remedial effectiveness, and he at last used alcohol sparingly, as a medicine of rather doubtful value, and in no sense to be included among the necessities of daily life. His friends often accused him of gross intemperance in the indulgence of his passion for outdoor exercise, and Tyndall would have been obliged to plead guilty to several specifications of that indictment, if he had not often noticed the suggestive fact that recovery from the effects of extreme physical fatigue is apt to mediate recovery from other bodily ailments, such as asthma, insomnia, and indigestion. "Exhaustion," as he expresses it, "brings on a deep, trance-like sleep, which gives the *vis medicatrix nature* a chance to perform her work unhindered." His school teacher encouraged his penchant for practical mathematics that proved very useful when the county of Leinster was invaded by scores of railway surveyors, in quest of hardy assistants, and in 1839 he secured employment under the managers of the Irish Ordnance Survey, with unlimited opportunities for foot tours and hilltop camps. "As long as he could rely on a chance for a night's rest, indoors or outdoors," says one of his friends, "he did not mind fatigues in any form whatever, and he seemed to be weather-proof,—proof, at least, against the climatic vicissitudes of our latitude. In a streaming rain he would volunteer to carry a message to a distant hill camp, and continue his geometrical labors in a heat that drove the very birds and insects to the shelter of the woods."

Like Thomas Carlyle, Tyndall was a poor man's

boy, and the first twenty years of his autodidactic career were steep uphill work. He had to work and save and rely upon himself altogether after the end of his eighteenth year, but in the midst of his toils, he snatched at every opportunity for self-education. "Science can fly, mere brute force crawls," was his way of expressing the truth that knowledge is power.

With all the defects of this system of intermittent self-training, he contrived to pick up a vast amount of miscellaneous information, and in 1847 his future career was decided by his engagement as teacher in Queenwood College, where he made the utmost use of his increased leisure for systematic studies. Within two years his attainments in higher mathematics equaled the results of a university education, but he also began to experience the penalties of an abrupt change from an active to a sedentary mode of life. His appetite failed, he could not sleep at night, especially in warm weather, and was glad that those ebbs of health coincided with the period of the midsummer vacation, that gave him a chance to test a favorite prescription of his own. "When my ailments could not be made to leave me," he says, "I walked away from them." Regardless of foul weather and topographical obstacles, he perpetrated foot tours of forty or fifty miles, — a hundred English miles in a round trip, — and then returned to his studies, relying on his ability to subsist for awhile on his "reserve fund of oxygenized tissues."

That method had the additional advantage of inexpensiveness, and with his ultra-Scotch thrift the young teacher had soon saved a sum sufficient to defray the expenses of a few years' sojourn on the Continent. He went to Marburg, and soon after to Berlin, to continue his experimental researches into abstruse branches of physics as the radiation of heat and the phenomena of diamagnetism; and incidentally, and apparently without any special effort, acquired a mastery of the German language rivaled by none of his British contemporaries, or rivaled by Carlyle alone. Carlyle, the worshiper of Wolfgang Goethe, translated some of his idol's novels as novels had never been translated before, but it might be questioned if he could have written a German book which German scholars would have mistaken for a translation — not thinking it possible that a foreigner could have made himself so thoroughly familiar with the intricacies of their book language. Tyndall accomplished that miracle on three different occasions, and could hold his own in a philosophical controversy at the supper table of Professor Bunsen as easily as in a duel of banter with a guide of the Swiss Oberland.

"They talk about the danger of burdening a child's memory with a mass of facts," he writes from Charlottenburg near Berlin, where he first turned his attention to questions of mental hygiene, "but the real peril is less in the amount of the dose than in the mode of its administration. In language lessons, for instance, the trouble is that teachers cannot leave speech in its natural connection, but force their pupils to swallow it in fragments of grammar. Suppose we were to disintegrate our daily meat and bread in the same manner, and serve it to our boarders in its chemical components — in so many units of albumen, so many of starch, so many different salts, all labeled and separated. The probable



PROF. JOHN TYNDALL, F. R. S. 1875.

consequence would be an inflammation of the bowels, and it is a wonder how the pupils of our grammar schools escape inflammation of the brain."

Tyndall's German friends persuaded him to join them on a Swiss summer tour, and for years after, he spent his vacations in the Alps, as he had spent the holidays of his boyhood in the Cones and Black Stairs of Leinster. His geological studies gave those journeys a practical purpose, but he confesses that his passion for outdoor athletics was a strong secondary motive, and in the course of the next ten years he became probably the most expert amateur mountain climber of Europe. Many of the professional Swiss guides volunteered to escort him at reduced rates, as he needed only the assistance of their superior topographical knowledge, and relied on his own sinews when the trails became steep and

rough. He was the first man of the nineteenth century to reach the pinnacle of the Weiss Horn (tradition said that it had been ascended two hundred years ago by an adventurous Bernese hunter), and discovered the pass to the Lauenen-thor, the "Avalanche Gate," between Breil and the valley of Zermatt.

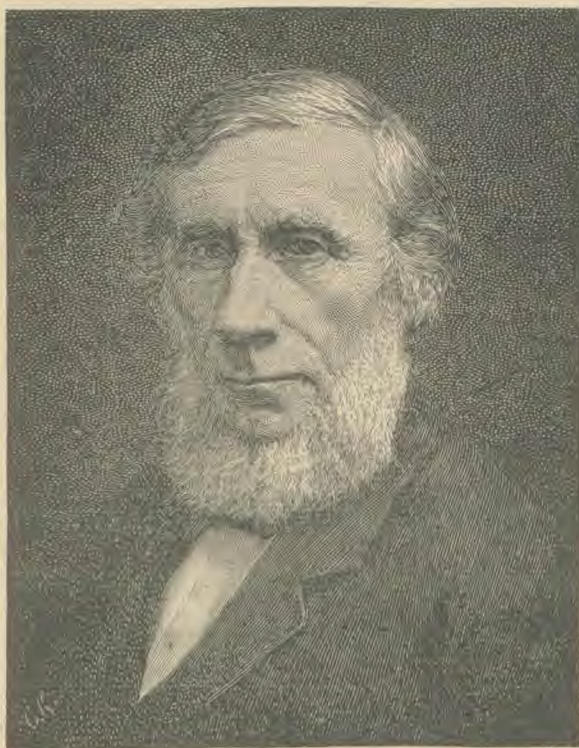
In 1860 he turned his attention to the formidable Matterhorn (Mt. Cervin), and after clambering about the flanks of the stupendous pyramid for a couple of weeks, pronounced the summit accessible—in opposition to the verdict of the natives and all but one

to bivouac in a half-way glen and reach the pinnacle the next morning. Tyndall, however, refused to give up his contest with the Matterhorn, and actually conquered the east summit in the summer of 1868.

So far from regretting mountain intermezzos as so much lost time, Tyndall considered them a chief adjunct of his successful campaigns in the fields of science. "Mind, like force," he says, "is known to us only through matter. Take, then, what hypothesis you will,—consider matter as an instrument through which the insulated mind exercises its powers, or consider both as so inextricably mixed that they stand or fall together,—from both points of view the care of the body is equally important. The morality of clear blood ought to be one of the first lessons taught us by our teachers and masters. The physical is the substratum of the spiritual, and this fact ought to give the food we eat and the air we breathe a transcendent significance." ("Hours of Exercise," p. 301.) "It will not be supposed," he adds, "that by the 'care of the body' I mean its stuffing or pampering. The shortening of the supplies, or a good monkish fast, is often the best discipline for our physical organism."

"There is morality in the oxygen of the mountains," he remarks on another occasion, "as surely as there is immorality in the miasma of a marsh. We are recognizing more and more the influence of physical elements in the conduct of life; for when the blood flows in a purer current, the heart is capable of a higher glow. Spirit and matter are inter-fused; the Alps improve us totally, and we return from their precipices wiser, as well as stronger, men."

A year after his return from Berlin, Tyndall accepted an invitation to deliver a lecture before the Royal Institution in London, where he soon after was elected Professor of Natural Philosophy, in which position his lectures and experiments extended his fame far beyond the limits of the British Empire. His lecturing tour in the United States was a success in every sense of the word, and repaid his trouble by giving him an opportunity to refute the charge of "selfish agnosticism" in that characteristic way of his own—the opposition of good-natured banter to venomous attacks, and the donation for scientific purposes of the entire proceeds of his American lectures,—some twelve or thirteen thousand dollars, I think, without estimating the incidental expenses of his voyage. The subvention of his assistants was also the only compensation he accepted for his expedition to Algiers, where he was



JOHN TYNDALL. 1892.

of his English traveling companions. Two years later he tried his luck again, and reached a summit now known as Tyndall's Peak, at an elevation of some 14,000 feet, but separated by an abyss from a still higher crag, the true apex of the Matterhorn. That summit cliff he prepared to attack from the east side of the mountain, but was deterred by the tragic fate of Sir Charles Whymper and a succession of snowstorms that made it difficult to procure guides on any terms. When the meteorological conditions became more propitious, he returned to the assault, but on reaching the Val Tournanche was mortified to learn that he had been anticipated by one of his former baggage carriers, a fellow named Carrel, who had taken advantage of an extra fine summer night

sent in the winter of 1870 to observe a total eclipse of the sun.

During the last ten years of his life, Tyndall declined the invitation of numerous lecture committees, partly perhaps because he had learned to rely on the educational influence of his books, but partly also because he had begun to dread the atmosphere of crowded halls. His lungs had become seriously affected, and "schoolroom miasma," as he called it, rarely failed to afflict him with a troublesome cough, and that form of asthma known as *dyspnœa*—a partial paralysis of the respiratory organs.

The proximate cause of his death was his nurse's blunder in administering an enormous overdose of chloral,—to some degree a penalty of his own mistake in meddling with such drugs at all. In his impatience

of slower remedies for insomnia, he more than once resorted to large doses of opiates and stramonium.

In his last letters there is no trace of life weariness in the pessimistic sense; he would have been content to continue the fight in the front ranks of science and bear the brunt of the battle for another decade or two; still, when he realized the fatal mistake of his nurse, he faced the inevitable with more than Stoic equanimity. He had lived long enough to see the seed of his doctrine bear fruit, and the manifold omens of a great European tempest may have confirmed his partiality for Goethe's epitaph of Anacreon:—

"Springtime, summer, and fall enjoyed he, most favored of mortals,
Here, from the season of storms has he found refuge in time."

[To be continued.]

HEALTH AND BEAUTY.

BY CARRICA LE FAVRE.

(Concluded.)

As I have shown that eating is a sacred act, I claim that the function of preparing food is a divine service.

The presence of raw flesh and the frying and broiling of it have so degraded the kitchen that it is scarcely worthy to be a part of our dwelling place, and as a result our food—if it may be dignified by that name—is usually prepared by persons too ignorant and ill-tempered to find employment elsewhere. Cooking should only be resorted to as a means of beginning the process of digestion, but the prevalence of dyspepsia attests most strongly that the contrary is the rule. The new-old order would redeem the kitchen service, and the kitchen "chemist" might be, as she should be, as much respected as she of any other profession or art.

It is the duty of every wife and mother, and it should be her pride, to build the bodies of her husband and children of that material which contains something besides that for structural development alone. We need something better than a "material" body. We want something more than dead matter ordinarily called food. Has woman learned that in fruits and seeds is stored that which will make not only beautiful bodies but sound intellects as well? Does she know that in these is stored that mysterious food principle which will aid in developing the higher nature, and maintaining that harmony which is so essential to health? Ah, no! sad to say, all this is unfamiliar to the average woman,

who is moulding the race and the destiny of the nation.

We know full well that gustatory excess, when chiefly of flesh food, will create such chemical conditions in the system of man (or animal) as will entirely change his nature from good to evil. Likewise a change from excessive flesh eating to a pure and simple diet in which fragrant fruits play a prominent part, will work a marvelous improvement. The character or nature may be redeemed—may be changed from evil to good.

Dogs grow glossy and improve, and never go mad, when kept on a vegetarian diet. Is not man as susceptible to improvement as dogs?

Flesh food generates irritability, and often savage restlessness. Fruit develops normal activity and animates good-natured vivacity. Bear in mind, there is a difference between the two.

Mrs. French-Sheldon tells us that the women of interior Africa are all healthy and beautiful, yes, and good, and they eat no flesh. Only the warrior men eat flesh. Surely, in our glorious land, where we are many men of many minds, we should discard flesh-eating along with war and the ownership of woman. Not until we have purged ourselves of these evils should we lay claim to being civilized or venture to send missionaries to the "heathen."

By virtue of our many attainments, we should now depend upon "brotherly love" and justice for peace, and these failing us, upon arbitration for the settle-

ment of our "differences." The sacredness of life, both animal and human, will then come to be more fully realized. The clergy and the home missionary will come to regard the dissemination of this idea as a part of their regular duty. Even the painter and the sculptor will come to find that when they build their body and brains of fragrant fruits and seeds, instead of animal corpses, they can better show forth the picture that is in the soul. The vocal artist will learn that the beauty, charm, soul, of his voice is augmented a hundred per cent by the adoption of a fruit diet.

The stimulating properties in flesh food (meat) generate a high pressure of activity that the nerves are unable to control. This condition expresses itself in jerky, angular gestures, all of which are detrimental to a high order of expression.

Flesh eating often deposits lime (second hand or once appropriated lime) about the joints, rendering them stiff and ungainly. Sallowiness, blotches, and other face blemishes appear. It loads some with superfluous tissue; with some its poisonous properties attack and irritate the nerves, rendering the person pale, thin, and wrinkled.

Then we must not lose sight of the fact that the psychic influence associated with the revolting slaughter and death of the animal, plays havoc with the sympathetic moral nature of mankind. Let us bear well in mind that we should not live to eat, but should eat to live and improve.

In youth the food should be such as contains a generous amount of phosphate of magnesia, phosphate of lime, and carbonate of lime. These abound in cereals and fruits. Remember that the lime properties must be taken direct from the vegetable or food kingdom, and not from the mineral nor the animal kingdom. These properties are most abundant in cereals and fruits.

The higher order of vegetable foods, such as nuts and fruits, contain more valuable material in liquefied form, but less earthy matter than the legumes and cereals. These latter are very valuable in childhood and early life. But that which is of value in early life may become undesirable in after life. These leguminous and cereal foods, the way they are usually prepared, are so rich and concentrated that persons are apt to eat too much of them, and not enough of excretory food to carry off the waste earthy matter. Elderly persons and those of sedentary habits should therefore use more coarse foods and succulent vegetables and juicy fruits.

Flesh food contains no carbo-hydrates, and is dissolved in the stomach. This taxes that organ to an

extent that results in chronic indigestion. Vegetarian food is digested by a more complex process, a fair share of the labor devolving upon all parts of the digestive organs, and hence does not overtax the stomach. Flesh food is devoid of some of the important elements of nutrition; and further, there is in flesh no element of food that cannot be gotten fresher, purer, cleaner, directly from the vegetable kingdom. The vegetable kingdom is the food kingdom, and when man takes his food after the animal has used it, we need not be surprised that he is out of health and out of tune.

The food question is one of the most important of all questions, and its neglect is a crime, as the result of which, physical, mental, and moral distress are heaped upon innocent children.

It would be difficult to estimate the amount of suffering of body and mind caused by a disregard of the food question. The resulting inharmonies are known to us as sin, sorrow, illness, and often deformity. There is no just excuse for deformity in this age. And if mothers understood the food question as they should, there would be no occasion for sending children to hospitals to have dogs' bones engrafted into their limbs, as was attempted at a hospital in New York. These bones should rightfully have been supplied by the mother during the periods of gestation and nursing, through her own diet, and thereafter by a proper dieting régime in the home.

Woman makes the drunkard, the tobacco user, and the tea drinker by the unsatisfying food she serves. As woman has directly or indirectly caused and encouraged intemperance and the use of weeds (tea and tobacco), so it remains with her to restore the virtues of temperance to those she has wronged. I have seen women stand looking wistfully at a stock of pine-apples, but turn suddenly and go into a meat market and pay three times the price of a pine-apple for a piece of animal corpse, and then give a grunt of satisfaction at having "overcome temptation." Yes, they too often resist the temptation to do the right thing.

From various experiences in foods, I have learned that there are but few so poor that they cannot afford to have that food which will aid in developing mental, moral, and physical beauty, the food that will tend to make them temperate in habit and high in thought. I am not one who believes that the so-called "plain living" gives high thinking; for what is plain living in the usual sense of the term? It is coffee, tea, beefsteak, potatoes, and fine white bread. A more unhygienic diet could scarcely be thought of. Such a diet is conducive to early death. If people

think high on such a diet, it is with difficulty and in spite of it, not *because* of it. High thought operates through loftier channels than stimulating drinks, animal corpses, and starch. These things lack not only the chemical matter, but the vital food principle and vegetable fragrance necessary to lofty thought, aspiration, and action.

I found, after dieting upon nuts and fresh fruits alone for a time, that the fruit fragrance which is so subtle as to elude the grasp of the chemist, has yet a wonderful influence upon the nerves and the psychic nature as well as upon the general system. The electricity and vitality stored up in fruits are capable of vivifying to an astonishing degree. The fragrant juices of fruits are distilled in nature's own laboratory, ready for our use, and exercise on the economy a restful, yet animating and restorative, influence that should be heeded and appreciated by every intelligent person.

When one's life seems scarcely long enough to do all we have mapped out to do, we of a necessity want to learn what food will best fit us for that work, and how it may be done to least annoy those with whom we come in contact. For let it be borne in mind that a portion of our planned work would better be left undone than be accomplished at the cost of our neighbor's discomfort. Agreeableness to those about us is as important a part of our life work as anything. Those who neglect to be agreeable, who willfully or heedlessly are harsh, rude, or vulgar, accomplish what they may, have yet fallen far short of accomplishing even their simple duty.

The ballot for which woman is loudly crying sinks into insignificance when compared with the influence she could wield and the problems she could master through a thorough knowledge of the food question and home dietetics practically applied.

The fact that we have become men and women with the ability to think, reason, and do, is no evidence of any cessation in growth. We may still unfold higher attributes. To this purpose and in this age we require the undeteriorated energy as it is found in the fruits and seeds of the vegetable kingdom. We should now eat with the same intelligence that we exercise in other lines of thought and action. Not in narrowness and onesidedness, but in all departments of life (dietetics not excluded), should we be moving on to a higher state of refinement.

The fact that vegetarian feeders have achieved the highest degree in mental culture, physical symmetry, and moral development, demonstrates that mankind

can thrive as well, even if we do not claim better, without flesh food.

Vegetarian feeders have an enduring strength not possessed by flesh eaters, and especially is this true when fruits and seeds are used. The source of strength is in the vegetable kingdom, and thither must we go for new material.

I disapprove of the fashion of old and young alike eating the same kind of food, though a labor-saving idea it may be. Their needs cannot possibly be the same. The aged person's food should be such as will render his or her last days serene, and the joints as flexible as possible. To that end soothing and eliminating foods and drinks are conducive. A child preparing for life and action, is building up, and requires food rich in bone-making material, nerve-making material, muscle-forming material, etc., — food that gives normal animation for the life and activity of the young, serenity and repose for the aged. Shun fine white wheat breads and foods, for if you eat them, you will surely be gray, bald, toothless, and wrinkled. The whole-wheat flour contains a very valuable phosphate which is entirely lacking in the white flour.

Vegetable albumen exists in most abundant quantities in cereals, also in nuts and leguminous plants. Febrine is obtained by the use of cereals, leguminous plants, and grapes. Vegetable casein exists in abundance in all kinds of beans, peas, lentils, and all other seeds, also in nuts. Fruit acid is a most important element of man's food, and one that cannot be eliminated from his dietary without injury to his health.

If intuition, sentiment, poetry, and art are sought for, they may be evolved through the aid of ripe, fragrant fruits. Those who are not satisfied to have the best, or who feel it is too radical a change to go from a diet of vulgar and dead matter to one of vitality and ideality, will find in the pulses, cereals, nuts, and fruits a happy combination. In this building material you will find that which adjusts itself to the needs of the man of this age, or as he should be in this age. Nuts, maple juice, honey, and the fragrant fruits are foods that tempt the muses of song, poetry, and the other arts.

If we would have health and beauty, then, we see that we must procure our building material as fresh, clean, and refined from nature's laboratory as is possible; *for the body grows by what it is fed, and will show forth the properties thereof with wonderful truthfulness.*

HEALTH HABITS.

BY HELEN L. MANNING.

I.—VENTILATION OF SLEEPING ROOMS.

"I PUT on all the steam that I could get, but still it was so cold in our room last night that I had to get up and light the gas burner," said my table neighbor innocently to me one morning at breakfast. "You've no idea what a great difference it made in the condition of the room in the course of half an hour," she continued.

I am afraid my idea as to the real "difference" which it made was much more clear than hers, else she never would have perpetrated such an atrocious sin against the laws of her physical well being. Here were two persons occupying a ten by twelve bedroom, with its one window tightly closed and the only mode of ventilation a transom which opened upon a narrow, unventilated hall into which a row of other bedrooms were similarly "ventilated." No wonder her invalid friend was making slow progress toward recovery, being obliged to exist day and night in an atmosphere so unwholesome. It is of special importance that dwellings lighted by gas should have a constant supply of fresh air, or failing in convenient arrangement for this, the air should be frequently renewed, since a single gas burner will consume more oxygen and produce more carbonic acid gas in the process of combustion, than six or eight candles. Add to this a supply of fresh air adequate for the needs of each person in the room, and you will have a measure of the fresh air supply. Provision must also be made for the escape of the vitiated air.

A further evidence of the benighted condition of this woman with reference to the ventilation of sleeping apartments was evidenced later, when, one sharp winter's morning, she reported that their window was so completely covered with the fairy tracery produced by the artist, "Jack Frost," that she could not see out of it. Her room was on an upper floor, entirely remote from any steam which might intrude from kitchen or laundry, and hence when the window was thus thickly covered with frost crystals, it showed that the moisture from the breath of the two occupants had accumulated to a remarkable degree. My own window, similarly situated as regards exposure to the cold, but partly open, was not frosted at all.

A word of caution, in passing, as to the poisonous character of this delicate frost work upon the window pane, so beautiful to look upon. Physicians assure us that the most deadly poisons from worn-out par-

ticles of the system's waste, are found in the exhalations from the lungs, yet children are sometimes unthinkingly allowed to scrape the frost from off the window panes and eat it, or to wipe out a fairy palace with their tongues. Keep your rooms so well aired that the frost will not accumulate in this fashion, or if it does incidentally, by all means keep the children away from it.

The two strongest reasons, doubtless, why sleeping rooms are not better ventilated, are, first, the unfounded prejudice against "night air," and secondly, economy in the use of fuel. What other air can be had at night than "night air"? and unless it is in a region so filled with miasma as to be unfit for breathing at any time, it is just as pure and wholesome as day air. Many persons so nearly dead with consumption that there was supposed to be no help for them, have been restored to fairly vigorous health by living out-of-doors night and day. One consumptive, bent on not imperiling his friends by allowing them to take care of him, betook himself to the pine woods of one of the Southern States, resolved to live like a hermit for his few remaining days, eating only such simple food as he could get hold of easily, and sleeping in a tent. To his surprise, instead of dying, he soon showed very marked improvement, which encouraged him so much that he began in earnest to make a fight for life. In three months, when he appeared among his wondering friends, he had attained such vigor that they hardly recognized him. He learned thoroughly the lesson that life and health depend in large measure on an unlimited supply of fresh oxygen, and never afterward could he be induced to occupy the ordinary unventilated dwelling. Diseases of the lungs are promoted by breathing air which has been devitalized by combustion in the physical furnace and that which is vitiated by gas burners, stoves, etc.

On the score of economy, let us ask which may be considered the cheaper, to consume fuel enough to heat up the influx from the fresh air inlet and enjoy good health, or shut out the night air, feel dull, have frequent cases of illness, and let a doctor's bill more than offset the extra bill for coal? If fresh air could be reckoned as a luxury and not a free gift from the Creator, who designed that all his creatures should breathe it, then there might be hope for some who purposely or carelessly deny themselves now.

Little children are the ones who are apt to suffer most from an imperfect fresh-air supply to the sleeping rooms. The crib and trundle bed often have one or two occupants in the sleeping room of the parents, and the little sleepers are carefully shielded from every out-of-door aperture that might let in a draft, for fear of "colds," the parents being ignorant of the fact that "colds" are usually produced by the poisoning of vitiated air. Oswald, who himself lives like a hermit in the mountains of Eastern Tennessee, in order that he may live at all, uses the following strong language with regard to the common practice of forcing children to breathe a fetid atmosphere: "The remorselessness of the pagan Chinese, who smother the life-spark of their infants in the swift embrace of the river-god, is mercy itself compared to the cruelty of Christian parents who suffocate their children by the slow process of stinting their life-air, through years and years of confinement in dungeons to which an enlightened community would not even consign their malefactors." To preach the gospel of good health so that health habits may take the place of unwholesome practices in this and a hundred other directions, may well be regarded as a Christian duty pressing upon all who are happily enlightened.

The results of actual experience are what count most in this matter-of-fact world, and therefore a chapter from life is apropos in this connection. Not long since, the Rev. J. W. Quinby had an article about pure air and ventilation in the *Popular Science Monthly*. His observation has convinced him that the average mortal "knows no more of what real pure air is, than the blind mole down in the ground knows of sunlight." The writer includes a personal incident, which is both suggestive and instructive. He says:—

"I remember some curious facts of my own experience in the army in 1862 and 1863. I was not strong, and indeed was hardly fit to be in the army at all. And when I found myself exposed all day long to a steady rain, and at night to the outdoor air, with no fire, no change of clothing, no shelter but a canvas covering, open at both ends, through which the rain dripped constantly, it seemed certain that the 'death o' cold' so often predicted, must surely follow. Why it did not, was more of a mystery to me then, however, than it is now, for I was in a place where the art of man no longer excluded one of the

prime principles of health. I breathed pure air because I could not help it. During a service of fifteen months, with severe exposures, but fresh air constantly, the same immunity from colds prevailed. I remember, too, that when I came home from the army, the blessing and the curse—at least one of the curses—of civil life came back together. I had comfortable rooms to eat, breathe, and sleep in, on the one hand, but very soon colds, sore throats, and related troubles on the other. This was the second count in the argument for pure air.

"Finally, after nearly twenty years of suffering according to the common lot of man, I resolved to try the pure air cure, and from that time to this, the windows of my room have been open almost constantly day and night. The result was immediate and striking, and for the last seven years I have not had one serious cold. My sore throats are wholly a thing of the past, and certain other physical derangements not usually associated with colds, have also disappeared."

Numbers of soldiers who entered the army in delicate health, especially with predisposition to colds and consumption, will bear corroborative testimony to the above, for notwithstanding the hardships and constant exposures incident to army life, they grew robust, and came out at the end of their period of service with a physical vigor which was a wonder and astonishment to their friends. It is also true that in the crowded, ill-ventilated hospitals occupied during the war from necessity at some points, the death rate among the sick and wounded was much higher than when tent hospitals were improvised, lacking in comforts and conveniences, but yet abundantly supplied with fresh air. An old army surgeon told me an instance under his own observation, where the numbers of the wounded after a desperate battle, far exceeded the hospital accommodations, and so those whose cases were considered the most favorable to recovery were given the preference of the hospital, while the worst cases, those who would probably die any way, were put into tents, exposed to rain and wind. He assured me that as an actual fact, the majority of the hospital patients died, while the majority of those in tents recovered. An abundance of pure, fresh air may always be counted as the most important factor in the maintenance of health, and the most important aid for the recovery of the invalid.

AN amusing paragraph comes from a certain town in Kansas where women have served as police justices. While in office they dealt with the nomad fraternity in a unique fashion. One tramp was sentenced to two baths a day for ten days, and hard labor on the stone pile, with the order that he was to be fed if he worked and starved if he shirked. In nearly every case one or more baths were made part of the sentence, and now the town is blacklisted by the entire brotherhood.

THE INEXORABLE FACTS OF HEREDITY.—“I have drunk whisky every day for thirty-five years,” remarked a gentleman of sixty, rather proudly, “and I do n’t see but I have as good a constitution as the average man of my age; I never was drunk in my life.” He was telling the truth, but to learn the whole truth, you would have to study his children. The oldest, a young lady, had perfect health; the second, a young man, was of a remarkably nervous and excitable temperament, as different from his phlegmatic father as possible; the third, a young lady of seventeen, was epileptic and always had very poor health. Did the father’s whisky drinking have anything to do with these facts? The instance may be duplicated in almost every community. Think over the families of your acquaintance in which the father has long been a moderate drinker, and observe the facts as to the health of the children. The superintendent of a hospital for children at Berne, Switzerland, has found by careful observation that only 45 per cent of those whose parents used intoxicating liquors habitually had good constitutions, while 82 per cent of the children of temperate parents had sound bodies. Of the children of inebriates, only 6 per cent were healthy. Can any man “drink and take the consequences,” or must his children take the consequences?—*Quarterly Journal of Inebriety*.

FORTY-FIVE CENTENARIANS.—Burney Yoe, of King’s College, London, and author of “Food in Health and Disease,” in a late article in the *Nineteenth Century Review*, observes that in Brazil are to be found the conditions most favorable to longevity. The life lived by the Brazilian centenarians is such, says Dr. Yoe, as would be very difficult to conciliate with the exigencies of European civilization,—drawbacks that would effectually prevent Europeans generally from following their precepts and example. He examined a number of centenarians (the locality is not given, but presumably they were British), and failed to discover the least trace of rheumatism or

gout. These centenarians were all sound sleepers, contrary to the rule among the aged in civilization, who are but poor sleepers. Then again, the greater part of these centenarians had stomachs like cast-iron retorts.

Out of forty-five cases examined, thirty had excellent memories, nine medium memories, and only six had poor memories. As to diet, out of thirty-eight, three had never eaten meat or fish, four had barely touched it, twenty had used it sparingly, and ten had used it moderately; one out of the thirty-eight had eaten it like a Yorkshire butcher.

Forty-four of these antiquarians were examined as to their drinking habits. Of the number, fifteen had never used any other beverage than water; twenty-two occasionally toyed with the tempter, but never allowed it to overcome them; two were regular drinkers, but neither drunkards nor inebriates; and five jolly centenarians, we are sorry to relate, got gloriously and incorrigibly drunk whenever occasion, opportunity, or their means permitted it. The former used brandy and beer, and the five old incorrigibles loved gin, one of the latter being an inveterate drinker and Limerick farmer, who, contrary to all rules, had remained a bachelor, and being a hard drinker, had nevertheless already celebrated his one hundred and fifth birthday.

* VEGETARIANISM AMONG THE SHAKERS IN NORTH AMERICA.—The December number of the *Sphinx* contains an authenticated report of the peculiar, religious, social, and economical institutions of the Shakers, under the heading, “Three Years among the Shakers,” by Paul Breiterenz. The author expresses his opinion about the social situation of the Shaker colonies as follows:—

“The Shaker religion requires each member to do some manual labor, unless prevented by official duties. We actually saw members of the Central Ministry between the ages of 70 and 90 years, who occupied their time with basket making and carpenter work. Farming, gardening, raising fruit and flowers, cattle and poultry, and other branches of industry, as drying of maize, preparation of vegetable patent medicines, perserving fruit, etc., afford sufficient work for those who have not learned a special profession.

“They take three meals daily at the ringing of a bell, and always eat in silence; with silent prayer and kneeling they begin and close their meal. The selection and preparation of the food is to-day, more than ever before, influenced by hygienic considerations.

"The North family in Mt. Lebanon, New York, which is presided over by Eld. F. W. Evans, maintains a strict vegetarian diet. The Elder himself, now eighty years old, has been for fifty years a strict vegetarian. Although apparently consumptive when converted to vegetarianism, he was able to attend, only five years ago, the anniversary of the English vegetarian societies, and captivated as well as edified, by his sermons, the large assemblies in England and Scotland.

"The use of tobacco, alcohol, and snuff was once customary among them, but all these articles have been discarded. Many good apparatuses for ventilating their houses have been introduced. Baths are to be found almost everywhere. The Shakers use Graham bread, and fruit can be found on their tables at every meal. Their large orchards, which they cultivate very carefully, and which very seldom fail to yield a good crop, provide them with the most beautiful fruit of all kinds. Their real estate and personal goods and chattels are estimated by Charles Nordhoff, the author of the most complete work about the Shakers and other similar communistic colonies of North America, at millions of dollars. This prosperity was predicted by Anna Loa, who also prophesied that in the future her people would abstain from the eating of meat. The propagation of vegetarianism among the Shakers during the last few years seems a fulfillment of her prediction."

CRUTCHES.—"Take this little white powder, it will give you a night's delightful sleep," says some persuasive friend, and you look hesitatingly and longingly at the folded paper which encloses such longed-for possibilities. It is hard to lie awake night after night, hearing the clocks strike one, two, three, four, knowing full well that you will be desperately sleepy when the rising bell shall send its tocsin pealing through the house, and realizing, too, that the next day's duties will confront you as an armed battalion, when you have neither courage nor strength to face them.

But it is a mistake, believe me, to take the sleeping powder, unless, indeed, your physician absolutely orders it. The narcotic, however innocent, the sedative, however subtle, is in its way a crutch, and the use of a crutch is always the acknowledgment of infirmity. Furthermore, a crutch is liable to snap or to slip, or to prove treacherous, or to lose itself, or be lost when most needed, and only a cripple, never a strong man, carries one.

In this whole matter of insomnia, the wiser way is to fight the wakeful fiend by lying calmly still with eyes

shut and hands and feet motionless, if you can. To be genuinely tired by exercise in the open air, and above all, not to fret and worry, are better remedies than the whole range the apothecary's shop affords.

In a beautiful volume printed for the entertainment of a family, I lately came upon a pleasant bit of description, referring to an old gentlewoman past eighty, who, as the old often do, lay awake at twelve o'clock. A granddaughter in an adjacent chamber heard her crooning something softly to herself, and asked if anything were amiss. "Oh, no," was the quick and cheerful reply, "He giveth songs in the night." No need of a crutch for this strong soul.

Another insidious and dangerous habit is sometimes formed by women who are a little run down and have become nervous and listless; they fancy they need a tonic. A sip of this cordial, a glass of that stimulant, and they are "set up" for the moment and made over anew. But alas for the crutch! Such things are only temporary, and the last state of the person who depends upon them is worse than the first.

Nature and rest are competent to renovation in most cases, if only allowed a fair chance.—*Harper's Bazar*.

NATURE'S CURES THE BEST.—The best housekeeper to take entire charge of our tenement of clay is Mother Nature, and like all other housekeepers, she is very partial to the virtue of cleanliness. It is said that women make themselves portable machines for effete matter. Their nerves cry out when fed by dirty blood, and their cry is called neuralgia.

Breathe clear air from morning to night and from night to morning again, and you will be rewarded with a lightness of spirit that the largest drugstore is powerless to bestow. Eat clean food, food that is not greasy nor spicy nor hard of digestion, and you will be nourished and made strong by the only genuine blood purifier in the market. Bathe in clean water every day, and note the elevating and tranquilizing effect it has on the mind.

Think clean thoughts, and the body as well as the soul will seem to be mate-fellow with the angels.—*N. Y. World*.

First Quack—"Here is a letter it would hardly do for us to publish. A man writes: 'I have just taken three bottles of your medicine, and I—'

Second Quack—"Well?"

First Quack—"There it breaks off short, and is signed in another handwriting, 'per executor.'"—*Brooklyn Life*.



HABITUAL POSTURES OF SCHOOL CHILDREN.

BY ELIZA M. MOSHER, M. D.

[Reprinted from the *Educational Review*.]

"How use doth breed a habit in a man!"—*Shakespeare*.

HABIT is the repetition in a more or less involuntary manner of an act originally performed with some degree of volition. Among the forces which dominate human beings, there is none more potent than habit. Education, in essence, is intellectual growth through repetition. The child voluntarily repeats his task until he is able to recall it with slight volitional effort. With what clumsy fingers the pianist strikes the keys until, by a multitude of repetitions in which brain cells and muscles have co-ordinated, he acquires the facility wherewith to charm his listeners!

The influence of habit upon the development of moral character is well understood by parents and educators. The repetition of physical postures and movements has the power, in a similar way, to modify and recast the shape of the body.

Physical beauty depends largely upon the element of physical symmetry. It is worth while, therefore, to study postures which tend to maintain bodily symmetry, if only for the purpose of enhancing personal attractiveness. Add the further fact, that physical health depends largely upon the maintenance of bodily symmetry, and the subject becomes one of practical importance, not only to parents and teachers, but to all men.

In the following pages I shall present the results of a careful study of the influence of habitual postures upon the shape and health of the body, leaving for the present the other and equally important element of symmetry; namely, the influence of habitual movements. In order to present the subject in a practical manner, it will be necessary to study the

mechanics, so to speak, of the various postures which the body naturally takes, standing, sitting, and lying. By this means we shall be able to decide which postures it is safe to permit to become habitual, and which ones tend to loss of symmetry.

In standing, the lower extremities are placed beneath the trunk in one of three ways. All others in which equilibrium is attained are modifications of these.

First, with both extremities placed evenly beneath the trunk. (Fig. 1.)

Second, with one leg supporting the trunk, and the other thrown forward, as in walking. (Fig. 2.)

Third, with one leg supporting the trunk, and the other thrown to the side. (Fig. 3.)

In the first position, the trunk is evenly poised upon its supports, with all its parts symmetrically placed. This would be a proper one to assume habitually, were it not that it keeps both extremities in muscular activity at the same time, whereas they demand the privilege of working alternately. Involuntarily one support drops out from under the weight, and the position changes to the third, which, as will be shown later, is an objectionable one.

The second position, namely, with one leg in advance of the other, as in walking, permits the body to rest upon one extremity, with very slight reduction of the normal spinal curves. The bones of the skeleton are all so placed in this posture as to retain the muscles in normal symmetrical relations as regards the distance between their origin and attachment, the direction of their fibers, etc. The back-

ward movement of the head and shoulders to balance the weight of the forward leg, calls into action the muscles of the back and shoulders, while those upon the front of the body are placed in an equal degree of extension. The influence of this is to place the chest in a position favorable to respiration; hence this posture is conducive to chest expansion. The head cannot drop to either side without disturbing the equilibrium of the body, and the soft tissues of the face retain their symmetry. The ease with which the weight of the trunk can be transferred from one extremity to the other, makes this a position which can be retained a long time without undue fatigue, and which renders it favorable to the making of gestures and the use of the voice; hence it naturally becomes the favorite posture of the orator and the public singer. Because of the narrow base which it gives to the body, however, and the corresponding sense of insecurity which the individual unaccustomed to it feels, this is not a posture naturally chosen; but with a stable foundation beneath the feet, it is one easy to assume, and children should be taught to fall into it habitually.

The third posture in standing is the one most commonly chosen, doubtless because of the broader base which it gives for the support of the trunk when needed. The change, also, from the walking posture to this, is so radical that it gives a sense of rest more grateful to the tired tissues.

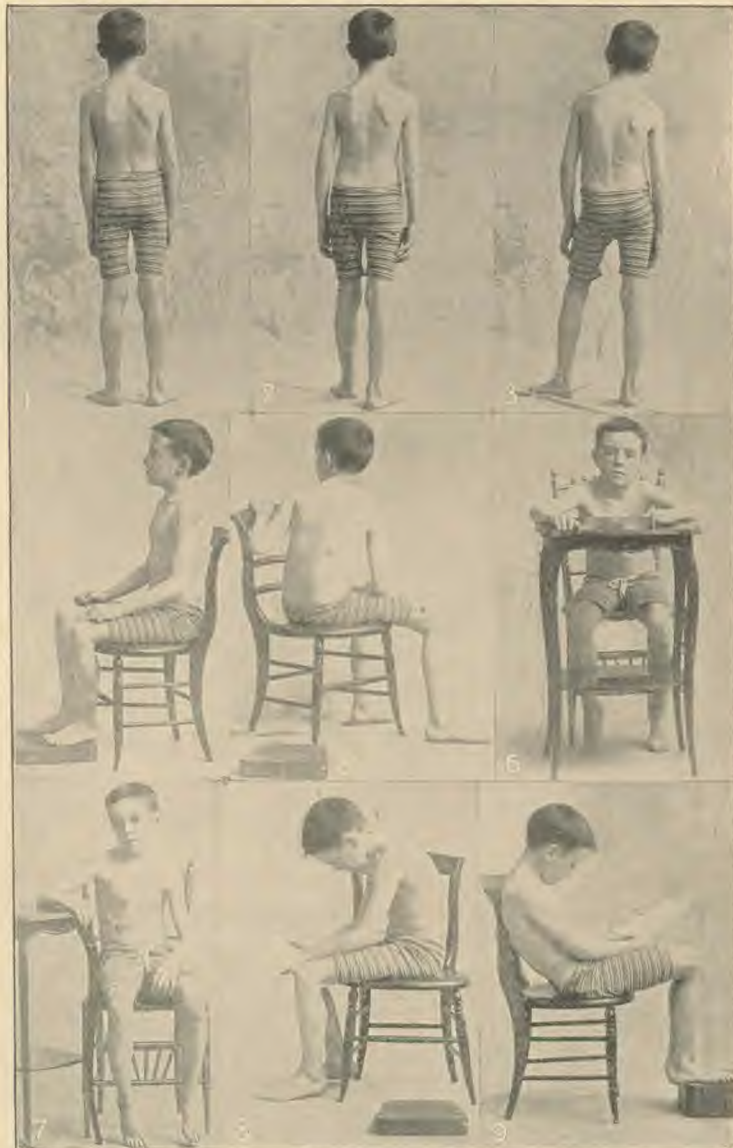
The best way to make a critical study of this position with relation to its healthful tendencies or otherwise, is to examine an individual whose occupation has, for several years, necessitated the standing posture, and who has acquired the habit of dropping upon one and the same leg.

Understanding symmetry to mean "exact accordance of the two halves of one body," we place the person to be studied evenly upon both feet, and compare the two sides. We find in most cases the following variations, more or less well marked according to the general health of the individual, and the length of time the posture has been habitual (in robust persons the muscles and soft tissues are not molded by posture as readily as in the poorly nourished and overworked):—

If the left extremity has been the favorite one (as

it often is), the left thigh will measure in circumference a little more than its fellow. The left hip will be found a little higher than the right, and the spinal column slightly curved laterally, presenting its concavity toward the supported side.

In all cases there is marked projection of the angles of the ribs upon the unsupported side, indi-



cating more or less turning of the bodies of the spinal vertebrae in that direction. The ribs upon the left side approach each other and the top of the hip, shortening in a very marked manner the body line upon that side; the spaces between the ribs on the right side are proportionately widened, and the lengthened body line lacks the curve presented by the opposite side. The left shoulder is lower than

the right; the left hand accordingly reaches a lower point upon the thigh than does its fellow. The head drops toward the left shoulder (to aid the shoulder and arm in balancing the weight of the unused leg), while the chin points in the opposite direction. There is marked loss of symmetry between the two sides of the face, produced by the influence of gravitation and unequal muscular activity. Unmodified by defects of sight or hearing, or by a variation in the length of the extremities, the lines of the face always manifest the following deviations from the normal, in all cases where this position has become a habit: The angle of the jaw becomes the lowest portion of the face, hence the soft tissues of the cheeks gravitate in that direction, producing a rounded contour on the lower side, in contrast with the flattened outline of the opposite cheek. The angle of the mouth usually drops a little; sometimes, however, it becomes elevated instead. The median line of the nose frequently inclines to the left as it approaches the tip, and the nostril is drawn upward, shortening the distance between the angle of the nose and the eye, as compared with the corresponding line on the opposite side. The left nostril is also dilated more than the right, upon which side the cavity of the nose is somewhat obstructed.

The cheek fold becomes more or less erased on the left (by gravitation of the tissues outward), while on the right the same force deepens and elongates it. The left lower lid is pulled slightly downward, increasing the breadth of the opening at the outer angle of the eye. The same tractile force applied to the right eye upon the nasal side, lengthens, or seems to lengthen, the opening, at the same time widening the space at the inner angle. Hence the left eye becomes oval, and the right eye linear in all marked cases. Lack of symmetry in the two halves of the face has long been observed by artists and photographers, but the casual observer seldom takes note of it, until his attention is called specially to the subject. The changes in the face which I have here pointed

out, are all produced by carrying the head habitually on one and the same side, whatever the cause. Most often, however, it occurs as a result of standing and sitting with the trunk tilted to one side. When asymmetry is produced by defective vision, the face lines differ from those described according to the angle at which the best refraction is obtained.

The neck muscles tell the story of habitual posture more loudly, if possible, than do the lines of the face. Those which are attached to the base of the skull participate most markedly in the changes observed elsewhere.

The external muscles of the skeleton are not the only ones involved in this process of change. Those which move the eyeball, are, to say the least, placed at a disadvantage in sidewise postures of the head, certain of them being forced to do more than their share in the work of rotation of the ball. No observations have as yet been made which demonstrate special abnormal conditions thus produced; but it is not unreasonable to include this posture among the causes of eye fatigue.

There is often a demonstrable decrease in the size of the chest on the side of the elevated shoulder, due, doubtless, to the changed position of the ribs and shoulder blade, to which are attached important respiratory muscles.

Shortening of the abdominal wall on the supported side, by approximation of the ribs and hip, displaces the intestines downward, and in the direction of greater space. This is specially injurious to growing girls, because of the unequal pressure thereby placed upon the movable organs within the pelvis. Habitually crowded toward the side of support, they acquire this position permanently, the result of which is an impeded circulation, and a positive tendency to pelvic disease later in life. With this array of facts before us, we recognize in this common posture—namely, with one leg supporting the trunk and the other thrown out to the side—one which we cannot too strongly deprecate.

(To be continued.)

A MODERN SAMSON.

STRONG and enduring men are doubtless much less numerous now-a-days than in the days of the ancient Greeks, when all men and women were required to undergo a course of physical training as a part of their education. Indeed it is probable that very strong and vigorous men are even less numerous at the present day than a hundred years ago. Our modern civilization is responsible for very marked and

rapid deterioration in physical stamina. This fact was well illustrated by a fact pointed out to Chief Justice Coleridge by a United States Senator when the former was on a visit to this country some years ago. The Senator was showing the Chief Justice the place at which George Washington accomplished the feat of throwing a silver dollar to a distance so great that the Chief Justice was quite astounded, and ex-

claimed, "How did he do it?" The Senator replied, "A dollar went farther in those days than now,"—a very truthful remark indeed. Not only dollars but muscles were possessed of a higher value a century ago than at the present day. The Father of his Country, though not a trained athlete, covered in a long jump the space of 24 feet, whereas Frazer, the world's champion jumper at the present time, has never been able to exceed the distance of 23 feet.

Occasionally, however, a man is found whose strength and development so nearly approach the standard of the olden times, and so far exceed that of the present, that he is considered a curiosity, and he is carried about from city to city to be exhibited in museums, and in special shows, to the astonishment of all beholders. A man of this sort, who might well be called a modern Samson, was exhibited during last summer in New York. A similar exhibition was also made in Chicago. Some of the measurements of this man's strength may be of interest.

Neck, $18\frac{1}{2}$ inches; biceps, $19\frac{1}{2}$ inches; forearm, 17 inches; chest, normal, 52 inches; after exhalation, 46 inches; when fully expanded, 58 inches; waist, 29 inches; thigh, $26\frac{3}{4}$ inches; calf, 18 inches; height, 5 ft. $8\frac{1}{2}$ inches; weight, 199 pounds.

WHAT IS CORRECT BREATHING?—There has been much controversy among teachers of vocal music and voice-trainers as to the proper method of breathing. In general, it may be said that the disputants have ranged themselves in two classes, one allowing, if not recommending, the free movement of the upper part of the chest, with little movement of the waist; the other strictly enforcing so-called abdominal respiration. A careful study of this subject, including investigations of the respiratory movements as seen in savage women, in young infants, in healthy men, and in civilized women who have never worn any sort of constriction about the waist, has led us to the conclusion that both the thoracic and the abdominal types are abnormal. This conclusion becomes irresistible when one makes a careful study of the mechanism of respiration. When air is received into the lungs, not only the chest but the whole trunk is expanded. The depression of the floor of the chest cavity, by contraction of the diaphragm, presses the liver and other abdominal organs downward, and so naturally increases the diameter of the abdomen at the same time that the diameter of the chest is increased.

To attempt to breathe by expanding one end of the trunk only, either the upper end or the lower end, is then abnormal. Considering the trunk as a single

The most remarkable of all these figures are the chest measurements. The average man of 5 ft. 8 inches has a chest measurement of only 34 inches. The measurement of the chest in professional athletes rarely exceeds 40 in., a whole foot less than that of this modern Samson. The chest expansion is also phenomenal. Seven inches is the greatest chest expansion ever noted by the writer, while in this man it was a foot.

If physical exercise of the right sort was enforced in all our public schools, scarcely a generation would be required to develop a race of strong men. The total lifting capacity of the entire body, as shown by the researches of the writer, is but little less than ten thousand pounds in a strong man, and is slightly more than five thousand pounds in the man of average strength.

The capacity of the body for muscular work is far greater than is generally supposed. It is only necessary that the muscles should be developed to their full capacity, and that there should be a symmetrical development of the whole muscular system, to enable a well-organized human being to exhibit an amount of muscular energy which to the uninitiated would be truly astonishing.

cavity, as we may fairly do, since the diaphragm is a flexible and movable apparatus, it is natural to expect that the point of its greatest expansion would be near its central part, just as would be the case with a flexible rubber bag of similar size and dimensions.

Normal respiration is neither chest respiration nor abdominal respiration, but full respiration, in which the greatest expansion is at the waist, with a slight degree of expansion at the upper chest and the abdomen. Any one who wishes to know how to breathe, has only to take a lesson or two from a young infant lying quietly asleep, to find an object lesson which will give him more information than he could obtain by any amount of study of adults.

EXERCISE will help a young man to lead a chaste life.

Body and mind are both gifts, and for the proper use of them our Maker will hold us responsible.

Exercise gradually increases the physical powers, and gives more strength to resist disease.

Exercise will do for your body what intellectual training will do for your mind,—educate and strengthen it.

WHO DESERVED THE WHIPPING?

IN a recent magazine article, Mrs. Henry Ward Beecher cites an actual case of a father's interference with the mother's government of their child, and shows the pernicious effect upon their offspring.

When parents seriously differ on these matters, there should be some compromise between themselves, whereby unity may be preserved in the presence of their children.

The following dialogue has its counterpart in too many families:—

"Mamma, please give me another piece of pie."

"No, darling, one piece is enough."

"Half a piece—please, mamma?"

"No, Freddie, no more!"

"Just a very little piece, mamma, dear?"

"No, Freddie, no!"

"Do give the child a piece," says the husband.

"I'll risk its hurting him."

And the mother gave it! What else could she do?

"Mamma, may I go out to play?"

"It's very chilly, and you have a cold. I do not think it is best."

"Bundle me up warm, mamma, and I won't take any cold."

"I fear you will. You must play indoors to-day."

"Just a little while,—please, mamma."

"No, Freddie, you must not go out to-day."

"Do let the child go. What a girl you are mak-

ing of him! Dress him warm and let him go. It will do him good."

And Freddie went out!

"May I have my blocks in the parlor, mamma?"

"No, Willie, make your block house in the dining-room. Miss L. is an invalid and I want the parlor very quiet."

"I will be very quiet."

"You will intend to be, but you cannot help making some noise, and as Miss L. very rarely goes anywhere, I fear she will be very tired at best—so be a good little boy and play in the dining-room this afternoon."

"I won't make a bit of noise or tire her one speck."

"You must play in the dining-room, Freddie, and not say any more about it."

"Nonsense! It will do her good to see a happy little face, and give her something besides her own pains and aches to think of. Let him bring his blocks into the parlor."

And he brought them in!

"What a torment that boy has got to be!" says the father, later on. "It's tease, tease, tease, from morning till night. It's enough to wear out the patience of Job! If you won't whip him, I will."

And he whipped him!

Query: Who ought to have been whipped?—*The Evangel and Sabbath Outlook.*

A STRANGE TIMEPIECE.—If you lived on the island of Sangu—and by the way, where is that island?—you would have neither town clock nor kitchen clock by which to tell the time. The people there, with whom watches are also exceedingly scarce, have made their own timepieces in an ingenious way. They arrange two glass bottles neck to neck, fill one with sand enough to require just a half hour in running out, and when every grain is gone, reverse the bottles so that the sand can go on with its work. Near by is stretched a line with twelve sticks hung on it, marked with notches; the first has one notch, the second two, and so on. We will suppose that the village time-keeper comes to his post just after twelve o'clock. When a half hour has gone, he reverses the bottles; another half hour and he changes the bottles, strikes one on his gong so loud that

the entire village can hear, and places a hooked stick between the sticks notched one and two, that he may make no mistake as to the hour. In this way passes his afternoon, and as the gong sounds out two strokes, three strokes, four strokes, from time to time, the villagers know the hours are passing, and that by and by night will come.—*The Pansy.*

BELTS.—The wide belts worn at the present time are not conducive to health, especially those which are made of leather, if worn tight. The internal organs are injured by having a tight, hard belt around them, and it is a very frequent cause of dilatation of the stomach, a common and distressing complaint. The kidneys are prolapsed, also, by this very unwise habit. No belts should be worn that are at all thick or stiff.

A MOTHER'S REGRET.—“It seems to me,” said a woman lately, one whose sons and daughters are grown and out in the world, “that if I had my children to bring up over again, I would give up everything and devote myself to each till he was five years old.

“What I did was to employ nurses! what a travesty of the tenderly-significant word—from infancy to about that time, when I looked after them myself. One of my children—he is a married man now—cherishes still a most unreasonable fear of the dark, even of passing an open door of an unlighted apartment, because forsooth years ago in his babyhood a nurse urged him to sleep lest a wolf should come out of the dark and get him.

“A second son will carry to his grave a nervous dread of laughing, born of a practice by another nurse of showing her large, white, glittering teeth in a mirthless grin when, as an infant, he fretted. I caught her at it one day and instantly sent her away, but the mischief was done, and I have been helpless to combat it. And my nurses were no worse than my neighbor's.”

“A child's caretaker should be a child lover, and who loves a child like his mother? I long to say to every young mother I know, ‘Stay with your babies if you possibly can until they are big enough to know what is going on about them; let maids wait upon and assist you in supplying their needs, but let no nurse (?) have a chance to do them ignorant and life-lasting harm.’”—*N. Y. Times*.

ORIGIN OF BLANKETS.—Comfortables stuffed with cotton are not very healthful things to use on beds; they are so thick and close that they do not allow the perspiration to escape, and the cotton also absorbs and retains all exhalations of the body, and thus soon becomes so impure that it ought to be discarded. But people do not seem to think of this, and so go on using the comfortables year after year.

In the year 1349 there lived in England a man who used to grumble at his wife because, when the nights were cold, she would throw her petticoats over herself and so sleep comfortably while he was cold.

When he complained, all the comfort he could get was:—

“Warm thyself, man, same as I do warm me.”

Now, he couldn't do that, because he did n't have petticoats. But being of an inventive turn of mind, he thought on what he could make to put over himself at night to keep warm. At last he thought of the right thing, and set up looms for weaving together the coarse dark ends of the wool that was not

fine enough to make into cloth. He made of this material large squares, with selvages on all sides, and found they were excellent bed coverings. Soon other people heard about his invention, and asked him to weave some for them; and before long he had such a sale for them that he had to make a regular business of manufacturing them. They have been in use ever since, and have always been called blankets, after his own name, which was Thos. Blanket. — *The Old Homestead*.

WHY GIRLS HAVE HEADACHE.—“When I went to school,” said a charming grandmother of our acquaintance, “I never knew what it meant to have a headache. Yet my granddaughters complain of it almost constantly. Something must be wrong. What is it?”

In the search for causes thus instituted it was at first suspected that lack of proper ventilation in school or sleeping-rooms was to blame. This not proving to be the case, the food was inquired about, and several things appeared to the sensible grandmother to be wrong.

The girls were allowed to eat what, when, and what quantity they chose, not seldom omitting their meals entirely. “Do n't force them to eat,” had been the parental injunction. “Young people will always eat as much as is good for them.” Unfortunately, this is not always the case. There are many young girls who have no appetite for their breakfast, the really most important meal of the day, and if unchecked, will start upon their day's work with no better provision to meet its demands than a cup of coffee and a cracker. The blood is called to the brain by the first hours of study; and the lack of nourishment, though not felt as such, is very perceptible in its effects. After two or three hours of work, the girls can do no more. They are exhausted, fretful, unreasonable; their “heads ache.” They feel but little more appetite for luncheon than for breakfast, and that little they satisfy with the least nourishing sorts of food which are placed before them. At the late dinner—the only meal to which they come of their own accord—they eat more, perhaps too much, in fact, but rarely of that which is best suited to their real needs.—*Harper's Bazar*.

A CONTEMPORARY says that the German factories have forbidden their employees to wear the corset during working hours. But the tight-laced waist may produce even worse results than the stiff corset, if its strings are tightly drawn.

THE DANGER FROM MATCHES.—We wonder how our ancestors managed to get along at all before the invention of matches; they are so indispensably handy that we keep them in every room of the house, the "men folks" carry them in their pockets, leave them hanging in their "other clothes" in a dozen closets in all portions of the house; we have a handful resting within reach while we sleep; they are dropped here and there as we attempt to handle them; if it is light, and we readily see them, they are picked up, otherwise they are left till a more convenient season—which generally does not come, simply because they are forgotten, being "only a match"—we can get plenty more for a cent, and time is too valuable to be wasted over so insignificant a trifle.

The moral is obvious; familiarity has bred contempt, and in the use of these dangerous little conveniences we have become extremely careless. It is time to turn over a new leaf. Keep matches in but a few places in the house or the office. Let those few be fire-proof receptacles, in which the matches could burn to ashes without endangering anything. Remember that combustion cannot go on without a supply of air, and for that reason, as well as to prevent accidental scattering, the match-boxes should always be kept covered.—*Good Housekeeping*.

WHEN making flour starch on washday, while it is boiling hot take the coal oil can and pour in about a tablespoonful for every half-gallon, and see how nice your white skirts and dresses will iron.

FUNNY DEFINITIONS.—According to the school-master, "stability" was recently defined as being "the cleaning up of a stable" and an answer to some question about insurance had this passage, "The money is provided by the company to defray the expenses by the birth of members in pecuniary distress." In summer, it seems, "the day is longer owing to expansion by the heat;" and that season itself is thus explained: "Once a year we have the whole bright side of the sun turned toward us. Then it is summer. The sun is in the solstice and stands still."

Asked to give the distinction, if any, between a fort and a fortress, a boy nicely defined them: "A fort is a place to put men in, and a fortress is a place to put women in."

A teacher asked a juvenile class which of them had ever seen a magnet. A sharp urchin at once said he had seen lots of them. "Where?" inquired the surprised teacher. "In the cheese."

Being asked what conscience was, a boy replied, "An inward monitor." Asked what a monitor meant, the ready answer was, "An iron-clad vessel."

Another lad was asked what he understood by "celerity," and "perhaps from experience," says the contemporary account, he described it as "something to put hot plates down with."—*Ladies' Journal*.

Teacher (to her class in language)—"What is the meaning of 'aqueduct'?"

Class—"A conductor."

Teacher—"The meaning of 'effervesce'?"

Class—"To work."

Teacher—"Jack, you may compose a sentence introducing those two words."

Jack (promptly)—"My father is a horse-car aqueduct and has to effervesce very hard."

Little Girl—"Please, ma'am, Johnny Smart is makin' mistakes in his writing lesson."

Teacher—"How do you know?"

Little Girl—"There's three capital S's in the copy to-day and he's makin' L's."

Teacher—"You can't see his pen."

Little Girl—"No'm, but I can see his tongue."—*Ladies' Journal*.

FLOWERS FOR THE POOR.—If, during your next trip down town, you find that you will not have time to visit a hospital, and that there are no institutions where you are going, in which to distribute the flowers and gladden the suffering and aged, take the blossoms with you, nevertheless, writes Phebe Westcott Humphreys in the June *Ladies' Home Journal*. It will take but a few moments when you are in the business part of the town to leave the main thoroughfares and pass through one of the small side streets; and as you begin to hand around the flowers, the gleeful scampering of many feet, the outstretching of numerous dirty hands, the lusty thanks, and the beaming faces will more than repay you for the trouble you have taken.

Whether it be the small back yard of a city dwelling, or the extensive grounds surrounding a suburban home, it will be possible to raise many varieties of plants producing a constant supply of blossoms, which may be the means of accomplishing untold good with but little effort on your part. Husband, children, neighbors, and all who are conscious of your efforts will be influenced, and will gladly help in the good work, and your own life will be broadened, brightened, and sweetened by the little acts of thoughtfulness, begun by the distribution of

flowers, but soon becoming so much of a habit that they will extend in many directions. In urging many to engage in this noble charity it may be well to use another argument, appealing to the selfish side of our nature, and at the same time giving a hint on floriculture. I am loath to admit it, but there are doubtless many who would be willing to gather and give away the blossoms, not so much for the sake of the lives thus brightened as for the sake of the flower-garden. It should be impressed upon the minds of such that the more you pick from the various plants the more you receive.

Perhaps you remember what was said of one of Bunyan's characters:—

"There was a man (though some did count him mad),
The more he cast away, the more he had."

This is certainly true of the flower-garden.

CULTIVATION OF BEAUTY.—Beauty is not altogether an accident. It may be cultivated. We have been cultivating it, more or less unconsciously and by a variety of methods, this long time past. In comparison with any earlier age, ours may be fairly described as a hygienic one. Now, the relations between hygiene (the science of healthy living) and physical beauty need not be insisted upon. Let us step into the school-room. Beauty of the higher orders is very closely connected with brains. Brains seem too much wanting in earlier feminine portraiture because education has made us conscious of that

defect. We are no longer quite satisfied with a beautiful face that shows no trace of mind. We begin to perceive that this is a mere exquisite mask. But the higher kind of beauty is becoming much more careful of the mental training. The wealthy tradesman who is wise sends his girls to be gently and politely taught. The result is that he himself is scarcely to be recognized as the grandfather of his grandchildren.

Physical beauty may be made in the school-room. Then let us turn to the play-fields. Never were our girls so active or so varied in their pastimes as they are to-day. They are good at the oar, they are great cyclists, they are not easily beaten at the tennis-court, they begin to be skilled at the wicket. Athletics make for physical beauty in an incalculable degree. There is more beauty now than ever before, and there are reasons for it. And because there is more beauty than ever, there is, perhaps, not quite so much enthusiasm about it. And again, the beauties of the next generation will probably be much more beautiful than ours.—*Sel.*

WHEN hot grease is spilled on the floor, pour cold water on it immediately, to prevent it from striking into the boards; then scrape it up.

Teacher — "In the sentence, 'The sick boy loves his medicine,' what part of speech is love?"

Johnny — "It's a lie, mum." — *Sel.*

SOME SEASONABLE SOUPS.

Parsnip Soup.—Take a quart of well-scraped, thinly-sliced parsnips, one cup of bread crust shavings, one head of celery, one small onion, and one pint of sliced potatoes. The parsnips used should be young and tender, so that they will cook in about the same length of time as the other vegetables. Use only sufficient water to cook them. When done, rub through a colander, and add salt and sufficient rich milk, part cream if desired, to make of the proper consistency. Reheat and serve.

Vegetable Soup.—Prepare and slice a pint of vegetable oysters and a pint and a half of potatoes. Put the oysters to cook first, in sufficient water to cook both. When nearly done, add the potatoes, and cook all till tender. Rub through a colander, or if preferred, remove the pieces of oysters, and rub the potato only through the colander, together with the water in which the oysters were cooked, as that will

contain all the flavor. Return to the fire, and add salt, a pint of strained, stewed tomatoes, and when boiling, the sliced oysters if desired, a cup of thin cream, and a cup of milk, both previously heated; serve at once.

White Celery Soup.—Cut two heads of celery into finger lengths, and simmer in a quart of milk for half an hour. Remove the pieces of celery with a skimmer. Thicken the soup with a tablespoonful of cornstarch braided with a little milk, add salt if desired, and a teacup of whipped cream.

Sweet Potato Soup.—To a pint of cold mashed sweet potato add a pint and a half of strained stewed tomato, rub together through a colander, add salt to season, and half a cup of cream. Reheat and serve.

Home Training School

Conducted by KATE LINDSAY, M. D.

- - - For Nurses

A PRACTICAL TALK ON FOMENTATIONS.

No one of the many forms in which water can be used as a remedial agent, is of more universal application than the fomentation. For bumped heads, black eyes, stone bruises, torn wounds, sprains, fractures, dislocations, punctured and poisoned wounds, etc., as well as for rheumatic and stiffened joints, due to cold, exposure, and hard work, the fomentation is invaluable. It usually gives relief to local pains which are due to congestion, inflammation, stagnation, or injury of any kind, and also affords great relief in pains due to diseases of the internal organs, as the throbbing pain of nervous headache, the teasing pain of neuralgia, the stabbing pain of pleurisy, and the cramping pains of colic, cholera infantum, and cholera morbus. It also relieves aching spines, joints, ears, and teeth, and stimulates to more activity all the torpid organs, as the liver, stomach, bowels, kidneys, etc. It is an agent simple in application, requiring but few appliances, and those such as can usually be found in any private family. Although the fomentation is an agent of such great value, it is possible to use it in such a way as to cause great discomfort and even much harm to the patient.

In giving a fomentation, the patient's bed or clothing should not be wet. The cloths should be wrung dry, and should be decidedly hot; yet they should not be so hot as to blister the patient. This is a very important point in the care of infants, and also of those who are paralyzed, helpless, or insane.

The typical fomentation cloth is a quarter of a bed blanket, or two yards of flannel of loose texture. This should be folded so as to make two or more thicknesses. Made of this size, the cloth may be dipped into boiling hot water in a pail or other vessel, by seizing each end and holding it so as to keep enough dry at the ends to be able to wring it out without burning the hands. Then having previously prepared a dry flannel on which to lay the hot wet one, shake out the fomentation a moment or two in the air, then fold quickly, wrap in the dry flannel,

and apply to the patient. The steam will soon penetrate through the dry flannel to the skin, and the fomentation can thus be used much hotter and will retain its heat much longer than if applied in any other way.

Previous to applying the fomentation, the patient should be prepared for it by removing the clothing and placing him on a bed which has been protected first by a covering of oilcloth or even of heavy paper, and then with a blanket. If the cloths are wrung very dry, there will be but little risk of wetting either clothing or bedding. A blanket or flannel may be laid under the patient, and brought up over him, thus forming a cover for the fomentation; or it may be laid over him, and the fomentation put on the outside of the dry blanket. In this case the dry wrapping around the fomentation will not be required, as the blanket will serve the same purpose. If the room is cool, bring up the bed clothes over all, and tuck them in well at the shoulders. If the patient feels over heated and it is not designed to induce perspiration, cover lightly, and have the room of a moderate temperature. The fomentation may be renewed once in every five or ten minutes, as it cools, and repeated from three to ten times or more, as the case may demand.

In colic, inflammation of the bowels, sprains, dislocations, severe bruises, etc., it is often necessary to keep up the fomentation for several hours at a time. In some cases the fomentations have to be applied at intervals for several days.

A fomentation may be followed by a cool sponge bath of water or salt and water or by a compress; or if the patient is in bed and is suffering from neuralgia, the last fomentation cloth may be allowed to become cool, and upon its removal the part rubbed off thoroughly with a dry towel, followed by a brisk dry-hand rub. Always see that the feet are warm before beginning to give a fomentation, and keep the head cool. Neglecting this precaution has often neutralized all the good that might have been derived from the

fomentation. As it is not always possible to find two yards of flannel or a quarter of a blanket on hand for use in an emergency, good fomentation cloths can be made of small pieces of woolen rags, darned together so as to make smooth seams. Even old woolen stockings, socks, skirts, shirts, or drawers can be used in this way; also woolen dress goods, or carded wool, or even clean, washed, combed wool, which can be found in any farm house. Make the little wool comfortables about a half or three quarters of a yard wide and a yard long, and tack and bind the edges so as to keep the wool in place. As a fomentation is often demanded in a hurry, it would be well for every family to have some kind of appliance ready at hand, as our grandmothers used to fill their herb bags and see that they were ready for use at any time. The bag of fomentation cloths might also be kept where it would be easy to get at, with the blankets folded in the right form to be successfully used. A blanket which has become worn thin in the middle might be cut up into four pieces, and the edges overstitched to protect them from raveling. Worn-out shawls also might be used by trimming off the fringe and washing them. If the cloths are too short to admit of wringing in the manner described,—keeping the ends dry,—fold them neatly in the middle of a towel, and wring as before. Where a clothes-wringer is at hand, the cloths may be wrung through that.

The virtue of the fomentation lies in its heat and moisture, which stimulate the circulation and relieve the engorged tissues of stagnant blood, thus taking off the pressure from the nerves, and calling a stream of blood rich with oxygen to refresh and revive the injured tissues and to help them contend with germs and other morbid matter which is threatening them with destruction.

There are many forms of the fomentation, and many substitutes for the ideal fomentation, and many ways of heating the cloths. If hot water is scarce, the cloths may be wet in cold water and laid between two folds of any kind of paper and placed on top of a stove or held up against the side of a stove, first one side and then the other being heated; or the cloths may be laid upon a paper in a dripping pan, and put in the oven or in a steamer. A small oil-stove may be utilized to heat the water. It is a good plan to have two separate cloths, as the applications can thus be made continuous, the hot one being gotten ready to replace the cool one at once. When it is desirable to keep up continuous treatment, the damp cloth can be wrapped around something hot, or it can be placed in position and the hot bag or

brick laid over it. Rubber bags, made short and broad for the stomach, or long and narrow for the spine, are excellent for this purpose; but hot griddles wrapped in paper, hot plates, hot flat irons, and ears of corn heated by boiling in hot water and put in pockets side by side in a flannel cloth, may be used. Even a cotton cloth will answer for the fomentation, if there is a piece of flannel next to the body. Bags of salt, tin cans filled with sand or salt, fruit jars, or bottles may be used to prolong the heat of the damp flannel.

Poultices owe their virtue to the power they possess of retaining heat and moisture, and are in fact a form of fomentation. A bran bag made by putting fresh bran loosely in a flannel bag and then tacking



the bag to keep the bran of an even thickness, say an inch or two, and then boiling it, makes a good prolonged fomentation. Where one of lighter weight is required, hops treated in the same way are good. Soapstones, hot bricks, small pieces of board or of stove wood, heated in the oven, make useful appliances for retaining heat, if applied over some damp cloth used as a poultice. I remember an old Thompsonian doctor's treatment for erysipelas was to cover the parts with a bag of crushed cranberries and keep it hot by surrounding it with heated hickory sticks shaved smooth on one side. Marvelous virtues were claimed for the wood and fruit, and certainly great relief often resulted from this form of fomentation, but the relief was due to the prolonged heat and moisture.

Next month we will give some instruction in regard to the application of medicated fomentations.

GOOD HEALTH

J. H. KELLOGG, M. D. EDITOR.

BATTLE CREEK, MICHIGAN.

OF THE COMING RACE.

Will the coming race be a beef-, mutton-, and pork-eating race, like the present? is a question which is already interesting a large number of persons. The increasing prevalence of disease among animals commonly used as food among civilized nations, and the fact that the association of these animals with man increases both the number and the frequency of the maladies from which they suffer, is becoming so conspicuous and so alarming, that intelligent and thoughtful men and women everywhere are giving the question of the propriety of eating the flesh of lower animals far more attention than formerly.

It is interesting in this connection to recall the fact that all ancient writers who have described the Golden Age to which people of all times have looked back as upon a blissful past, have uniformly referred to this period of peace, prosperity, and happiness as one in which the lives of the lower animals were held sacred, as well as those of human beings, and in which fruits and other products of the earth constituted the exclusive dietary of man as well as of animals of the lower species. Thus Ovid describes Pythagoras as saying:—

"While earth not only can your needs supply,
But, lavish of her store, provides for luxury;
A guiltless feast administers with ease.
And without blood is prodigal to please.
Wild beasts their maws with their slain brethren fill;
And yet not all, for some refuse to kill:
Sheep, goats, and oxen, and the nobler steed,
On browse, and corn, and flowery meadows feed.
Bears, tigers, wolves, the lion's hungry brood,
Whom Heaven endued with principles of blood,
He wisely sundered from the rest, to yell
In forest, and in lonely caves to dwell:
Where stronger beasts oppress the weak by night,
And all in prey and purple feasts delight.

"Oh, impious use! to nature's laws opposed,
Where bowels are in other bowels closed;
Where, fattened by their fellows' fat, they thrive:
Maintained by murder and by death, they live.
'Tis then for naught that mother earth provides

The stores of all she shows, and all she hides,
If men with fleshy morsels must be fed,
And chaw with bloody teeth the breathing bread:
What else is this but to devour our guests,
And barb'rously renew Cyclopean feasts?
We, by destroying life, our life sustain,
And gorge the ungodly maw with meats obscene.

"Not so the golden age, who fed on fruit,
Nor durst with bloody meals their mouths pollute.
Then birds in airy space might safely move,
And timorous hares on heaths securely rove,
Nor needed fish the guileful hooks to fear,
For all was peaceful; and that peace sincere.
Whoever was the wretch (and cursed be he)
That envied first our food's simplicity,
The essay of bloody feasts on brutes began,
And after forged the sword to murder man—
Had he the sharpened steel alone employed
On beasts of prey that other beasts destroyed,
Or man invaded with their fangs and paws,
This had been justified by nature's laws
And self-defense: but who did feasts begin
Of flesh, he stretched necessity to sin.
To kill man-killers, man has lawful power,
But not the extended license to devour."

It is also of interest to note that many sagacious modern writers, in looking forward to the coming age in which the recognized evils of our present state shall have been by some means gotten rid of, likewise repudiate flesh eating as inconsistent with a state of universal love and harmony. Bulwer Lytton, in his "The Coming Race," frequently advances the idea that flesh eating will be abandoned in the coming age; and in one passage to which a friend has recently called our attention, shows clearly his personal views respecting the deteriorating influence of a diet of flesh. Aph Lin, one of the philosophers of the coming age, is made to explain to a carnivorous visitor, the fact that it was unsafe for her to travel in the country, remarking, "It would depend upon the individual temperament of some individual sage whether you would be received, as you have been here, hospitably, or whether you would not be at once dissected for scientific purposes. Know that when the Tur first took you to his house, and while you were

there put to sleep by Tae in order to recover from your previous pain or fatigue, the sages summoned by the Tur were divided in opinion whether you were a harmless or an obnoxious animal. During your unconscious state your teeth were examined, and they clearly showed that you were not only grammivorous but carnivorous. Carnivorous animals of your size are always destroyed, as being of dangerous and savage nature. Our teeth, as you have doubtless observed, are not those of the creatures who devour flesh. It is, indeed, maintained by Zee and other philosophers, that as, in remote ages, the Ana did prey upon living beings of the brute species, their teeth must have been fitted for that purpose. But even if so, they have been modified by hereditary transmission, and suited to the food on which we now exist; nor are even the barbarians who adopt the turbulent and ferocious institutions of Glek-Nas, devourers of flesh like beasts of prey.

"In the course of this dispute it was proposed to dissect you; but the Tae begged you off, and the Tur, being, by office, averse to all novel experiments

at variance with our custom of sparing life, except where it is clearly proved to be for the good of the community to take it, sent to me, whose business it is, as the richest man of the state, to afford hospitality to strangers from a distance. It was at my option to decide whether or not you were a stranger whom I could safely admit. Had I declined to receive you, you would have been handed over to the College of Sages, and what there might have befallen you I do not like to conjecture."

Mr. Howells, in his "Altruria," advances a similar thought; and to one who will give the matter serious consideration, it is evident that should the population of the earth continue to increase at the present rate for a few thousand years, the time would come when the habitable portion of the earth would be so densely populated by human beings, that it would be necessary to economize food, and land devoted for food production, to such an extent that it would be impossible to depend upon so wasteful a method of nutrition as the use of food at second hand in flesh consumption.

ADULTERATION OF FOOD.

DR. F. B. MCNEAL, the Dairy Food Commissioner of Ohio, has been making a careful study of food adulteration as practiced in that State, which however is probably not at all in advance of other States in this particular.

One of the first subjects investigated by Dr. Mc Neal, was cream of tartar. In one of the samples obtained, analysis showed that about one eighth of the material sold was cream of tartar, the remainder being common land plaster, or gypsum. It was sold for 40 cents a pound. Cream of tartar is bad enough, but land plaster is worse. It is no wonder that so many people who make use of biscuit raised with baking powders suffer from indigestion.

Peppers, allspice, and other condiments are found to consist, for the most part, of ground cocoanut shells and other trash. We find very little fault with this mode of adulteration, except its dishonesty, since, on hygienic grounds, the adulterated article is less objectionable than the pure. Pepper made up for the most part of cocoanut shells, will certainly do less harm to the stomach than pure pepper.

Jellies are found so generally adulterated that one is led to believe that this is an article wholly unsafe to use, unless one has either made it himself or seen

it made. Here are some of the results of the doctor's investigations of jellies:—

"Peach jelly without peaches and composed of glucose, artificially flavored and colored, was the contents of another jar. These 'jellies' can be produced for about 2 cents a pound, and usually retail at 15 to 20 cents a glass, which contains a scant pound. In the more harmless, caramel is often used for coloring.

"The manufacturers of these glucose jellies claim they are doing the poor man a service by giving him a cheap and good jelly, but Dr. Weber, the able chemist of the Ohio State University, who makes many of Dr. Mc Neal's analyses, states a very different case. Glucose, he says, is but one constituent of a perfect food, containing the carbo-hydrates, while a good fruit jelly contains all that is necessary to nutrition. One can live on a fruit jelly, but not on glucose. The sick or convalescent find just what they need chemically in a fruit jelly.

"The glucose jelly contains none of the mineral salts, without which fats and the carbo-hydrates cannot be readily digested, and are of little value to the system. A pure fruit jelly is an ideal food for a convalescent, a glucose jelly starves him. Dr. Weber draws much the same distinction be-

tween glucose syrups and the pure article, and antagonizes the use of oleomargarine for a similar reason. The fats it contains are hard to digest, while the butter fats are not. The consequence is that the use of oleomargarine tends to increase stomach difficulties, and derange and weaken the digestion."

Maple sugar, cider, and honey are found to be grossly adulterated; for example:—

"A sample of alleged maple syrup sold for \$1 a gallon was found to be composed of forty-three per cent glucose and one third cane sugar, with a little artificial flavoring, and cost not more than eighteen cents a gallon to produce. What was vented as sweet cider proved on analysis to be only a decoction of water and acetic and salicylic acid, the latter being a decided irritant to the stomach. It could be manufactured for about one and one half cents a gallon, and retails at five cents a glass, a rate of profit that is impossible in trade to-day outside the dishonest circle of adulterators.

"Honey, like all sweets, is one of the cloaks for the glucose fiends. What purported to be 'genuine strained honey,' and bearing a Cleveland label, was found to be wholly composed of glucose. It cost two or three cents a pound to prepare, and sold for twenty cents. Another more artistic case of cheating was labeled 'pure comb honey,' and in the center of the jar was a pretty slice of the genuine honeycomb. The rest of the jar was filled with a solution of glucose. The margin of profit here was

somewhat less than 1000 per cent, because of the fraction of the genuine article."

One of the most horrible revelations made by Dr. Mc Neal was in the examination of a brand of canned "chicken sausage," which, on investigation, was found to contain no chicken whatever, but to be composed of the ground flesh of unborn calves and pigs.

Fortunately these adulterations relate almost wholly to articles of food which are in themselves questionable and unnecessary. We find nothing in Dr. Mc Neal's report indicating that there is at the present time any extensive adulteration of bread, flour, or any of the grain preparations. An enterprising firm down in Connecticut is manufacturing bogus coffee berries which look exactly like the original, but we have never yet heard of any one's being engaged in the manufacture of bogus wheat, corn, or potatoes.

Some years ago, certain newspapers circulated a report that a man had discovered a process for manufacturing eggs, but this proved to be simply a newspaper yarn. Chickens still have a monopoly of the egg business, and produce a genuine article. A person who chooses to live upon a perfectly hygienic dietary can console himself with the thought that he is not likely to be seriously injured by any of the numerous processes of adulteration which are now indulged in by trade tricksters.

TRAINING THE STOMACH. — If the stomach is in a healthy condition, and able to digest food, that condition will be indicated by a sense of hunger; if the system is in a disordered state, as is that of a person suffering from fever, no food is relished, and the patient does not care whether he eats or not. In such a case it is the duty of the nurse to insist on the patient's taking food the same as he would take medicine—once in so many hours. Dyspeptics often literally starve themselves, because their stomachs suffer when they take food, and they take less and less until by and by the stomach loses all desire for food, and almost loses its ability to digest it.

The only way to cure such a person is to train the stomach into a state of activity. The stomach needs to have a healthy stretching with a good big meal, and to have some hard work to do. I have seen a good many patients whose stomachs were not really feeble, but they needed to be stretched by hearty meals. Once in a while I prescribe a good "square"

meal for a patient who complains that he does not want to eat anything.

At one time I had a lady patient whose stomach had been pampered until it finally became so feeble and inactive that it would not act upon nor even hold any food that was put into it. I was greatly perplexed to know what to try next. She was finally restricted to nothing but gluten gruel, but her stomach would not digest even that. I then said, "The best thing for you to do now is to eat what you please." So I ordered a good meal for her, everything on the bill of fare, and she ate everything she wanted. Her stomach disposed of that meal without a particle of trouble; all the vomiting and discomfort ceased, and from that time she began to gain in health.

The time sometimes comes in the treatment of cases which have been dieted so carefully, that a change to an ordinary wholesome dietary becomes not only proper, but necessary for recovery.



PNEUMONIA A CATCHING DISEASE.—The recent investigations of bacteriologists have developed the fact that pneumonia is due to a peculiar microbe, the introduction of which into an animal may be the means of inducing pneumonia. Dr. Orranos, of San Luis Potosi, has recently published a paper giving some interesting observations in relation to this disease, which is exceedingly prevalent in Mexico. He cites numerous instances in which houses seem to be infected with this disease, case after case occurring in the same house. He also reports other observations in which persons have contracted the disease by visiting those suffering from it. He considers this disease highly infectious or contagious. In one case cited, the clothing of a man who had died of the disease was sent to another family at some distance, and in a short time two children in the house were taken ill with the disease. In another case a nurse who had a patient suffering from pneumonia, and slept in the same room, contracted the disease. In two years the doctor had traced thirty-two cases to infected houses.

We are constantly learning new facts in relation to the propagation of disease by microbes, and the time may not be far distant when we shall be compelled to recognize pneumonia as a disease as positively infectious in character as smallpox, although its contagious element is doubtless less virulent.

CARE OF THE HUMAN SCALP.—Salt and water is a very good application to the scalp. Its effect is to stimulate the circulation of the part. The reason why the scalp becomes unhealthy is, that it is not groomed enough. We know how it is with a horse that is not properly cared for, and rubbed often; he becomes unhealthy, and as we say, hide-bound. This is precisely the condition of the human scalp when it does not have proper care. If it is not curried and groomed, it becomes hide-bound. In

order for the scalp to be healthy, it must be manipulated so that it can be easily moved upon the skull; otherwise waste matter accumulates, the tissue spaces of the scalp become filled, and the little pockets which produce the hair become diseased, and thus the hair itself becomes diseased, dies, and falls out.

When rubbing the scalp for the benefit of the hair, and in making application of cold water, there must be two movements: First, a friction of the scalp so as to bring the blood to the surface; second, place the fingers firmly upon the scalp, and move it upon the bone. If the scalp is unhealthy, and the patient is much troubled with headache, the scalp will be found sometimes bound fast to the skull bones; but after manipulation during a few weeks it will be possible to move the scalp freely, and then the condition of the hair will change for the better, as these movements cause the blood to flow freely, stimulate and aid the lymphatic circulation and thus supply nutrition to the roots of the hair.

DIET FOR FLESHY PERSONS.—Almost any one article of wholesome food is good for a fleshy person, provided he will eat only that one thing. If one pursues this course, he cannot but grow thin, for no one will eat too much when confined to one article of food. So long as a person having abundant flesh eats all he wants at a meal, he will never grow thinner; and this is the secret of this system of treatment—if secret it be—that the patient is prevented from eating all that his appetite craves. As a rule, persons with excess of flesh sleep well, have good digestion and keen appetites, and are fond of much rich food. Such persons to reduce flesh will need to abstain from the so-called “pleasures of the table.” They should avoid sugar, fats, butter, and starchy foods,—the latter as much as possible; one cannot avoid starchy foods altogether, because almost all foods except flesh contain starch.

ANSWERS TO CORRESPONDENTS.

DILATATION OF THE STOMACH—IVY POISON—INCONTINENCE OF URINE—ETC.—G. H. inquires: "1. What is the cause of dilatation of the stomach? 2. Please give directions for treatment. 3. What is the best treatment for ivy poisoning? 4. How should one deal with a case of incontinence of urine in a child? 5. Please name in their proper order, six of the most healthful articles of diet in general use."

Ans.—1. Overeating, indigestion, tight lacing, and improper habits in sitting are the most frequent causes of dilatation of the stomach.

2. This is a condition which requires more careful treatment than can be given at home,—massage, applications of electricity to the abdominal muscles, and special gymnastics are a necessary means of treatment. The writer has nearly ready for the press a work which deals with this subject.

3. The application of fluid extract of grindelia robusta is best; it should be put on several times a day.

4. The child should be taken to a physician.

5. The most healthful fruits are grapes, peaches, and apples. The most excellent grains are wheat, oats, and corn.

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 MASSAGE.—Mrs. N. S. W. inquires: "Do you recommend massage for cold limbs and feet? This condition has existed for years, seemingly the result of indigestion, consequently impoverished blood and bad nerves."

Ans.—Yes. Nevertheless, in cases of this sort, massage does not always give relief. Sometimes it increases the difficulty for the relief of which it is applied. The indigestion must be relieved first, because the coldness is the result of an irritation of the abdominal sympathetic resulting from indigestion.

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 BLOATING—URINATION.—J. M. B. writes that soon after eating fruit of any kind she bloats badly, and passes large quantities of urine. She does not eat meat, and is careful of her diet. Please give advice as to home treatment.

Ans.—The patient probably has a dilated stomach and septic indigestion. She should avoid the use of sugar and raw fruits. She may be able to eat fruits in small quantities, if well cooked. The food should be dry, and thoroughly masticated. The use of wheat charcoal in teaspoonful doses after each meal will doubtless prove serviceable.

"GIANT OXIE" — URIC ACID DIATHESIS.—J. R. D. asks the following questions: "1. Have you made an analysis of the remedy called 'Giant Oxien,' and if so, will you tell me of what it is composed? 2. What is the best means of neutralizing a uric acid diathesis in the blood?"

Ans.—1. No.

2. Water drinking and a pure diet, avoiding meats and all unwholesome foods.

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 EAR TRUMPET.—"C." inquires: "What would you recommend in the way of an ear trumpet for a person who is too deaf to hear ordinary conversation?"

Ans.—The conversation-tube is probably, on the whole, the best instrument for such cases.

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 PAIN UNDER SHOULDER BLADE—SALT RHEUM—ETC.—This correspondent writes that she has frequent pain below the right shoulder blade, and always feels a dull pain upon pressure in the region of the sixth rib, well toward the front. Her diet is mostly rice and eggs, no sugar, butter, or meat. She asks: "1. Please tell me how I can avoid getting bile on the stomach. 2. Are the remedies in 'Man, the Masterpiece' the same as those in the 'Home Hand-Book' printed in 1880? 3. What should be the treatment for salt rheum?"

Ans.—1. The entrance of bile into the stomach is an abnormal thing, and is usually due either to regurgitation of bile from the small intestine, or to a prolapsed condition of the stomach, producing a dragging down of the upper portion of the duodenum, and making a bend at a point below the place where the bile enters the intestine, so that it runs down by gravity into the stomach. The cause of the condition must be discovered and removed.

2. Every new medical book, and, as a rule, every new edition of a medical book, contains some modifications in reference to the treatment of disease, as rational medicine is progressive.

3. The proper treatment of salt rheum depends upon the condition of the person. In very old cases, in which the skin is thickened, bathing the parts with hot water is one of the most efficient remedies. The application of equal parts of tar ointment and zinc ointment is also useful in these cases. In acute cases the application of zinc ointment is frequently useful. When the surface is moist, the application of a powder as subcarbonate of bismuth or equal parts of zinc oxide and starch is most likely to give relief.

TREATMENT FOR CATARRH—KEEPING GRAHAM FLOUR, PEARL BARLEY, ETC.—H. D. E. asks the following questions: “1. What is a reliable treatment for catarrh? 2. How are Graham flour, pearl barley, oatmeal, etc., to be kept free from insects during the summer?”

Ans.—1. There is no panacea for catarrh. The essentials of treatment are cleansing of the nasal cavity with an alkaline solution, as a teaspoonful of salt and an equal quantity of soda to a pint of water. Apply in a coarse spray, and follow it by the application of an antiseptic solution. The following is a very good preparation to be used after the cleansing solution:—

Menthol	xxx grs.
Oil of wintergreen.....	cxx m.
“ cinnamon.....	xxx “
Glycerine.....	viii 3.
Alcohol.....	iv “
Water, distilled.....	xx “
Mix and filter through carbonate of magnesia.	

2. They must be kept in closed receptacles.

FISH IN DRINKING WATER.—L. A. P. inquires: “Is it injurious to use, for domestic purposes, the water of wells in which are fish?”

Ans.—Such water should be filtered and boiled before using it.

COLD CREAM.—Mrs. B. inquires: “1. What are the usual ingredients of cold cream? 2. Is there any preparation of the kind which you can recommend?”

Ans.—1. Lard and camphor.

2. Cold cream made of vaseline is preferable to that made of lard, and is unobjectionable.

ASTHMA.—M. S. inquires, “What is the best thing to do for an attack of asthma?”

Ans.—The remedy must depend upon the cause. When due to indigestion, relief of the stomach irritation; when due to catarrh of the bronchial tubes, change of climate is the only means of radical relief.

NUTRITIVE PROPERTIES OF FLOUR.—“A subscriber” inquires: “Is it possible to restore to patent flour, by the use of acid phosphates, the nutritive properties lost in the milling?”

Ans.—No. The best brands of patent flour, however, require no such addition, as they contain more phosphates than ordinary flour, in consequence of the removal of a great quantity of almost pure starch, which constitutes the center of the kernel. This starch is ordinarily sold as “Family Flour,” and is very poor food.

SPONGE BATHS IN THE MORNING.—T. M. asks: “Would you advise a person in moderate health to take a cool sponge bath every morning upon rising?”

Ans.—Yes.

SYMPTOMS OF CARBUNCLE.—Mrs. A. L. W. inquires: “1. What are the symptoms of carbuncle? 2. Could a spreading sore, with small festered spots on its surface, beginning with two or three pimples, which finally run together, be called a carbuncle?”

Ans.—1. An inflammatory swelling similar to a boil, but much larger, and obstinate; usually with several openings.

2. Physicians might differ in opinion in such a case.

THE SALISBURY SYSTEM.—J. W. wishes to know our opinion of the Salisbury treatment, which consists of taking three or four pounds of chopped beef daily, and drinking three or four quarts of hot water.

Ans.—Temporary improvement sometimes occurs under this system. The writer has met patients who have been nearly killed by it. It is very bad indeed as a routine treatment, and is not necessary in any case.

SCROFULA.—J. S. C. asks: “1. Is the presence of numerous pimples on the face a symptom of scrofula? 2. Please give symptoms of scrofula.”

Ans.—1. No.

2. Scrofula is not so clearly defined a disease as it was formerly supposed to be. One of the most characteristic symptoms of scrofula is so-called scrofulous enlargement of the lymphatic glands, which are felt as lumps under the skin.

EXERCISE FOR WOMEN.—L. G. wishes to know, “1. Is stretching and reaching up good exercise for women? 2. Is running a sewing machine injurious to a woman?”

Ans.—1. Yes, for women whose muscles have not been developed by proper exercise.

2. Yes, if a woman has not had the advantages of systematic exercise for the development of the general muscular system.

RAISINS OR DRIED FIGS AS FOOD.—J. W. G. inquires as to the healthfulness of raisins or dried figs as food.

Ans.—For persons with ordinary digestive powers, raisins and figs are excellent food.

RELIEF DEPARTMENT.

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

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

The purposes of this department, as regards these two classes, are as 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.

The following list contains the names and addresses of persons who have kindly consented to act as agents for us in this work, and who have been duly authorized to do so. Facts communicated to any of our local agents in person will be duly forwarded to us.

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.]

Two little boys, eight and ten years of age (Nos. 177 and 178), are left without a home or kind care from any one. The only love they know is that which they each have for the other. They are in Minnesota. They have blue eyes, light hair, and excellent health, and seem to be very affectionate.

No. 180 is a little boy eight years old, living in Kansas. He has been abandoned by both father and mother. He has good health, and is a bright, lively boy. He needs careful training, but Christian kindness and love will doubtless yield a rich harvest.

A MICHIGAN boy (No. 181), seven years old, needs a home. He has blue eyes, light hair, and good health, and has been taught good manners.

A BAND OF FOUR.—Here comes a band of four boys (Nos. 189-192), to claim our attention and sympathy. Their ages are three, nine, ten, and eleven. They all have dark eyes and auburn hair. With the sad life they must have lived, they have not had the right

kind of training, and hence will need careful watch-care from those who undertake their rescue. Has not some good Christian heart faith enough to take one of these lambs of the fold and bring him up for God? Surely the promise of grace and wisdom sufficient is not alone for those who minister to children who seem the most promising. God alone knows what destiny awaits any one of his little ones.

LITTLE blue-eyed Harold, only four months old (No. 193), is a bright baby boy waiting for some one to catch him up to their heart and home. He is in Michigan.

HERE is another Michigan baby boy (No. 194), seventeen months old, with blue eyes and light hair. How dreadful it seems for such little wee men to be left out in the cold this winter weather. Surely some cosy fireside would be wonderfully brightened by their childish prattle.

Two little Swedish children, aged five and six (Nos. 196 and 197), demand a share of sympathy, for their father is dead, and their mother is too poor to take care of them. She has done the best she could, but is unable to do more. They have good health, and are nice appearing.

No. 198 is an orphan boy who has lost his mother and father, and has been living with his grandparents. They are very old, and cannot take proper care of him longer, so desire that a home be found for him. He is nine years of age, has dark eyes and light hair, and of fine appearance. Here is an opportunity for some real missionary work, for this little fellow has been quite neglected.

TWO SISTERS (Nos. 199 and 200).—Word from Pennsylvania tells of two little girls, ages six and eight years respectively, who have been left without a mother's care, and their father is desirous of placing them in good homes. They have dark eyes and hair, are intelligent looking, and have had good training.

TWO DAKOTA BOYS (Nos. 201 and 202).—We have received the description of two boys who are sadly in need of a home. They have not known a father's care for six years, and their mother is no longer able to support them. The older, eleven years old, has black hair and eyes; the younger, ten years of age, has brown hair and blue eyes. They have had good training, and the greater part of the time they have spent in the country.

NO. 203 is a boy living in Michigan, who is in need of a home. He is eight years old, has blue eyes and light hair, and is truthful, industrious, and obedient. Surely some home will be made brighter by his presence.

FANNIE (No. 204).—This little girl with bright blue eyes and light hair, who has been living with an aged relative, is in need of a kind mother's care. She is nine years old, and is now living in Pennsylvania.

ANOTHER BOY (No. 205).—A rugged boy twelve years of age has been left in the world without a fond mother's care. His father is out of work and wants to find a home for the child. He has dark hair and eyes, and a good intellect. Will not some one take this child and give him educational advantages, and at the same time provide him with a good home?

A BABY GIRL (No. 206).—This is a healthy baby girl five months old, and knows only a nurse's care. She is living in Indiana, waiting for some one to offer her a home.

ERWIN (No. 209) is a bright, pleasant looking boy only six years old. His father is dead, and the mother is very poor and living among strangers, so the child is left in the world with no friends to care for him. He is now in Michigan. What family will welcome him as one of their number?

TWO ORPHANS (Nos. 210 and 211).—Two boys aged 13 and 11 years are sadly in need of a home. They have dark eyes and hair and are in good health. They are also in Michigan. Who will provide for these children who are left in the world with no one to care for them?

A RECENT letter from the father and mother of little Donald (No. 118), who left us last October for home, tells that he is thriving finely and they think he is a nice baby. We are glad to hear of his doing so well.

FIVE more children have found homes recently. No. 160 has gone to Maine; No. 163 to Virginia; No. 164 to Tennessee; No. 171 to Iowa; and No. 173 to Minnesota.

THE three children who were waiting for an opportunity to go to their homes in the West, have left

Battle Creek since our last issue. Word just received tells of the arrival of Nos. 186 and 187, and states that they "seem very happy in their country home." The people who have received them write that they are greatly pleased with the children. Baby Harry (No. 138) has reached the home provided for him, and the new "mother" writes: "Baby seems quite at home, and we all love him dearly. We are well pleased with him, and he is truly welcome in our home. I feel that I have a work to do, to train him in the right way."

In looking over our records recently, we found that since the opening of this department, thirty children have been placed in homes through the medium of this department.

PERSONS making application 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.

CLOTHING 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 Clothes 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 in 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 are 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.

LITERARY NOTICES.

Home Cheer is the name of a neat little 8-page monthly, the first number of which is just received from the office of the Grand Traverse *Herald*. *Home Cheer* is edited by Mrs. M. E. C. Bates, which fact alone, promises everything for the future of the little sheet. Aside from its bright and attractive exterior, what particularly strikes the reader is its purity of atmosphere. Jokes the little monthly has in plenty, but they are harmless and innocent; the coarse ones relating to courtship and marriage, which form the staple of the funny column of many newspapers, are here conspicuous by their absence. All honor to a paper which has no space for any matter which lowers the status of womanhood.

THE Bancroft Company, Auditorium Building, Chicago, are engaged in a work deserving of more than passing notice. It is the reproduction in book form in the highest style of art, of the entire Exposition. In *THE BOOK OF THE FAIR*, as the work is called, the great panorama will move from the past to the present in logical and historical order. The reader will observe how the foundations upon which previous fairs were built gradually broadened, and like some magical plant he will see the unfolding of the ideas which are at the base of the Columbian Exposition. Having introduced this latest and greatest of the world's fairs, the book will trace its evolution in all details, will show how it was built, and who were its chief founders, and then picture it not only in its general but in its special features. In the evolution of the broad foundation upon which the Fair is established, in the creation of the Fair itself, and in the presentation of the gorgeous and the bewildering spectacle which is now before us, the pencil of the artist and the pen of the author will be complementary, each assisting the other.

AUTOBIOGRAPHICAL SKETCHES AND PERSONAL RECOLLECTIONS, by George T. Angell. Price, paper covers, by mail, 10 cents; cloth, 25 cents. 155 pp. Published by the American Humane Education Society, Boston, Mass. Even to the casual reader this record of a life spent in a heroic struggle with the cruelty and wrong suffered by our domestic animals, cannot fail to prove deeply interesting. To Mr. Angell's humanizing efforts the present enlightened public sentiment regarding the care and treatment of our dumb friends is mainly due. Although Mr. Angell began his work two years after Mr. Henry Bergh organized in New York City the first society for the prevention of cruelty to animals, the labors of the

latter were mostly of a local character, while Mr. Angell's plans have included the entire United States as well as Europe. Now, in a serene and honored old age Mr. Angell still with tongue and pen calls for help for the dependent class that cannot speak for themselves.

THE CENTURY CO., 33 East 17th St., New York, have just issued "Pudd'nhead Wilson's Calendar for 1894," containing humorous extracts from Mark Twain's latest story, "Pudd'nheaded Wilson," now appearing in the *Century*. They offer to send a copy of the calendar free to any one who will inclose them a stamp to pay postage.

EVERYBODY will be interested in the account of "How Great Newspapers are Printed," in *Demorest's Magazine* for February, and the daily newspaper will acquire a new interest after one has read this fine article, and examined its illustrations. "Shall Incomes be Taxed?" a live question of the moment, is discussed by Chas. A. Dana, Henry Clews, Erastus Wiman, Howard Gould, Hugh O. Pentecost, Thos. F. Gilroy, and Samuel Gompers. There are several excellent stories. "Table Decorations by the Home Florist," gives some excellent suggestions; in fact, there is something in this number to please every one, exclusive of the over 600 illustrations that embellish it. \$2 a year. Published by W. Jennings Demorest, 15 E. 14th St., New York.

WE have received one of the Parmlly Billings leaflets, the Japanese series of temperance leaflets, published by Sho Nemoto, for the W. C. T. U. work in Japan. This one is of special interest as it contains an address entitled, "Citizenship," delivered in Tokio, Japan, by the lamented Mary Allen West, late editor of the *Union Signal*, and President of the Ill. Woman's Press Association. There is also a brief history of her work in Japan, given through the medium of her own personal letters, as well as those of her co-laborers, the various memorial services held, the letters of condolence, and the tributes and memorials prepared for both the Japanese and the American funeral services. The entire correspondence relating to the death and burial of this distinguished Christian worker, from the embalming of the body to its shipment to American shores and the final burial services at her native town, Galesburg, Ill., where she was tenderly laid beside the mother she so much loved, is here given.

PUBLISHERS' DEPARTMENT.

THE Chicago Branch of the Battle Creek Sanitarium is meeting with great success, as is also the Medical Mission connected with it, an account of which will appear in an early number of this Journal.

* *

A FEW days ago twenty-five young men and women, members of the Battle Creek Sanitarium Training School for Missionary Nurses, left for Chicago to engage in self-supporting work among the poor. They are already hard at work, and report themselves as enjoying greatly the beneficent work which they have undertaken.

* *

WE are having delightful weather in Southern Michigan. For the greater part of the season the grass has been green and visible and sunny days have been numerous. At the present time the snow is in just sufficient quantity to afford good sleighing, and all are enjoying the opportunity for outdoor exercise, — sleigh-riding, coasting, and other winter sports.

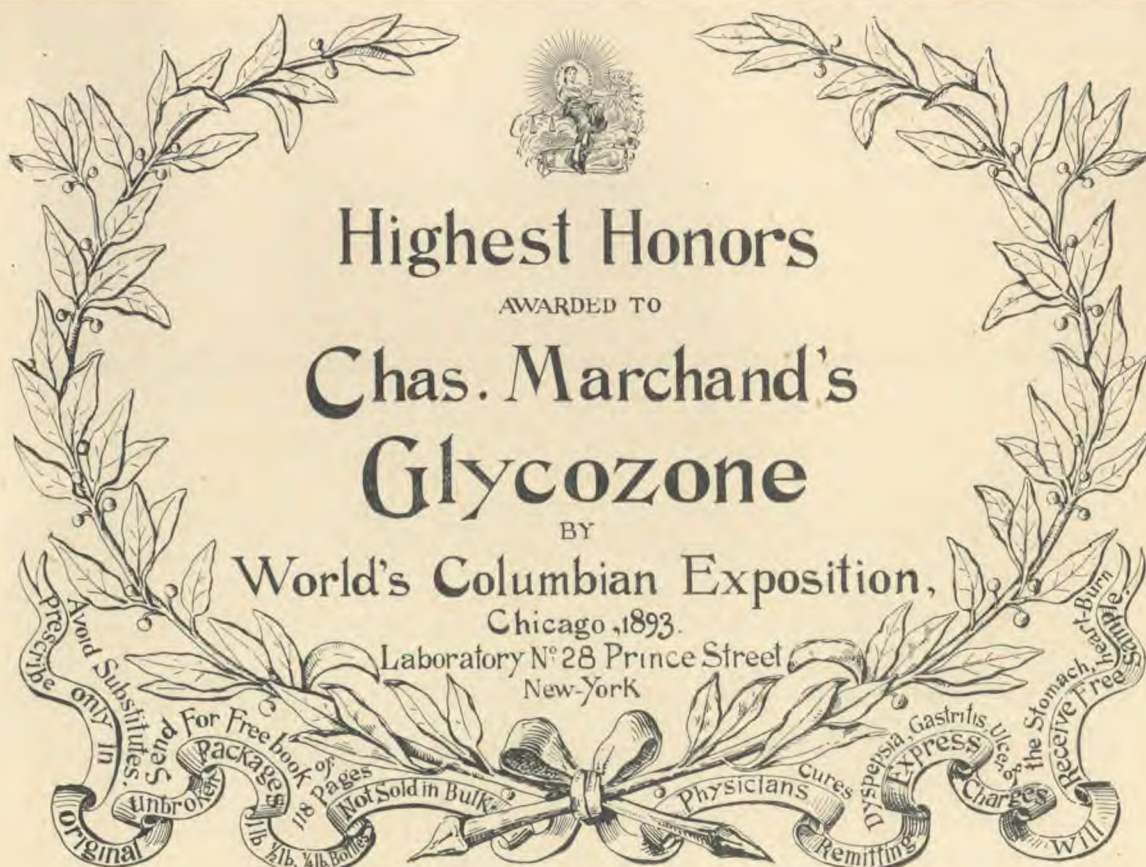
* *

MANY of the old patients of the Sanitarium, especially the hundreds who have been inmates of the surgical ward in the last five years, will be quite surprised to know that Mrs. S. M. Baker, the matron of the ward, has taken the field as an organizer of Christian Help Bands. Mrs. Baker has for a long time been making special preparations for this work, and is now engaged in Detroit organizing and instructing Christian Help Bands, giving instruction in district nursing, the various phases of mothers' work, such as kindergarten, kitchen

garden, sewing Sloyd, and similar lines of work. Mrs. Baker is assisted by Mrs. Walston, a member of the Sanitarium Training School for Missionary Nurses. All of those who have been acquainted with Mrs. Baker's work in the surgical ward will scarcely understand how it is possible for her to be spared from this important post, and it is not too much to say that the managers have not found it possible to fill her place; but since the institution is wholly a missionary enterprise, and its purpose to help the poor and the needy and the afflicted everywhere as well as simply at the Sanitarium, they have consented to grant Mrs. Baker a vacation of a few months for the purpose of starting Christian Help organizations in Michigan. The work in Detroit has, thus far, proved eminently successful. Five splendid bands have been organized, and are engaged in active work among the poor of that city.

* *

WITHIN the last month the Sanitarium family have had the pleasure of making the acquaintance of a number of talented missionaries, representing various fields of missionary labor. The famous Chaplain McCabe, active for many years as Home Secretary of the Methodist Missionary Society, has been spending a few days visiting his wife and son, who are patients at the Sanitarium, and has added something to the general spirit of missionary zeal which is always to be found at the Sanitarium, both by interesting and stimulating addresses which he delivered before the helpers, the Sanitarium patients, and also the citizens of the place, and by the appreciation and encouragement which he expressed.



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PUBLISHERS' DEPARTMENT.

January 9, the Chaplain addressed an audience of several thousand people in the great Tabernacle on the subject of foreign missionary work. There is probably no man more capable of inspiring enthusiasm in philanthropic work than is Chaplain McCabe. He has a special gift in opening the hearts and the pocket-books of Christian people by his appeals in behalf of missionary enterprises of various sorts with which he is connected. In a single year he accomplished the task of raising one million dollars. One of the secrets of his success is his magnificent singing voice. The beautiful gospel songs which he renders in a most effective manner appeal to his audience as eloquently as do his stirring sermons and addresses. The Sanitarium family hope to have the pleasure of another visit from this godly and talented man.

* *

A VERY large addition has recently been made to the Sanitarium treatment rooms by a two-story extension on the north and east sides of that portion of the building containing the treatment rooms. The size of the addition is such as to double the room devoted to baths and other treatments.

* *

REV. AND MRS. GRIFFIN, long missionaries in India, with their little son, are spending a time as patients at the Sanitarium, Mrs. Griffin requiring surgical as well as medical relief. Rev. Griffin recently delivered an interesting address which led his audience to hope that they may have the pleasure of hearing him again.

* *

REV. THOS. CRAVEN, a missionary from India who is now visiting this country in the interest of Bishop Thoburn's work in India, spent two days at the Sanitarium during the month, and delivered a number of stirring addresses, in which a great interest was manifested. His address on Christianity in India and the methods of conducting missionary work among the natives was listened to with great interest. Rev. Craven promises another visit before his return to his work.

* *

THE party which left the Sanitarium a few weeks ago to establish a Medical Mission in Mexico, report that they have found an excellent location, and have already begun their work at the noted city of Guadalajara. Both doctor and nurses already have their hands more than full of medical work, and additional help will soon be sent. The writer hopes to have the pleasure of visiting the Mission in person within a few weeks of the present time, and will then be able to give a more extended account of the work which is being carried on there.

* *

ONE of the most interesting occasions which has recently occurred in Battle Creek was that of the dedication of the Haskell Orphan Home, January 25. This institution has been erected in the last year by the S. D. A. Medical Missionary and Benevolent Association, for the purpose of conducting a home for orphan children upon advanced principles and managed by improved methods, many of which are quite unique in character, and calculated greatly to increase the utility of an institution of this sort. The money for the building was donated by Mrs. Caroline E. Haskell, by whose generosity a large number of beneficent enterprises in different parts of the country have been lifted into usefulness. Mrs. Haskell was, unfortunately,

not able to be present, on account of suffering from an attack of *la grippe*; but a sketch of the life of her husband, in whose memory the gift was made, was read in connection with the other exercises of the day. A very able and interesting address was delivered by Dr. Gillespie, Bishop of the Episcopal Diocese of Western Michigan. Bishop Gillespie is a man of liberal spirit and broad experience and information, and his words of advice, counsel, and encouragement were truly inspiring. The following was the program:—

Invocation.....	Eld. J. N. Loughborough
Anthem by the Sanitarium Chorus, under the Direction of Prof. Edwin Barnes	
Brief History of the Enterprise.....	Dr. J. H. Kellogg
Sketch of Hon. Frederick Haskell, in whose Memory the	
Building was Erected.....	Mrs. E. H. Whitney
Anthem.....	
Dedicatory Address.....	Bishop Geo. D. Gillespie
Scriptural Reading, with Responses by the Children,	
and Dedicatory Prayer.....	Elder L. McCoy
Remarks.....	Eld. U. Smith and Eld. J. N. Loughborough
Anthem.....	
Inspection of the Building	
Exercise by the Children in the Assembly Room, at 5 P. M.	

About a thousand people were in attendance, and all seemed heartily to enjoy the exercises. A large number of children have already been received into the Home, and the little ones are very happy in their new quarters.

* *

THE Sanitarium Medical Mission in Chicago is meeting with greater and greater success as each week passes. There could not have been a more opportune time for the establishment of such an enterprise. The work was opened up at just the right time to enable it to be in readiness for the great tidal wave of want and misery which came upon the city a few months ago, and which has steadily increased in severity up to the present moment. The reader may be interested in the following extract from a Chicago paper in relation to this work:—

"It is a unique charity that is dispensed by the Chicago Medical Mission in the basement of the rear of the Pacific Garden Mission at Van Buren street and Pacific avenue. One thousand five hundred men were fed at the Mission yesterday [Christmas], and many of these were bathed while the clothes they wore were washed and dried. The dispensary, baths, and laundry in the basement room were opened early in the morning, and from that time until after 5 o'clock there was a crowd in waiting. None were turned away. The sick were examined and given medicine, the wounds of the injured were dressed—all free. The laundry is a picture of misery when filled with a class of men that one seldom sees together, not even at the temporary soup lodging-houses. But no matter what his condition, each visitor is permitted to use a tub when he can find one not in use. Garments that, to all appearances, had never been in contact with water, are washed by their wearers, who then bathe while their garments dry. Washing and bathing finished, the poor fellow is dismissed, and if it is the hour for dinner and he has a penny, he goes into the Mission room on the first floor and receives a bowl of good soup and all the bread he desires.

"The Mission also maintains departments of obstetrics and trained nurses. The faculty of the Woman's Medical College has the first in charge, and nurses give their services gratuitously, each for a given period. Many hundreds of garments were given away yesterday."

... PROSPECTUS FOR ...



GOOD HEALTH

FOR 1894

J. H. Kellogg, M. D., Editor.

Member of the British and American Associations for the Advancement of Science; The Society of Hygiene of France; The American Microscopical Society; The American Social Science Association; American Statistical Association; American Association for the Advancement of Physical Culture, Etc. Author of "Home Hand-Book of Domestic Hygiene and Rational Medicine;" "Man, the Masterpiece;" a series of school text-books in Physiology and Hygiene; Editor of "Modern Medicine;" President of Medical Missionary and Benevolent Association; Superintendent of the Battle Creek Sanitarium; Surgeon-in-Chief to the Sanitarium Hospital; Director of the Battle Creek Laboratory of Hygiene; and Superintendent of the Chicago Medical Mission.

... GOOD HEALTH ...

is the most widely circulated scientific health journal in the world. It not only reaches every part of the United States, but a large number of regular subscribers in Europe, South Africa, Australia, and every part of the globe, where the English language is spoken. This journal has now been

BEFORE THE PEOPLE FOR TWENTY-EIGHT YEARS,

during which time it has been the champion of every good social and sanitary reform. During the twenty-one years in which the journal has been published under its present management, it has grown from a monthly circulation of a few hundred to many thousand. The journal is the organ of no party, sect, or institution. Its aim is to present to the public in practical form

**All that is Best and Newest of Scientific Progress in Relation
to the Preservation of Health.**

The small subscription price charged for this Journal is barely sufficient to cover cost of paper and printing. It is not published as a money-making enterprise, but as a means of placing in the homes of the people reliable information respecting the care of the health, and right development of the body physically and mentally, and in other ways doing good.

The Following Are Some of the Leading Attractions

• • For 1894 • • • •

Biographical Health Studies

By **Felix L. Oswald, A. M., M. D.** In the felicitous style which is peculiarly his own, Dr. Oswald will present the readers of this journal during 1894 with a most interesting series of biographical health studies, the subjects of which are, for the most part, well known and prominent personages, men who have made themselves distinguished in some art or profession. The subject of one sketch is John Tyndall, the noted English scientist and discoverer.

Popular Health Talks

By **J. H. Kellogg, M. D.** For nearly twenty years Dr. Kellogg has been giving his patients, two or three times a week in the lecture room of the great Sanitarium at Battle Creek, popular lectures on various subjects relating to the preservation of health and the rational treatment of disease. These talks are always practical, and are listened to with interest and attention, and it is in obedience to an urgent demand for them in printed form that some of these valuable lectures will appear in the pages of GOOD HEALTH during 1894. Of the thousands of patients who annually visit the Sanitarium, a very large number remark that they have been amply repaid for the time and money expended by what they have learned of the body and its care, irrespective of the immediate gain in health which they have experienced. Among the topics which will be considered are the following: New Discoveries Relating to the Liver; Original Studies in Relation to Digestion and Indigestion; Hypnotism; Mind Cure; How to Renovate the Slums of our Great Cities; New Discoveries in Relation to the Effects of Alcohol; The Philosophy of Getting Well.

The Home Gymnasium

This department will present, during the year, instruction which, if carefully followed, will in a few months give to any young man or woman a good figure, and a graceful and dignified bearing.

Home Culture

This department, under the charge of **Mrs. E. E. Kellogg, A. M.**, is devoted to those interests of the home which relate especially to the mental, moral, and physical welfare of the younger members of the household. The following are some of the subjects which will be considered in this department: Kindergarten Methods for the Home; Manual

Training for Children, adapted to the Home; Mothers in Council; Home Government; Methods of Dealing with Child Faults; Character Building; Training of the Faculties; The Nursery; Gymnastics for Babies; and in addition, all the various interesting and practical subjects which have heretofore been considered in the departments devoted to Dress, Social Purity, and Household Science.

**Nurses' Training
School at Home**

This department, conducted by Dr. Kate Lindsay, of the Battle Creek Sanitarium and Training School for Nurses, will undertake to give during 1894, beginning with the February number, a course of instruction for the home training of mothers in the art of nursing. Every number will contain instruction, hints, suggestions, recipes, etc., relating to the care of the sick, what to do in accidents and emergencies, etc., which will be invaluable. This department, as well as the others, will be **PROFUSELY ILLUSTRATED.**

EDITORIAL

The editor serves up, each month, a rich variety of hygienic tidbits, pithy, practical, and representing the latest scientific thought in this channel.

**A Doctor's Chats
with his Patients**

This department will contain, each month, a racy discussion of live medical topics, new ideas in medical philosophy, simple remedies for disease, new theories of disease, etc.

Question Box

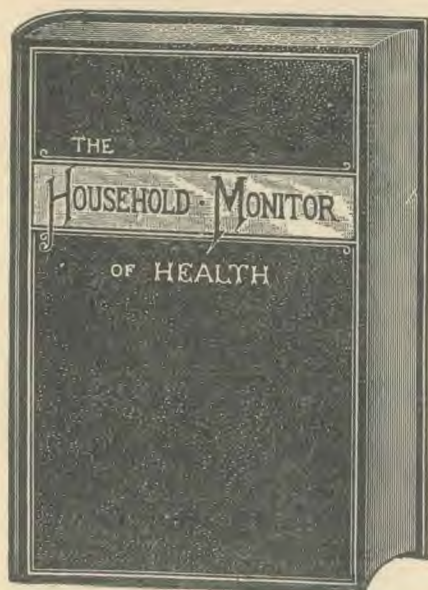
In each number the editor devotes one or two pages to answering questions from subscribers. This is one of the most practical departments in the journal. **It is open to all subscribers.**

The Relief Department

Which, during the past year, has been the means of placing in good homes a large number of homeless little ones, will be continued, as also the other departments which have become features of the journal.



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THE ... HOUSEHOLD — MONITOR — OF HEALTH.

NEW EDITION, TWENTY-FIFTH THOUSAND.

THIS is not a prosy scientific treatise, but a condensed, lucidly and entertainingly written, practical treatise on health subjects, which every one interested in such topics will certainly find both pleasant and profitable reading. The following is a partial list of the very practical and important subjects considered in this work:—

Forty Scientific Arguments against the Alcohol Habit.	Simple Remedies for Common Diseases.
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Practical Hints about Health.	Hydropathic Appliances.
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	Useful Hints and Recipes.

SIX COLORED PLATES.

The work also contains a lengthy chapter entitled,—

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In which will be found the results of careful chemical analysis, made by competent chemists of

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The secret remedies and methods used by irregular doctors and quacks are fully explained, and

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CHICAGO & GRAND TRUNK

R. R.

Time Table, in Effect Nov. 19, 1893.

GOING EAST. Read Down.						STATIONS.		GOING WEST. Read up.					
Mail	Ex.	4	6	8	2			1	9	7	11	3	
Ex.	Ex.	Ex.	Ex.	Ex.	Ex.			Ex.	Ex.	Ex.	Ex.	Ex.	
a.m.	p.m.	p.m.	p.m.	p.m.	p.m.			p.m.	a.m.	p.m.	p.m.	p.m.	
8.40	2.30	8.15	11.25	.....	.....	D. Chicago A.	.....	4.50	8.00	10.30	7.00	9.10	.....
11.10	4.27	10.30	1.20	.....	.....	Valparaiso	.....	3.45	6.45	8.30	4.27	7.10	.....
p.m.	p.m.	p.m.	p.m.	p.m.	p.m.			p.m.	a.m.	p.m.	p.m.	p.m.	
12.45	5.47	12.00	2.35	.....	.....	South Bend	.....	1.20	4.10	7.10	2.50	5.47	.....
1.29	6.32	1.45	3.07	.....	.....	Cassopolis	.....	12.40	3.28	6.32	2.05	5.14	.....
2.21	.....	1.38	.....	.....	.....	Schoolcraft	.....	12.02	.....	.....	1.19	.....	.....
2.39	7.17	1.48	.....	.....	.....	Vicksburg	.....	11.58	2.37	.....	1.08	.....	.....
3.40	8.00	2.40	4.30	.....	.....	Battle Creek	.....	11.15	1.50	5.14	1.25	3.55	.....
4.31	8.42	3.25	5.11	7.47	.....	Charlotte	.....	11.10	1.30	4.15	12.10	3.50	.....
5.10	9.10	4.00	5.40	8.20	.....	Lansing	.....	10.02	12.20	4.03	10.40	2.40	.....
6.50	10.00	5.03	6.35	9.30	.....	Durand	.....	9.05	11.28	3.20	9.35	1.55	.....
7.30	10.30	5.40	7.05	10.05	.....	Flint	.....	8.35	10.47	2.53	8.35	1.28	.....
8.15	11.00	6.15	7.35	10.43	.....	Lapeer	.....	8.02	10.07	2.25	7.40	1.00	.....
8.42	a.m.	6.35	.....	11.06	.....	May City	.....	.....	.....	.....	7.25	.....	.....
9.06	12.10	7.30	8.46	12.05	.....	Pt. Huron Tun.	.....	6.50	8.46	1.20	6.25	11.55	.....
p.m.	p.m.	p.m.	p.m.	p.m.	p.m.			a.m.	p.m.	p.m.	a.m.	a.m.	
9.25	.....	7.40	9.25	11.50	.....	Detroit	.....	6.40	.....	.....	.....	.....	.....
p.m.	a.m.	p.m.	p.m.	p.m.	p.m.			a.m.	a.m.	a.m.	a.m.	a.m.	
8.30	7.40	.....	.....	.....	.....	Toronto	.....	1.00	7.40	.....	.....	.....	.....
p.m.	a.m.	p.m.	p.m.	p.m.	p.m.			a.m.	a.m.	a.m.	a.m.	a.m.	
7.50	7.00	.....	7.25	.....	.....	Montreal	.....	9.30	9.30	10.30	.....	.....	.....
a.m.	a.m.	p.m.	p.m.	p.m.	p.m.			a.m.	a.m.	a.m.	a.m.	a.m.	
8.15	9.30	.....	7.15	.....	.....	Boston	.....	9.00	7.00	11.30	.....	.....	.....
a.m.	p.m.	a.m.	p.m.	p.m.	p.m.			a.m.	a.m.	a.m.	a.m.	a.m.	
7.25	4.13	3.00	7.30	.....	.....	Niagara Falls	.....	1.45	8.40	.....	.....	7.30	.....
a.m.	p.m.	p.m.	p.m.	p.m.	p.m.			a.m.	p.m.	a.m.	a.m.	a.m.	
8.30	5.35	4.15	9.00	.....	.....	Buffalo	.....	12.20	1.00	6.20	.....	.....	.....
p.m.	a.m.	p.m.	a.m.	a.m.	a.m.			a.m.	p.m.	p.m.	p.m.	p.m.	
9.40	7.52	4.52	10.10	.....	.....	New York	.....	9.15	8.30	6.30	.....	6.00	.....
a.m.	a.m.	p.m.	p.m.	p.m.	p.m.			p.m.	p.m.	p.m.	p.m.	p.m.	
7.00	11.00	9.25	12.00	.....	.....	Boston	.....	7.30	.....	.....	.....	.....	.....

Trains No. 1, 3, 4, 5, 6, 7, 8, 9, run daily; Nos. 10, 11, 23, daily except Sunday.
All meals will be served on through trains in Chicago and Grand Trunk dining cars.

No. 23, Battle Creek Passenger, leaves Pt. Huron Tun. at 3:40 p. m., arrives at Battle Creek 9:35 p. m.

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† Stop only on signal.

A. B. MCINTYRE,
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A. S. PARKER,
Pass. Agent, Battle Creek.

MICHIGAN CENTRAL

"The Niagara Falls Route."

Corrected Dec. 3, 1893.

EAST.		(Detroit Accom.)	(Mail & Express.)	(N. Y. & Bos. Spl.)	(Eastern Express.)	(N. Shore Limited.)	(Night Express.)	(Atlantic Express.)
STATIONS.								
Chicago	.....	am 6.50	am 10.30	pm 3.10	pm 4.00	pm 9.35	pm 11.40	
Michigan City	.....	8.55	pm 12.15	4.55	5.45	11.35	am 1.40	
Niles	.....	10.20	1.12	5.55	6.45	am 12.45	2.55	
Kalamazoo	.....	11.58	2.19	7.08	7.53	2.17	4.38	
Battle Creek	.....	am 8.05	pm 12.53	2.58	7.38	8.25	3.00	5.25
Jackson	.....	9.51	3.00	4.15	8.52	9.40	4.30	7.10
Ann Arbor	.....	10.52	4.18	5.08	9.45	10.38	5.40	8.17
Detroit	.....	pm 12.10	5.45	6.15	10.45	11.30	7.20	9.30
Buffalo	.....		am 12.40	am 6.10	am 6.20	pm 5.10		
Rochester	.....		3.31	9.55	9.25	8.30		
Syracuse	.....		6.35	pm 12.15	11.25	10.20		
New York	.....		pm 2.20	8.50	pm 7.05	am 7.00		
Boston	.....		4.15	11.15	9.25	10.50		
WEST.		(N.Y. Bos. & Chi. Sp.)	(Mail & Express.)	(N. Shore Limited.)	(Chicago Express.)	(Kalam. Accom.)	(Night Express.)	(Pacific Express.)
STATIONS.								
Boston	.....	am 10.30		pm 2.03				pm 7.15
New York	.....	pm 1.00		4.30				9.15
Syracuse	.....	8.25		am 12.05	am 2.10	am 3.35		am 7.20
Rochester	.....	10.25		2.10	4.10	5.40		2.55
Buffalo	.....	11.20		3.10	5.30	7.00		pm 11.50
Detroit	.....	am 6.20	am 7.25	9.35	pm 1.00	pm 4.55	pm 7.35	9.00
Ann Arbor	.....	7.20	8.50	10.35	1.55	6.05	8.50	10.13
Jackson	.....	8.25	10.25	11.40	2.55	7.40	10.13	11.45
Battle Creek	.....	9.34	n 12.00	pm 12.53	4.00	9.15	11.55	am 1.12
Kalamazoo	.....	10.13	pm 12.40	1.31	4.35	10.00	am 1.00	2.12
Niles	.....	11.25	2.52	2.45	6.00		3.00	5.52
Michigan City	.....	pm 12.25	4.17	3.45	7.05		4.40	6.22
Chicago	.....	2.10	6.35	5.30	9.00		7.05	7.15

*Daily. †Daily except Sunday.

Niles accommodation train goes west at 8:30 a. m. except Sunday.
Jackson " " east at 6:18 p. m.

Trains on Battle Creek Division depart at 7:55 a. m. and 4:35 p. m., and arrive at 12:40 p. m. and 7:15 p. m. daily except Sunday.

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