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BIOGRAPHICAL HEALTH STUDIES.

BY F. L. OSWALD, M. D.,

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19. The Duke of Hamilton.

ON the banks of the Clyde, in Southwestern Scotland, an airy plateau, with wooded terrace-lands, is crowned by a castle, known as Hamilton Palace, the grandest and most picturesque country-seat in North Britain. The main building has a magnificent Grecian front, 260 feet in length, and contains forty rooms and eight halls, including a large library, picture galleries, and a private museum of classic antiquities. The park is a marvel of landscape gardening, applied to an upland region of much natural beauty. On a high rock, overlooking the river valley for miles east and west, stands the old fortified castle of Cadzow, surrounded by a forest of the largest oaks in Scotland, and a game preserve stocked with fallow deer and a herd of the original wild breed of British cattle. The conservatory covers five acres of ground; and a "chase," or hillside lawn, extending along the river shore, affords a playground for thousands of children, who are permitted to visit the park on certain days of the year.

Hamilton Palace is about eighty miles southwest of Edinburgh; and the climate, tempered by the breezes of the Atlantic Ocean, is almost as mild as that of Northern France, and much sunnier than the neighborhood of the Scotch metropolis. The picturesque little hamlet of Kirkmuirhill, some twenty miles farther inland, was recommended as a sanitarium for invalids from British India, but must yield to Hamilton Palace in the extent of its woodlands and distance from the smoky atmosphere of manufacturing towns. The duke's forests are in charge of a warden, who delivers cordwood enough to dispense with the necessity of using any other kind of fuel, even the furnace of the conservatory being heated with windfalls from the great beech forests north of Cadzow. Noisy workshops, too, are banished from the neighborhood of the palace, which Professor Andrew Wilson might have used as a model for the description of his "Castle of Silence:" — "No sound after dark but the whispering of the night wind and the drowsy chorus of the reed-frogs in the distant lake; in cool nights often a surcease of all animal voices till the general stillness is broken by the reveille of the wood birds."

In this Eden of the Northwest, William Alexander Douglas Hamilton was born in 1845, under as happy auspices as any nobleman's son of Western Europe. The family is one of great antiquity, allied to the royal house of Scotland, and boasts a galaxy of patriots, warriors, and statesmen: the Earl of Lanark, who tried to save his king by encountering the victorious army of Cromwell at Preston Springs; Duke James, the Scotch Chesterfield, who defeated a score of rivals in the suit for the hand of the famous beauty, Elizabeth Gunning; and the Duke of Angus, the Mecænas of the eighteenth century. William's father, too, was a patron of learning, and had a special agent to attend the auction sales of the London bibliopoles, who must have found him their best customer, if it is true that he once paid fifteen hundred dollars (£ 320) for a copy of a sixteenth-century Bible.

All the gods of fortune seem to have favored the cradle of the youngster who had treasure-halls for

his toy-rooms and a mountain park for his playground, and it is certainly a portentous fact that the promises of all those auspices should have been so shamefully belied by the event.

That event was something much worse than a negative disappointment. Ducal crowns do not guarantee their wearers either moral or mental preeminence; and the history of illustrious families abounds with exceptions from the rules formulated by the author of "Hereditary Genius." Napoleon's son was as devoid of talents as the humblest subaltern of the Austrian army. Charlemagne's successors were unfit to rule the smallest province of his great empire. Goethe's firstborn was so dull that his scandalized relatives suspected him of being a changeling.

Imbecility, in ruler or aristocrat, invested with feudal privileges, may sometimes be an alternative of uglier kings, and King Log is the ideal of a constitutional monarchy of the modern British type, but the character and career of the late Duke of Hamilton furnished the English Liberals some of their strongest arguments for the total abolition of the peerage. As a boy of ten years he was considered a more than usually bright lad, and one of his private tutors predicted that he would distinguish himself under all circumstances, even if the disciples of Charles Fourier should turn Great Britain into a communistic republic; and that he should have turned out, on the whole, the most ignoble aristocrat of his native land can only be explained by the influence of systematic miseducation.

His father, with all his pretenses to superior erudition, was a bigot of the kirk-despot type, and was haunted by the Nemesis of a delusion that has clouded the social sunshine of Northern Britain for hundreds of years. The asceticism of the fanatic, who enforced the worship of sorrow as a moral duty, is described in a work which British philanthropists should distribute in millions of copies, as the best antidote of a moral epidemic. It still makes its after-effects felt all over the birthland of John Knox.

"According to this code," says the author of the "History of Civilization," "all the natural affections, all social pleasures, all amusements, and all the joyous instincts of the human heart were sinful. . . . These moralists looked on all comforts as sinful in themselves, merely because they were comforts. The great object of life was to be in a state of constant affliction. Whatever pleased the senses was to be suspected. . . . Bathing, being pleasant, as well as wholesome, was a particularly grievous offense, and no man could be allowed to swim on Sunday. It was, in fact, doubtful whether swimming was lawful for a Christian at any time, even on week-days, and it was certain that God had on one occasion shown his displeasure by taking away the life of a boy while he was indulging in that carnal practice. . . . It was, moreover, wrong to take pleasure in beautiful scenery; for a pious man had no concern with such matters. On Sunday it was sinful to walk in the field or in the meadows, or to enjoy fine weather by sitting at the door of your own home. Even on week-days those who were imbued with these principles hardly ever smiled, but sighed, groaned, and wept. Even among children, from eight years old upward toys and games were bad, and it was a good sign when they were discarded. . . . It mattered not what a man liked; the mere fact of his liking it made it sinful. Whatever was natural was wrong." (Barkle's "History of Civilization," Vol. II., pp. 312–314.)

The universal acceptance of those tenets would people a country with mental and physical wrecks, and it is certain that in Scotland they were taught for generations in the humblest cabins as well as in the homes of wealth; but while the children of the poor enjoyed abundant opportunities for escaping the effect of preposterous theories in practice, young aristocrats under the constant surveillance of vigilant tutors, were often subjected to the influence of antinatural doctrines till either their minds became hopelessly warped, or till, by a natural reaction, they came to despise and abhor restraint, and tried to indemnify themselves by all sorts of vicious indulgences.

The latter result seems to have borne its baneful fruit in the case of the young duke. His father may not actually have forced him to spend his leisure hours in groans and prayers, but he provoked the resentment of the impulsive youngster by constant restraint of his natural propensities, by an endless round of text-book drudgery, and attendance at ceremonious social functions, intended to force him into habits of dull respectability, and thus suppress his love of mountain rambles and field sports.

The outcome of that plan rather surprised the conservative educators, — or rather experimenters, for *education, i. e.*, guidance, does not deserve that name when it is nothing but a blind struggle against nature. Propensities that could have been easily guided often refuse to be eradicated, and the attempt to suppress them only leads to their perversion. Debarred from the trout streams and hunting grounds, the heir of Hamilton Palace consorted with stable boys, and learned to smoke and drink. Be-

fore the completion of his fifteenth yeai he had become so fond of beer that his parents could not trust him with a shilling of pocket-money. In stress of circumstances he sold his clothes and borrowed from visitors. He bullied his teachers. He bribed his father's servants with promises of future favors. He procured money by the offer of extravagant interest. His father's failing health facilitated that plan, and usurers contrived to advance sums varying from ten shillings to fifty pounds. Even in his teens Master Willie acquired the reputation of a Scotch Don Juan.

His father could not disown him, but realized the necessity of a change of program, and finally sent him abroad in charge of three tutors, one of them a detective in the guise of a pedagogue. They were to supply him with all the necessities of a decorous existence, but subpena every landlord and restaurant-keeper not to trust him with a drop of liquor. They were also instructed to prevent his moonlight excursions at all risks — even that of a public scandal by invoking the aid of municipal guardians of the law. To prevent him from negotiating loans on the prospect of his succession, the party was to change their sojourn from month to month. Still the education of the young peer was not entirely neglected, and his mentors gave him a chance to study the historical geography of Western Europe, escorted him to famous battle-fields, to the birthplaces of eminent men, and treated him to a résumé of the chronicle of every city between Antwerp and Marseilles.

The plan actually answered its main purpose of keeping the young scapegrace sober. Being hardly ever alone for an hour together, he found it practically impossible to gratify his ruling passion, or to communicate with his accommodating friends in Lanarkshire. But he chafed under that system of surveillance to a degree which he took no pains to conceal, and which before long scared the pedagogue-in-chief into a compromise. To avoid worse things — a hegira, perhaps, or telegraphic negotiations with a Scotch usurer — they allowed him a few cigarettes a day and an occasional bottle of light country-wine, cheap at sixpence a quart, but entailing the risk of eventual expenses by keeping the flame of the alcohol-rage a-flickering. From Cannes, in the South of France, the travelers went to Paris, thence to Havre and to Trouville-sur-Mer, to while away a hot summer month with aquatic gymnastics.

The young exile had apparently reconciled himself to his fate ; or at least there was no proof of an attempt at a direct violation of his pledged word of honor to contract no surreptitious debts. But his impatience seemed to be settling down into a brooding spleen. He did not complain, but remained silent for hours together, and often passed the whole afternoon squatting on a rock under the pretext of angling, but staring into vacancy and letting his bait take care of itself. His appetite was gone. For a while his tutor entertained serious apprehensions that he was trying to starve himself out of the world, but changed his views on that point after communicating with the family physician, who recognized the abstemiousness of the defendant as a usual symptom of the alcohol habit under partial restraint.

About the end of September, 1863, the pilgrims returned to Havre, and there received the news of the death of Alexander Archibald, the eleventh Duke of Hamilton, at Hamilton Palace, Scotland. His son William was not yet quite of age, and his mentors have been blamed for not enforcing their authority as guardians for another year or two ; but what could they do ? The young peer at once took the bit in his teeth, persuaded, or rather ordered, them to leave for Calais by the next train ; and upon his arrival at Hamilton Palace he assumed command as a matter of course, detailed his pedagogues to administrative functions, and before long found means to get rid of them altogether.

One of his uncles appeared on the scene, but was strangely surprised if he had expected to find an invalid, worn out with the effects of vicious indulgences and hope long deferred. His nephew had contrived to regain his good spirits with miraculous suddenness, and was evidently abundantly able to take care of himself, enacted the rôle of a hospitable grand seignior, but reconstructed the staff of his palace officials left and right, and recognized his relatives only in the capacity of ex-official advisers.

Ten months thus passed, and all this while the heir apparent had the good sense to avoid outrageous scandals. He drank and smoked, but kept his business faculties in harness, and altogether conducted himself in a manner to avoid giving any one a pretext for direct interference. Quietly and discreetly he also managed to rid himself of several specially obnoxious functionaries of his father's household. He did not discharge them *en bloc*, but sent them to Bellingham and other South British estates of his family one at a time, and filled the vacancies with more congenial spirits.

The novelty of enjoying authority and the command of unlimited means (some $210,000 a month when rents of the vast estates could all be col-

lected; $6000 a day, as a fair average) may have helped to keep the craving for other stimulants in abeyance; and in that manner the manager of Hamilton Palace reached the day when his title to the formal succession could no longer be disputed. He kept sober long enough to clinch his claim in due legal form; then deputied his authority, collected half a million in cash, and rushed off to Paris. Riotous "absenteeism;" *i. e.* the recklessness of landlords who spend the proceeds of their tenants' labor abroad, is such a common thing in Great Britain and Ireland, that real-estate nabobs must overstep the limits of the conventional license in an extravagant way to provoke public censure, but the twelfth Duke of Hamilton succeeded in achieving that distinction. For more than a year (nearly fourteen months, with the pause of a brief flit to Cannes) he flung away his money in a way that made the Parisians think he must have parted with his reason or found the treasure of Monte Christo. He had "bijoux"—cosy little villas—all over the riverside hilltops to spice his riots with the charm of variety; and his headquarters on the Chaussee d' Antin resembled the seraglio of Sardanapalus.

Mirabeau had a recipe for sobering up at short notice by putting his neck under a pump and asking a boy to work the handle; but Hamilton practiced the more dangerous trick of taking antitoxic drugs that did answer their purpose after a fashion, but deranged his nerves for weeks together. He also became a gourmand of the Brillat Savarin school, and went miles out of his way to test a new ragoût when his own cooks could not equal the demands of his captious criticism.

In the intervals of his surfeits he would smoke opiated cigars, or try a game of *rouge et noir* at the 10,000 francs limit, when all other stimulants failed.

No income in the world (that of a patent-medicine fraud perhaps excepted) could stand such a drain forever, but happily for the successors of the duke, the estate is entailed; *i. e.*, can be neglected and abused, but not sold altogether. Under the pressure of clamorous creditors the duke did the next worst thing, after mortgaging his rent for years in advance: He sold the collection of art treasures that had been accumulated by a long series of his ancestors. The actual value of that collection may be inferred from the fact that the hasty sale realized the enormous sum of $2,750,000—enough to buy up all the antiquities of the Cesrola Museum and the Muses Borbonico at fancy prices.

The neighbors grumbled, for the Hamilton art museum had been one of the crack sights of Lanark County, and open to all decently dressed visitors on the last Saturday of every month; but the critics might have been glad had they had no more serious cause for discontent. The duke's tenants were overtaxed in a manner unheard of in Great Britain, and evicted without mercy, and with every addition of legal chicanery, if they remained in arrears for more than a year. Old men who had paid rent to the duke's grandfather, and worshiped the great house of Hamilton with almost feudal fidelity, were flung out into the winter storm penniless, after seeing their heirlooms sold by the county constables, to enable the master of Hamilton Palace to waste another handful of coin in French dens of vice.

Would there really have been no other way to make extraordinary wealth a source of extraordinary enjoyments? Had the Duke of Hamilton never heard of his rival in real estate, the Prince Esterhazy, who gets himself worshiped by letting the youngsters of his ancestral village race and wrestle, leap and shoot, for cash prizes, and has turned his country-seat of Kis-Martony into a zoological fairy park? The prince's father perhaps could not boast the classical erudition of the eleventh Duke of Hamilton, but he had too much native common sense to educate his own children on the principle of suppressing the love of harmless pastimes. The proprietor of Kis-Martony would also probably prefer to wander forth a beggar, rather than increase the emoluments of his estate by the ruin of faithful tenants; but the owner of Hamilton Palace had become reproach proof. He had learned to despise censure as the yoke of bigots, and come to identify the defiance of public opinion with the conditions of earthly happiness. The would-be suppressors of his joy-loving instincts had merely succeeded in perverting them.

In 1862, the young Duke of Hamilton, after all his boyhood's transgressions, was one of the handsomest men of Lanark County, and many of his neighbors the next year made his accession the occasion of a two-weeks' festival.

A few months ago their idol returned to Scotland, blear-eyed, bloated, ruined financially, ruined in moral and physical health. He had forfeited every other home, and hoped perhaps that frugality and Scotch mountain air might restore his health; but outraged nature refused to be reconciled, and he died on the morning of May 16, 1895, a few days before the completion of his fiftieth year.

(To be continued.)

THE MICROSCOPIC MAN.

A SCOTTISH writer, speaking of microscopic forms of life says that it is a "well-known fact that minute forms of life exercise a great influence in the causation of many diseases, particularly those which are known to be infectious or contagious." By "minute life" the writer means those squirming, wriggling, things which inhabit the water, the soil, the air, in countless millions — the things which remind us of "protozoa" and "protoplasm" and other high-sounding words which mean little that is certain and definite. Scientists tell us that these minute forms of life not only cling to the surfaces of animal and vegetable bodies, but get into all openings, and fatten upon decaying spots and thrive in diseased blood. Millions of these microscopic forms are harmless, and it is likely that all would be if the bodies to which they seek to attach themselves and in which they try to find lodgment, were perfectly healthy. It is in the bruised and injured places where they most flourish.

The scientist does not refer specifically to microscopic forms of the animal called man, but he might well have extended his observations so as to include these. This man-animal takes his name from that spark of divinity in him which separates him from all the rest of nature. When the characteristic element, the quality which gives him his name — when, in short, the *man* in this animal, becomes so infinitesimal as not to be discoverable by means of the naked eye or the other senses, he may appropriately be called the microscopic man.

These small souls abound, and, like the "minute life" which the microscopist discovers with the aid of his glass, they cause disease, and create havoc generally. This genus includes many species, and all of them feed upon the failings or misfortunes of others.

The species of microscopic man called *backslander* is active chiefly when its victim least expects its attacks — in fact, when its victim's attention is attracted elsewhere. This little creature never faces its enemy; when forced to do so, it entirely loses its individuality.

Nastymouth is another species which causes great trouble in the social organism. It usually does its destructive work under cover, for it loves the dark. It is found chiefly in those human substances which are peculiarly susceptible to lewd influences because of weak physical or mental constitution. Its influence is indirect, though on this account the more dangerous. *Nastymouth* has a deadly enemy called *highambition;* when these two germs come in conflict, the latter often annihilates the former.

There is another species of microscopic man which, while it only tantalizes, and is never dangerous, is nevertheless often worth consideration. It is *toldyouso*, and is found usually after something happens. This is a very common variety, and is about the smallest known; in fact, these parasites weigh so little in the human economy that it is necessary to combine a million or so in order to get a measurable quantity.

There are many other species. One peculiarity of all these varieties of small humanity is that they are susceptible of development into other genera, showing even to the casual observer entirely different characteristics. For instance, the *nastymouth* has been known to become *misterchaste*, and *backslander* has turned into *saygoodornothing*, while it is a matter of common record that *toldyouso* under certain conditions is tranformed into *silenttongue*.

Artificial means have often been adopted to bring about these results. The milk of human kindness is sometimes given with good effect. Discreet reproof in moderate doses may also be administered. The pharmacist who with a good example compounds these medicines according to the prescriptions of the Great Physician, may hope for the favorable change. — *Sel.*

AVOID as you would a pestilence the patent medicine. Most of it is composed of poisonous drugs preserved in bad whisky. It will create an appetite for liquor, and exercise a debilitating influence upon the whole system. Do not be misled by advertisments. If you are not feeling well, bathe frequently, sleep in well-ventilated rooms, and diet abstemiously. Do these things, and you will regain your vigor, and retain it too. — *The Progressive Age, Minneapolis, Minn.*

A BAR-TENDER'S "COLLEGE."— There are over 9000 licensed saloons in New York City, and at least 40,000 bar-keepers. This necessitates a bartender's College (!) where the men go to learn how to mix drinks. The cost of a full course in the mixed drinks is $25, with $2.50 extra for a printed book of recipes. It is said that bar-keepers in the country go to the city regularly to learn what is new in the way of fancy drinks; for these have their run, like all other fads and fashions.

THE CHICAGO VEGETARIAN CLUB.

ACCORDING to the Chicago *Record*, a little more than a year ago a number of the students of the University of Chicago who were interested in the vegetarian theory, got together and organized a club called the "Vegetarian Eating Club." The number of members was at that time limited to thirty-five, one third of them being women, and half a dozen others being fellows of the university, some of them of high standing in the institution.

The reasons for this action on the part of the students were variously given; some of them were in favor of vegetarianism on purely ethical grounds, others on the score of its economic value, and still others had grown to believe a diet without flesh to be more conducive to health. The project has proved a success in every way. Financially, a great point has truly been made, as with the most excellent and varied menus the cost of board, including three meals per day, has been reduced to $2.50 per week; while in the various other clubs on the University grounds not one has reached so low an average. The prices of board in boarding houses and private families in the vicinity are said to range from $3.50 to $5.00 per week, and even higher. On this account alone the club has increased in popularity since its inception, and it is upon these facts that it chiefly bases its expectations of future success.

Hygienically, also, the members certainly have reason to congratulate themselves, as they claim a general improvement in health and strength since joining the club, while a noticeable rejuvenation of the system seems to have taken place in many cases, resulting in an added clearness of the complexion and brilliancy of color. And, too, many of the members make the assertion that the cold of the preceding winter had less effect upon them than had been the case during any winter before while in the habit of partaking of flesh food. Applications for membership are constantly being received, and there is every prospect that the club, at present in very modest apartments, will soon enlarge its boundaries and migrate to more extended and commodious quarters.

In arranging the bill of fare, great care is taken to preserve the proper balance of the food elements, and both variety and attractiveness in their preparation are considered absolutely necessary. Liberal use is made of milk, cheese, and eggs, the regular food supply consisting of grains of all kinds, fruits, fresh and dried, nuts, vegetables, fresh and preserved, eggs, wheat, cornmeal, and graham in all shapes, bread of all kinds, coffee, tea, lemonade, cocoa, chocolate, fruit juices, and dairy products.

The menus for the meals each day are arranged the evening before, and a careful record of each is kept, that certain articles may not appear too often. Inquiring students and curious visitors frequently desire to test the unfamiliar diet. Occasionally some noted vegetarian lectures before the club, and now and then some member is invited to speak on the subject before some society, club, or school class, thus showing that the interest is spreading.

The originators of the scheme are convinced that vegetarianism is bound to become popular among persons of moderate means on account of its comparative inexpensiveness, as soon as its advantages become known; and the fact that the staple vegetables, cereals, and fruits are seldom, if ever, subject to such fluctuations in price as are all varieties of flesh foods. The *Record* concludes its account as follows:—

"Careful housekeepers for some time have been forced to eliminate meat from the household bill of fare as much as possible, on account of its excessive price. The Vegetarian Club points the way to an easy solution of the problem, and has caused a widespread interest in the subject, in its immediate vicinity, outside of university circles."

As the breath of man is poison to his fellow-man, so the outcome of the life of each part of the body, each tissue, be it muscle, brain, or what not, is a poison to that part and its fellows, and may be a poison to yet other parts. Of each member, while it may be said that the blood is the life thereof, it may with equal truth be said that the blood is the death thereof; the blood is the channel for food, but it is also a pathway for poison. — *Foster.*

THERE are millions of people in India who have never tasted animal flesh; and the Afghans, who subsist principally on a vegetable and fruit diet, are recognized as among the bravest nations in the world.

COUNT TOLSTOI is a strict vegetarian, and even excludes butter and eggs from his diet, and drinks instead of tea a beverage made of hot water and raisins.

ALCOHOLIC HEREDITY.

It is not unusual for the advocates of moderate drinking — those who believe in the "proper use" as distinguished from the abuse of alcoholic beverages — to point to wine-drinking countries of Europe in support of their theories regarding the hygienic and generally beneficent properties of "light wines." We would call the attention of these to the fact that in France it is the doctors who are sounding the tocsin of alarm, and insisting upon legislative action upon the liquor question. They say that a "race of alcoholics" is rapidly growing up in that country. The liquor problem, they tell us, is no longer a mere question of drunkenness and its immediate effects from a sentimental point of view, but a question of the degeneracy of the people through an alcoholic heredity, which, if permitted to continue unchecked, will result in the depopulation of France.

Since 1880, twenty-three projects for dealing with the liquor evil have been presented to the French Parliament, to each of which the Deputies have responded by an ineffective law against drunkenness — for in France the wine merchants pay no special license, and all legal enactments aim simply to throw restrictions around the drinker. These projects are based upon the latest and most thorough researches of the faculty of medicine in all its branches, and the reports they embody contain information of immense value to all students of the liquor problem in every country.

The most eminent specialists in insanity and nervous degeneracy and in morbid and criminal heredity have thrown the light of their science upon the question with this conclusion — that "what is common to our whole modern civilization is the constantly increasing influence of alcohol over the development of the Western races of mankind." And from this point of view they truly say that the question "surpasses in interest and importance the mere repression of ignoble and misery-breeding drunkenness; it passes from the domain of sociology into that of pathology, and is quite comparable to the spread of cancer or tuberculosis — with which, indeed, it is not without connection — or better still, with the increase of idiocy and semi-irresponsible crime!"

Dr. Pierret, head physician of the hospital for mental diseases at Bron, recently enlightened a large audience in Lyons on the peculiar character of the "unconscious alcoholic." This is the person who never really gets drunk, but who, while consuming only what he imagines to be a moderate amount, daily exceeds "the dose of spirituous liquor which the organism can safely tolerate." "The common result of this unconscious excess," he says, "is a successive getting out of order of the vital organs, — stomach, liver, kidneys, — followed regularly by mental and moral disorders." But the worst effect of this alcoholism is found in the children of its victims. "These are sometimes intelligent, but they are always unbalanced and impulsive, often tuberculous, epileptic, or imbecile, and without physical resistance."

According to this authority, then, the question to be determined is, exactly what amount each individual organism "can safely tolerate." In view of the differentiations and complexities of the *genus homo*, it would be interesting to know what these eminent specialists have to say concerning the manner in which this most important knowledge is to be acquired. Inasmuch as the physicians have drawn up a series of measures for the consideration of Parliament, perhaps we are to infer that the law will assume the responsibility of defining the strength and the quality of each man's allowance!

"Alcoholism," says Dr. Lancereaux, another high authority, "creates a special race, as well from the point of view of the intellectual faculties as from that of physical characteristics. This race may continue for a time with all its infirmities and vicious tendencies, but luckily it is wanting in the strength to perpetuate itself. Exposed to all sorts of accidents and diseases, given over to impotence and sterility, it soon disappears. . . . This question of alcoholic heredity is of the highest importance. It demands all the attention of legislators who, by neglecting it, would incur the gravest responsibility."

The remarkable fact in connection with this onslaught upon the liquor evil by the doctors, is that, notwithstanding their alarming revelations and dire predictions, not the sturdiest advocate of "reform" among them is ready to declare that alcohol must go. They would rank wine and beer as hygienic drinks, and exempt them entirely from the vigorous measures they would impose on the sale of spirituous liquors.

Statistics disclose the fact that the actual consumption of alcohol in wine-drinking France has more than tripled in the last forty years. The use of "harmless" beverages containing but a small per-

centage of alcohol has created among the French an appetite for absinthe and other toxic drugs. Indeed, a leading physician ventures to say "without fear of being accused of exaggeration, that this kind of intoxication is as common to-day among women as among men." And this seems to be one of the most marked results of the general use of native wines — it leads women as well as men to excess.

Whatever the immediate outcome in France of the agitation of the liquor question from the standpoint of heredity, it is sure to render material service in bringing nearer the judgment-day for the drink traffic. When nations can be induced to give as much attention to applying the laws of heredity in the preservation and development of the human species as they now do in the improvement of their horses and cattle and other "live stock," the annihilation of the liquor traffic will be an accomplished fact. — *The Union Signal.*

Death from Tea Drinking. — The *British Medical Journal* calls attention to the recent death of a boy aged seven years, in which the coroner's jury pronounced the cause of death, "Shock produced by drinking hot tea."

That this circumstance ought to be sufficient demonstration to convince the most skeptical of the poisonous properties of tea, and that a large portion of the inhabitants of civilized countries, as well as of such half-civilized countries as Japan and China, are suffering from chronic thein poison, we have no doubt. Dr. Bock, of Leipzig, suggests that the characteristic petulance of the Chinese is the result of their addiction to the use of the fragrant herb. Dr. Morton, of Brooklyn, as well as other eminent physicians, have repeatedly called attention to the relation between tea drinking and the fashionable nervousness of American women.

Lehman, the eminent physiological chemist, describes the effects of caffein, a substance identical with thein, as follows: "A quantity of from 2 to 10 grains will produce the most violent excitement of the vascular and nervous systems, palpitation of the heart, extraordinary frequency, irregularity, and often intermission of the pulse, oppression of the chest, pains in the head, confusion of the nervous system, singing in the ears, scintillations before the eyes, sleeplessness, and delirium." Prof. Lehman obtained these results in experiments upon himself and his pupils. He states that five persons, one of whom was Prof. Buchheim, after taking from 5 to 10 grains of caffein, were unfit for any business during the next day.

When it is remembered that good tea contains sometimes as much as 6 per cent of this poison, so that an ordinary cup of strong tea may contain as much as five grains of this poisonous drug, or even more, approximating the quantity which produced the poisonous effects noted by Prof. Lehman, it will readily be appreciated that a person might easily be poisoned by drinking, in rapid succession, two or three cups of strong tea, or even of tea of ordinary strength. The idea that the poisonous properties of the tea may be due to some error in the mode of making it, is a mistake.

A Hospital at Home. — Every home of any pretensions should contain a room especially arranged and kept ready for the use of sick members of the family. Such a room should be on the upper floor, and preferably in the southeast corner, so as to have the best sunny exposure; or still better, should be itself the upper floor of a two-story annex, separate from the main building, but joined thereto by a light, latticed bridge. It should have no upholstered furniture, a bare but painted floor, and rough-plastered and painted walls and ceiling, without pictures or paper, curtains or hangings. It should contain no sink, wash-basin, water-closet, or any other convenience which connects with the sewers, and should connect with the kitchen by a dumb waiter, or have connected with it a smaller room furnished with a gas stove and the other requirements of a diet-kitchen. It should contain everything requisite for nursing a case of typhoid fever, scarlatina, diphtheria, measles, or smallpox; and all its arrangements should be supervised by the family physician. The possession of such an appendage to the home would enable the owner to defy the mandate of a health officer in regard to removing an inmate thereof to a public pest-house, as it could be shown, to the satisfaction of any reasonable court, that therein a case of infectious disease could be better isolated, and more humanely treated, than in any "pest hospital" ever yet erected by our political administrators of health laws. — *Potter's Materia Medica.*

The Anti-Cigarette League has been established in all of the ninety-five grammar schools of New York City. The league now numbers forty thousand public-school boys.

SEXUAL HYGIENE.

BY J. H. KELLOGG, M. D.

THE writer has not infrequently met cases in which young men had been led to enter upon impure lives by the advice of physicians who, laboring under the impression that the exercise of the sexual organs is essential to personal health, make recommendations to their patients in harmony with this idea, disregarding in so doing the plain requirements of the laws of both God and man. Physicians must at once recognize that the evils which result from such advice are great and far reaching. A number of cases have come under the observation of the writer, in which young men have not only been ruined morally and socially by this advice, but have had their constitutions wrecked by contracting syphilis or gonorrhea, or both of these maladies. In no instance has it appeared that any good whatever has resulted from the violation of natural and divine law in the direction indicated. It is to be hoped that the number of physicians who make recommendations of this sort is comparatively small, and yet the extent of the evil which even a few physicians may do by the giving of such unwise advice is almost beyond estimate. We have not space here to enter fully into the consideration of the relation of continence to health, but content ourselves with quoting the following —

MEDICAL DECLARATION CONCERNING CHASTITY.

"IN view of the widespread suffering, physical disease, deplorable hereditary results, and moral deterioration inseparable from unchaste living, we the undersigned, members of the medical profession of New York and vicinity, unite in declaring it as our opinion that chastity — a pure, continent life for both sexes — is consonant with the best conditions of physical, mental, and moral health :—

"D. B. St. John Roosa, M. D., LL. D., President of the New York Academy of Medicine; President of the New York Post-Graduate Medical School; Surgeon of the Manhattan Eye and Ear Hospital.

"Andrew H. Smith, M. D., LL. D., Physician to the Presbyterian Hospital; Surgeon to the Manhattan Eye and Ear Hospital, Throat Department.

"E. L. Keyes, M. D., Consulting Surgeon to Bellevue Hospital, The Charity Hospital.

"'The whole matter, in my opinion, is intellectual — a pure mind insures a pure body.' — *E. L. Keyes.*

"Andrew F. Currier, M. D., Gynecologist to the Out-Patient Department, Bellevue Hospital; Assistant Gynecologist to the Skin and Cancer Hospital.

"Walter Mendelson, M. D., late Assistant Attendant Physician, Roosevelt Hospital, Out-Patient Department.

"'I fully agree with the above declaration, and I believe also that the cure of the social evil lies solely in the abolition of a condition which, by breeding involuntary poverty, constantly tempts women to sell their chastity and men to buy it. The abolition of poverty is the abolition of ninety-nine one hundredths of all prostitution.' — *W. Mendelson.*

"Wm. H. Thomson, M. D., LL. D., Professor Materia Medica and of Diseases of the Nervous System, University Medical College of New York; Physician to the Roosevelt and Bellevue Hospital."

WHAT ONE GLASS OF WINE DID. — The Duke of Orleans, the oldest son of King Louis Philippe, was the inheritor of whatever rights the royal family could transmit. He was a fine young man, — physically and intellectually noble. One morning he invited a few companions to breakfast with him, as he was about to take his departure from Paris to join his regiment. In the conviviality of the hour he drank too much wine. He did not become intoxicated; he was not in any respect a dissipated man. But in that joyous hour he drank a glass too much. He lost the balance of both body and mind. Bidding adieu to his companions, he entered his carriage. But for that extra glass he would have kept his seat. He leaped from the carriage. But for that extra glass of wine he would have alighted on his feet. He fell — his head struck the pavement. Senseless, bleeding, he was taken into a beer-shop, and died. The extra glass of wine overthrew the Orleans dynasty, confiscated their property, and sent the whole family into exile. — *National Temperance Advocate.*

REV. DR. THEO. L. CUYLER says: "What a young man earns in the daytime goes into his pocket; what he spends at night goes into his character."

ABDOMINAL RESPIRATION.

THE employment of abdominal respiration by a certain class of voice trainers, vocalists, elocutionists, etc., and by some ignorant teachers of gymnastics, has been productive of endless mischief, and has resulted in an immense amount of suffering, especially in the case of women who have been subjected to this harmful procedure. In abdominal respiration, the respiratory movement is confined to the diaphragm, and lateral action of the chest is suppressed as much as possible. The diaphragm is forced downward to the utmost extent, the lower abdomen being forced outward to a corresponding degree. The effect of this is to cause downward displacement of the liver, stomach, kidneys, colon, and, in women, the pelvic organs also. Such displacement occurs normally during respiration, but the amount of displacement is very slight.

In some experiments which I made upon this subject a number of years ago, I found that in ordinary breathing, the downward displacement of the uterus was only about one tenth of an inch, whereas in abdominal breathing it was increased to fully a half inch, and I have occasionally met cases in which the uterus could be forced downward more than an inch, by strong downward pressure of the diaphragm. These were cases in which the abdominal walls were much relaxed, thus lessening the natural resistance which the muscular structures of the abdomen oppose to the downward action of the diaphragm.

In normal respiration, any great degree of downward movement of the stomach, liver, kidneys, and other viscera, is prevented by expansion of the trunk at the waist. As the arch of the diaphragm flattens, its circumference extends through the outward elevation of the ribs, and thus the organs which lie just beneath the diaphragm are spread out over a larger area. By this means, any considerable degree of movement in the direction of the longitudinal axis of the body, or descent, is prevented by a movement in the direction of the transverse axis.

My attention was first called to this fact a number of years ago when treating the case of a young woman for curvature of the spine. The case was one of double scoliosis, the lateral deviation of the spine being so extensive that I found it necessary to apply a plaster jacket. There being some special troubles which required attention at the same time, I incidentally observed an extraordinary degree of movement of the perineum simultaneous with respiration. The perineum was depressed fully one half inch with each ordinary respiration, and considerably more when the patient made a forcible inspiration. I have since made observations upon this point in a great number of cases, and in administering gynecological treatment, I have often noticed that by causing a woman to execute strong abdominal respiratory movements, in other words to breath diaphragmatically, taking pains also to raise the chest during expiration, the uterus may be made to move up and down sometimes to an extraordinary extent. This may almost always be done in cases in which the abdominal muscles are much relaxed.

The uterus and its appendages are suspended in the pelvic cavity by means of lateral ligaments. When these ligaments become relaxed, nothing can prevent the descent of these organs along the pelvic canal. It is evident, then, that anything which persistently brings an abnormal degree of strain upon these ligaments, either continuously or intermittently, if sufficient time is not given the ligaments to fully recover after one strain before another is brought to bear upon them, must result in relaxation and

stretching of the ligaments, and consequently in displacement of the uterus and its appendages.

The same principle applies with even greater force to the organs which lie at the upper extremity of the abdominal cavity; viz., the liver, kidneys, and stomach. These organs are suspended by membranous bands possessed of scarcely a sufficient degree of strength and firmness to be properly termed ligaments, and when persistently subjected to abnormal strain, their mooring ropes are easily stretched so that they float out into the abdominal cavity, so to speak, to a greater than normal distance from their points of attachment. In this way the stomach and liver become prolapsed, one or both kidneys may become movable, and in time, perhaps, become floating. In a recent case of this sort the writer found it necessary to perform the operation of nephrorraphy, to secure the kidneys in position upon both sides.

Any one who has made any considerable number of careful examinations for the purpose of determining the position of the kidneys, must have noted the marked effect of diaphragmatic respiration upon the position of these organs. Normally, the kidneys, even the right kidney, lie up under the ribs out of reach; but in women who have practiced tight lacing, and especially in women with relaxed abdomens who have practiced abdominal respiration, it is almost always possible to feel the kidney very distinctly, and in quite a large proportion of cases (fully one third, I judge, from my own observations) the kidney is freely movable. In a smaller proportion, say eight per cent or ten per cent, the kidney is floating. In cases of movable kidney, I have often felt the organ move up and down more than two inches with the respiratory movements, when the patient was made to breathe abdominally.

Another consideration is worthy of notice in this connection. The introduction of oxygen into the circulation is not the only purpose of respiration. The respiratory movements are also essential as an aid to the proper circulation of the blood. The respiratory movement is a suction or pumping action, which aids the venous circulation throughout the entire body. This pumping action is especially useful, however, as an aid to the hepatic and portal circulations. The blood which passes through the portal circulation encounters the resistance of two sets of capillaries; that is, there is a capillary circulation at each end of the venous trunks which constitute the portal sytem; consequently there is naturally, in this part of the venous system, a greater tendency to mechanical stagnation than in any other part of the body. This tendency is antagonized by the aid afforded to the circulation by respiration. Stagnation of blood in the portal circulation means passive venous congestion of nearly all the abdominal and pelvic viscera. Inspiration antagonizes this condition in two ways: —

1. By diminishing the pressure about the heart and the large venous trunks which lie within the chest.

2. By increasing the pressure within the abdominal cavity. As the diaphragm descends and the chest walls are lifted outward, there is diminished pressure within the chest cavity.

Donder has shown, and we have frequently confirmed the observation, that the negative pressure of inspiration, as indicated by a manometer connected with one nostril, the other nostril being closed and the mouth also closed, is one millimeter of mercury, the positive pressure of expiration being three millimeters. Supposing the area of the abdominal cavity to be three square feet (of course this area is very variable in different persons), the amount of negative pressure exerted in the whole abdominal cavity in inspiration would be a little less than four kilograms, or nearly nine pounds, — certainly sufficient pressure to aid materially in the flow of blood toward the heart. The positive pressure of expiration is three times that of inspiration. Doubtless considerable force is exerted by the muscles of inspiration connected with the chest, but the abdominal muscles certainly play an important part, also, in expiration, at least in forcible expiration. In ordinary inspiration, the abdominal walls are stretched; in expiration, the force stored up by the stretching of these muscles is used to expel the breath. During inspiration, the pressure exerted by the abdominal muscles, or the resistance which they oppose to the action of the diaphragm, results in positive pressure within the abdominal cavity simultaneously with the negative pressure of the chest cavity. This happy combination is exactly what is needed to aid the portal circulation. Water may be made to flow with greater rapidity through a single horizontal pipe by lowering one end, but if one end is lowered at the same time that the other end is raised, very much greater effects will be obtained. This is exactly what happens in normal inspiration, — the pressure within the chest is diminished while the pressure within the abdominal cavity is increased.

It thus appears that the more resistance the abdominal muscles oppose to inspiration, the greater must be the effect of the respiratory act in aiding the

portal circulation. So-called "abdominal breathing" can be successfuly practiced only by relaxing the abdominal muscles, and allowing them to stretch to an abnormal degree. The more they are stretched, the more relaxed they become, hence the less resistance they oppose to the downward pressure of the diaphragm; and the less the intra-abdominal pressure produced, the less assistance is afforded to the portal circulation. It is easy to increase the intra-abdominal pressure during inspiration by holding the muscles of the abdomen tense and allowing expansion at the waist alone. From the many considerations given, this would seem to be the normal type of respiration. Observations upon animals, young children, and normal individuals show that this is the normal type of respiration; that is, that full breathing, or waist expansion in breathing, is the normal type, rather than expansion at either end of the trunk. Since the expiratory muscles are shown to be an important source of power in expiration, it is evident that the stronger these muscles become, the more force will be stored up in them, and the more assistance will be given to the abdominal circulation in inspiration, even during ordinary automatic respiration. The actual help afforded may be judged by referring again to the figures which we have given. If the diminished pressure within the chest amounts to one millimeter, or four kilograms, for the whole abdominal cavity; and if the positive pressure of expiration, three millimeters, may be attributed in large part, say two millimeters, to the pressure of the abdominal muscles, it is evident that the actual pressure operating upon the portal circulation will be the sum of the negative and positive pressures, or three millimeters, amounting, in the case of an abdominal cavity presenting, say, three square feet of area, to a total pressure of twelve kilograms, or about twenty-six and one half pounds. It is easy to bring an extra amount of force to bear in the aid of the inspiratory effort by contracting the abdominal muscles instead of relaxing them.

The abdominal muscles are to be made strong, not by relaxation, but by contraction. As we have already seen that abdominal respiration requires relaxation of the abdominal muscles in order to secure the required movement of the lower abdomen, it is evident that this mode of respiration must be damaging rather than helpful.

The abdominal muscles may be best developed by trunk exercises, by forcible expiratory efforts, and by such exercises as lying upon the back and raising one or both legs, raising the head, raising the head and the legs simultaneously, raising the trunk from a horizontal to a sitting position, lying with the body supported upon the elbows and toes, and a variety of other exercises which bring the abdominal muscles into vigorous action.

Abdominal respiration is to be condemned. It cultivates a wrong style of breathing; it causes abnormal depression of the viscera, and may lead to serious prolapse of the abdominal and pelvic organs; it relaxes the abdominal muscles instead of developing them; it lessens instead of increasing the favorable influence of inspiration upon the portal circulation; it has, in fact, no advantage as a gymnastic procedure either in developing respiratory power or increasing vocal power. It would be better, in fact, to cultivate chest breathing than abdominal breathing, for chest breathing does not depress the abdominal viscera, and, in fact, strong lifting of the chest at the end of inspiration is one of the very best means of aiding the restoration of prolapsed viscera to their normal place, and has the double effect of increasing the negative pressure within the chest and the positive pressure within the abdomen, thus not only aiding in lifting the viscera into position, but materially aiding the portal circulation.

HEALTH AND PHYSICAL BEAUTY.— Healthfulness and physical beauty are more nearly synonymous than we are accustomed to think. The ancient Greeks strove to attain physical perfection — beauty of figure and of face — by means of exercises, baths, and every means known to them for stimulating the bodily functions to a high degree of health. They were intense admirers of physical beauty, and appreciated the fact that health is one of its prime conditions. The modern science of hygiene teaches that the observance of certain laws is necessary for the evolution of the growing boy and girl into the healthy man and woman. Prominent among these laws is that of personal cleanliness. To obtain and to retain a healthful and active condition of the skin, frequent bathing is necessary, followed by active friction with brush or towel. It should be remembered that the skin is an excretory organ; that material which has been expelled through it collects upon its surface, and must be removed.

The skin also secretes an oily matter which keeps it moist, flexible, and healthy. This is partially removed by bathing, and the healthful secretion is again stimulated by active rubbing. To attain a

good development of the muscles, physical exercise must be taken. The growing boy and girl should have a fixed time for exercise, either at home or at school, as well as for study, for eating, and for sleep. The athletic trainer tells his pupils that temperance in all things is necessary for even a fair degree of physical development; he insists upon regularity in exercising, eating, and sleeping. Such a temperate and regular method of living should be the aim of every one. In that sense of the word, every one should keep himself "in training." This is especially important in youth, when not only are habits forming, but the foundations of future good or ill health are being laid. And let it be remembered that the means by which health is best attained are the same means by which one's personal appearance is best improved. — *Sel.*

Bicycling and Food. — Dr. Young, of Chicago, writes that his son, eighteen years old, who has never tasted flesh food, has taken two medals for rapid riding on the bicycle, one a silver medal for a twenty-five mile race, and one a time medal for one hundred miles over an indifferent road made in eight hours.—*Journal of Hygiene.*

Physical Development of Pupils in Moscow. — In his investigations as to the physical development of boys in the intermediate schools of Moscow, Dr. Sack made out the following facts: The sons of well-to-do families are larger, and develop earlier than those of poor families. Those pupils who make but little progress in their studies were smaller, on an average, than those who made good progress. That the development of the chest and lungs in the pupils of the gymnasia (colleges) and technical schools was very imperfect. That improved conditions in life favored chest development. That the absolute size of the chest of boys from families engaged in agriculture and trade was greater than that of the boys of mechanics. That the chest development of the pupils in the Moscow gymnasia is inferior to that of the children of the peasantry; that even the boy spinners in the cotton factories, where the conditions of life are especially unfavorable, have a much better development of the chest than the pupils in the gymnasia. Finally, that in the schools conditions exist which favor increase in height, but which are unfavorable to the development of the chest and lungs.

Dr. Sack compares the boy in school to a plant with insufficient light, which, with slender stem and branches, makes a rapid growth upward. Such abnormal increase in stature is not desirable. In such children the lungs are imperfectly developed, and later in life the individual is more likely to break down with tuberculosis or other disease. — *The Sanitary Inspector.*

The Physical Exercise Most Desirable. — That which best provides enjoyment of life, continues normal health, and promotes a good old age, is the physical exercise to be selected when possible. That particular variety which is available to each must also be considered as the best for him.

No extreme form of athletics can be recommended. This includes the violent sports now a part of college and university life. Rowing in a boat-race and playing in a football team only develop that which already existed in the man; they create nothing new, unless a hypertrophied heart is led to undergo further and fatal fatty degeneration. All admit the benefit of moderate training and exercise, but it is contended that athletics tend to go to injurious lengths in their exercises. The man who is to enter the pulpit, declaim at the bar, or doctor his fellow men, or the man of business, or future factory manager, cannot in his after-life follow up the violent gymnastics that he indulged in at college if an athlete. Seeing this, he should only take up such exercise as he can keep up in the future. Many attribute to training, the same benefits which arise from living out of doors.

That person is to be congratulated who in early life learns to combine with his exercise a healthful mental activity. Thus, one who learns so much of botany that the ordinary plants are his familiar friends, will have an inducement to seek these friends in the pure air and clear sunshine, and thus both body and mind are diverted from the ordinary trend of life, and exercised in the truest manner. The same remark applies to the study of any branch of natural history, or of any kind of objects found in the air or on or within the earth. A walk simply for the sake of the exercise is a treadmill sort of duty, but a walk to some ledge of rocks, to some interesting plant, to the haunt of some rare or peculiar bird, or fish, or insect, or to a mine or forest, becomes a search for new treasures that gives zest to the walk. Such a walk unbends the undue tension incident to the pressure of every-day life.—*National Popular Review.*

The waist is an infallible index to the moral worth of a woman. Very little of the latter survives the pressure of a tightened corset.— *Mme. Sarah Grand, in "The Heavenly Twins."*

NOTES ON PRACTICAL EDUCATION.*

BY J. H. KELLOGG, M. D.

(Concluded.)

So perverse and antinatural have been the prevalent methods of education, that the boy whose training is wholly confined to the schoolroom has been properly designated as the "educated fool;" and the self-made or out-of-school educated man has been more often found at the front in successful enterprises than the man who has had the benefit of college training. The men who have given us the railroads and steamboats, the men who have made epoch-making discoveries, men who have helped civilization to make its longest strides forward, the man who wrote the Emancipation Proclamation,— these and most such men are what are termed self-made men (we should prefer to say naturally trained men, for training is necessary; but natural training outside of a schoolroom or college halls is vastly to be preferred to bad training inside).

Happy is the child who has an opportunity for an outdoor education. The things a child may learn out of doors, without other teacher than nature, are by no means insignificant. He may watch the ant, hollowing out its underground chambers, and storing away the winter's supply of food, and learn lessons of industry and frugality. The oriole building its nest, the spider weaving its web, the caterpillar spinning its cocoon, are nature's teachers, from whom he can learn lessons as valuable as any he can find in books. The mole plowing its furrow in the garden, the earth-worm making soil, the fly consuming rubbish, the bee gathering honey, the squirrel cracking nuts, the grass putting forth its tiny blades higher and higher from day to day, the flower budding and unfolding its blossoms, the tree putting out its leaves, the vine twining along its support, the green moss decorating the gray rock or decaying stump, the variegated mold in some damp, neglected corner, into which only the curious eyes of childhood peep, and the veritable menagerie of centipedes and crickets, land snails and slugs, thousand-legged worms, big and little bugs of many sorts, mushrooms, stunted weeds, animal and vegetable forms too numerous to mention, revealed by turning over a flat stone or an old plank,— these and a thousand other objects and activities of nature afford an unceasing foundation for the most charmingly interesting study, amusement, entertainment, and instruction for the child.

But for a practical education now-a-days it is not necessary to turn the child outdoors; or at least it is not necessary to keep him out all the time. The spirit of reform is in the air. The evils of old systems are being discovered and rooted out. Nature study, as it has been conducted in our school during the past year, and as it may be conducted; the teaching of mathematics and other abstract sciences in connection with concrete things, as, for example, teaching arithmetic in connection with miniature house building, in connection with amateur agriculture, measuring off the plat of ground to be planted and determining its area, measuring the depth at which the seed is planted, measuring the sprout and the stem as the crop grows; learning language by describing orally and in writing the things observed in the study of natural objects; nature study in the fields; training in accuracy and conscientiousness, in the various kinds of sloyd,— paper, pasteboard, basket, wood, and sewing sloyd,— these reforms are all immense advances over the old rote teaching, and make the schoolroom a heaven for the child instead of a doleful place, from which, like Jean Paul Richter, he is longing to escape to the woods and join some wandering gypsy party. The child is born a gypsy, and the woods ought to be one of his regularly appointed schoolrooms.

*An address delivered at the Commencement Exercises of the English Preparatory Department of Battle Creek College, June 17, 1895.

A single illustration will show the difference between the old way and the new way of teaching language; for example: In the old way, children stood up in a row and spelled, a-b, ab; h-o-b, hob; c-o-b, cob; r-o-b, rob; d-o-b, dob; m-o-b, mob; f-o-b, fob; b-o-b, bob, without the slightest sense of reason in the process, or anything more than a jingle of sounds. In the new way, the teacher talks about something the children have seen or learned facts about. Ideas crowd forward in the little one's mind, eager for expression. The child's hunger for words is excited; he hunts earnestly for some means of expressing his thoughts. If he lacks a word, the teacher supplies the necessary symbol after a talk about the thing, and all write about it.

If the day is warm, and the children are getting a little tired, something facetious wakes them up, giving instruction at the same time; for example: The teacher proposes Jumbo for a subject. How many ever heard of Jumbo? All hands are up. Where did Jumbo come from? — From London. How did he come? — He came to New York on a steamboat. Let us write; "Jumbo came from London to New York on a steamboat." London and steamboat are new words. The teacher writes them on the blackboard, erases them as soon as finished, but not so soon that the keen eyes of childhood have failed to catch the exact outline of the words, perhaps without knowing the names of the individual letters. Jumbo came on a steamboat. How did he bring his trunk? Did he bring his clothes in his trunk? Where do you think he keeps his trunk? These questions are not merely frivolous, but teach in the most graphic manner possible the double meaning of the word *trunk*, and the difference between a trunk, a box with a hinged lid, and a trunk, a proboscis.

It is only the wide-awake child that can be successfully taught. To know how to make the child's mind wake up, to open the doors of the mind, and to keep the faculties on the alert, is the highest art in teaching.

When I appreciate the advantages of the best methods of teaching, which are now, I am glad to say, represented in our own school, I can not but echo the prayer of the poet, "Make me a child again;" but as that cannot be, I content myself with being grateful that the first ten years of my life were spent in the field of nature instead of under the schoolmaster's rule, and with congratulating the boys and girls of Battle Creek that in the school which is represented here to-night, and under the Christian teachers who sit here before us, they have the noblest opportunity for a natural, practical, symmetrical education that children have ever enjoyed.

In conclusion, I desire to call attention to the work which has been done in the sloyd department at the College during the past year. The admirable exhibit of paper sloyd, pasteboard sloyd, baskets, boxes, mat modeling, nature study, drawing and painting flowers, etc., I am sure has challenged your admiration. If you have observed the astonishing perfection of the work, I am sure you will be surprised when I tell you that it has been accomplished in eight days,— two hours a week for forty weeks, eighty hours in all, or eight ten-hour days, being the entire time which has been occupied by both instruction and work. These models are not mere toys, they are not trinkets; each is an article capable of being put to some useful purpose. But they represent something more than mere utility; each model represents both the willingness and the ability of the maker to do faithful, conscientious work; it represents an aspiration in the heart of the maker to attain perfection, a willingness to submit himself to the training necessary for such acquirements. Each basket, each box, each mat, each article constructed, represents many thousands of movements of little fingers, millions of groupings of small ideas, all operating under the dominance of little wills which are making their first attempt to gain the mastery over the God-given powers placed at their command. They are a mental expression of souls endowed by God with eternal possibilities,— souls the eternal destiny of which depends upon that very sort of discipline resulting in self-mastery which may be gained by just this kind of training.

I wish especially to call attention to this model of a log house, which represents the out-of-school work of a few of the boys and girls of the seventh grade. It presents an evidence of the fact that manual training is not a burden to the child, that the making of his models is not an irksome task, but that he enjoys his work and accepts it as recreation. Twenty-eight different kinds of native woods entered into the construction of this house and the chairs, bedsteads, old-fashioned churn, and other domestic furniture with which it is provided. The boys and girls who constructed this house were doing something more than making a plaything. Every one of these nicely squared logs represents a lesson in patience and perseverance, and training in consciousness. These boys and girls have in the construction of this house made a real step in moral progress. They have doubtless risen a little higher in their own estimation, and that is not a bad thing when

the estimate is based upon true worth; they have risen in the estimation of their parents, teachers, and friends, and in a way, at least, merited the divine plaudit, "Well done," for they have been exercising, and developing, and perfecting faculties which God has given them to use.

One thought more I deem worthy of consideration: The boys and girls who constructed this beautiful model house have set a higher mark for themselves, and have reached a higher level than they had ever attained before. The level of the perfection of this house is the standard they have reached; and the fact that this house exists, and that it is exhibited here to-night, and meets with the approval of this large audience, will furnish to these boys and girls inspiration never to drop below the level of attainment which this house represents, but to climb higher and higher, to make better houses than this, and greater houses than this; to acquire other training and other attainments than are represented in this model; to build, as they have builded this house, an edifice of character which shall meet with your approval, and shall finally receive in all its fulness of meaning, as the well-earned reward of the educational discipline of their life work of climbing upward, the divine diploma, "Well done, thou good and faithful servant, . . . enter thou into the joy of thy Lord."

LITTLE BO-PEEP.

BY MARTHA WATROUS STEARNS.

WHOEVER heard of a little "Bo-Peep" without a flock of sheep and a crook? — No one, certainly, in the days when blackbirds sung in pies, and cats played the fiddle, and cows jumped over the moon; but children at the very jumping-off end of the nineteenth century require more scientific nonsense; so no one will be surpised to learn from the latest scientific fiction on the question that little Bo-Peep of to-day has changed her crook into a butterfly-net, and chases butterflies instead of sheep, but she is little Bo-Peep, nevertheless, whether her game of "peep-a-bo" is with sheep or butterflies.

LITTLE BO-PEEP.

It was her turn to contribute a model to the Mother Goose sloyd class, and like most little folks on hot August mornings, she did not feel like doing anything, least of all making an ideal. But she started bravely out, butterfly-net in hand, suggesting the little shepherdess hunting her sheep, when—

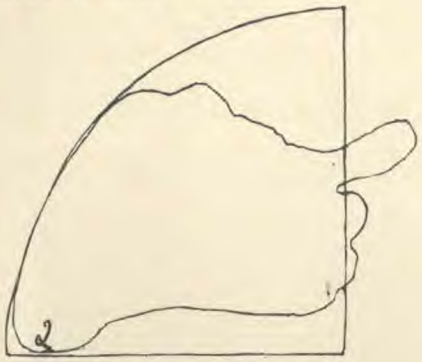
"Up she took
Her little crook
Determined for to find 'em."

Just how she was to catch an idea in a butterfly-net might have puzzled any one not familiar with nature study, but butterflies and ideas, both, led Bo-Peep a tiresome game of "hide-and-seek" that morning.

The first thing she saw was a beautiful *papilio turnus*. Oh, if she might only catch it to study! It settled on a clover just in front of her; down came her net, but just missed Lady Papilio! and away she flew, and little Bo-Peep after her, but butterflies' wings are swifter than little girls' feet. Lady Papilio won the race, and Bo-Peep dropped herself under some wild rose-bushes and had a good cry. Then she tried just as hard as she could to think up a nice sloyd model, but bright thoughts, like butter-

UPPER WING OF BUTTERFLY.

flies, are frightened away by the effort to capture them, and never settle in tired minds any more than butterflies settle in faded flowers.



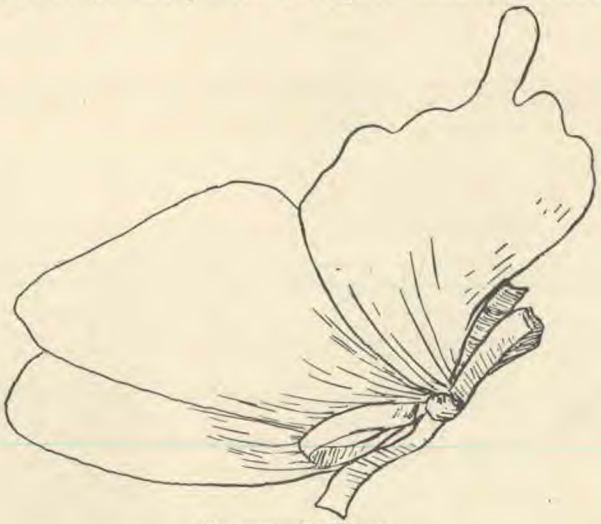
LOWER WING OF BUTTERFLY.

Ideals are dainty things, and cannot be forced into the mind, as love cannot be forced into the heart; both are attracted into bloom only by the right influences, as some flowers bloom for the sunlight and others for the darkness of night, so the successful culture of all depends upon a study of their individuality; thus Bo-Peep did the best thing she could under the circumstances, which was to lie down in the soft grass and forget all about sloyd models. Then she grew interested in studying the world above her. She felt as though she had been turned "down side up" or "upside down," and was looking into a deep, clear ocean, where the birds and butterflies were playing fish, and swam with wings instead of fins; after all, fins were only water wings, she thought, and swimming was water flying. The little fleecy clouds dipped in and out of the blue like white-capped waves; and the great white clouds that went above them, she fancied, were ships the angels sailed to earth in, and she watched them till her eyes grew sleepy and consciousness lost itself in dreamland, where it played hide-and-seek with the memories of the waking hours.

The first thing she saw was a large yellow butterfly with black markings on its wings and red spots on its tail; it was ever so much more obliging than the real Mrs. Papilio, and sailed right down into Bo-Peep's hand. She said she was sorry, but really she would have to make a sloyd model of it, as she had nothing completed for the class. Then somehow the spots were turned into holes through which she slipped narrow ribbons and tied the wings together; and the next thing that happened, Mrs. Papilio was slipped into a book leaf for a mark, and Bo-Peep smiled, satisfied, with her model, when, alas, like the Bo-Peep of old —

"She awoke
To find it a joke
Oh! cruel vision so fleeting,"

It was a fact however, that a real papilio fluttered down beside her just then, and she proceeded at once to realize her dream by capturing it. What a beauty it was, with its dainty, feathery wings. Bo-Peep wondered how any one could give such an exquisite thing so greasy a name as *butterfly*, and determined on the improvement of pronouncing it backward — "flutter-by." After her dear "flutter-by" was sound asleep with a drop of chloroform, she



BUTTERFLY BOOK-MARK.

penciled a careful outline of its wings in tinted cardboard, then cut the parts out and tied them together with a graceful little bow that suggested the "flutter-by's" body. — Thus her book-mark was completed, — a dainty pasteboard papilio, ready to "settle" with folded wings on any leaf the reader might choose.

BUILD a little fence of trust
Around to-day;
Fill its space with loving work,
And therein stay.
Peer not through the sheltering bars
At to-morrow;
God will help thee bear what comes
Of joy or sorrow.

— *Mrs. B. F. Butts.*

"I DON'T ever go fishing any more," said the small country boy.

"Why not?" asked the visitor. "Tired of it?"

"No; but I was casting a fly on the pond one day, and the hook caught me in the back; and it hurt so I've been sort of too sorry for the fish ever since."

THE BATTLE CREEK SANITARIUM DRESS SYSTEM.—VII.

THE costume we present this month, the Exercise and Bicycle Costume, was designed by Dr. Kate Lindsay, of the Sanitarium staff of physicians, and combines many practical advantages which have never appeared before in any suit of the kind. It unites the best features of both the short and the divided skirt, without the objectionable one of showing the divide. In fact it is a divided skirt with an eighteen or twenty inch width of goods covering the divide both back and front, so that a lady may feel entirely safe and comfortable in it, whether standing, walking, or riding the bicycle. In going upstairs, mountain climbing, or bicycle riding, each half of the skirt is held around the leg just below the knee by an elastic cord, and the skirt falling over reaches the shoe-tops. The width of goods of which we have already spoken, prevents it from blowing out at the sides.

SHORT DIVIDED SKIRT — FRONT.

SHORT DIVIDED SKIRT — BACK.

This costume is capable of so many variations that its popularity, when once known, cannot be doubted. Its skirt may be worn with blouse, shirt-waist, storm-blazer, or any form of jacket, coat, or cloak. It may be worn as a convenient rainy-day suit by simply donning a gossamer or rain-cloak, and may be used as a business suit by removing the cloak on the arrival at the office, and substituting a skirt of some light material. The lady who wishes to take a spin upon her wheel in the early morning, can, when she returns, fit herself for breakfast or work by putting on the long apron, closed behind, which belongs with this suit. When her work is done, this can be replaced by a light dress skirt, which may have a low, sleeveless waist, or be held in place by straps of ribbon over the shoulder. The variety of which this suit is capable obviates the necessity of spending much time in changing garments after a bicycle ride or outdoor tramp. The shortness of the skirt gives freedom of motion to the lower limbs upon these occasions, and also does away with the disease-producing dampness and filth usually collected by the long round skirt.

Exercise or Bicycle Suit. — This pattern is in five pieces: Front and back of waist, gusset, and one leg of suit, and straight width which is adjusted to hide the divide in back and front. The suit should be made of some light-weight, soft, closely woven material. Navy blue serge of a very fine quality was used in the present instance, but any all-wool material not too heavy can be used. The amount of material required in 36-inch goods is 8 yards. Patterns can be furnished in the even sizes from 30 to 44, bust measure. Price of pattern 30 cents.

Short Divided Skirt.— This pattern is in four pieces: Front and back of waist, gusset, and one leg of skirt. This garment is developed in blue cambric, and is to be worn under the exercise suit, as a protection to the suit. White cambric or muslin may be used if preferred. The quantity of material needed is 3 yards of 36-inch goods. Patterns can be furnished in the even sizes from 30 to 44, bust measure. Price of pattern, 20 cents.

Jacket with Rounded Fronts.— This pattern is in five pieces: Front, back, and under-arm gore, collar, and sleeve. The quantity of material needed is 4 yards of 36-inch goods. Patterns can be furnished in the even sizes from 30 to 44, bust measure. Price of pattern, 25 cents.

The skirt, with gored front and sides and straight back, and also the apron belonging to this costume, will not, for lack of space, appear in this issue, but will be given in the September number of GOOD HEALTH.

For all patterns, address, Sanitarium Dress Dept., Battle Creek, Mich.

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EXERCISE SUIT.

Copyrighted.

SKIRT OF BICYCLE SUIT—
FRONT.

Copyrighted.

SKIRT OF BICYCLE SUIT—
BACK.

Copyrighted.

CLIMBING SUIT.

Copyrighted.

BICYCLE SUIT.

A THOUGHT FOR WASHING DAY.

THE clothes-line is a rosary
Of household help and care;
Each little saint the mother loves
Is represented there.

And when across her garden plot
She walks, with thoughtful heed,
I should not wonder if she told
Each garment for a bead.

For Celia's scarlet stockings hang
Beside Amelia's skirt,
And Bilbo's breeches which of late
Were sadly smeared with dirt.

Yon kerchief small, wiped bitter tears
For ill-success at school;
This pinafore was torn in strife
'Twixt Fred and little Jule.

And that device of finest web
And over costly lace
Adorned our eldest when she went
To some gay festive place.

A stranger passing, I salute
The household in its wear,
And smile to think how near of kin
Are love and toil and prayer.

— *Julia Ward Howe.*

SEASONABLE BREAKFAST DISHES.

Banana Toast. — Peel and press through a colander some nice bananas. This may be very easily done with a potato masher, or if preferred, a vegetable press may be used for the purpose. Moisten slices of zwieback with scalding cream, and place in individual dishes. Serve a large spoonful of the banana pulp on each slice. Fresh peaches may be prepared and used on the toast in the same way.

Berry Toast. — Take fresh red or black raspberries or blueberries and mash well with a spoon. Add sugar to sweeten, and serve as a dressing on slices of zwieback previously moistened with hot cream.

Granola Peach Mush. — Into a quart of boiling water sprinkle a pint of granola (obtainable from the Sanitarium Health Food Co.). It will thicken sufficiently in a moment, and being an already cooked food, the granola does not need a second cooking. Mix with the hot mush thus prepared a pint of finely sliced yellow peaches, and serve at once with a dressing of cream. Sweet-bough apples or golden sweets sliced and used in the same manner make a most appetizing dish.

Apples and Cream. — Well ripened sweet boughs make a most delicious breakfast dish sliced and served with sweet cream. Perfectly ripened pears served in the same way are also nice. E. E. K.

FIRST USE OF POTATOES IN IRELAND. — In the garden adjoining his house at Yougal, Raleigh planted the first potatoes ever grown in Ireland. The vegetable was brought to him from the little colony which he had endeavored to establish in Virginia. The colonists started in April, 1585; and Thomas Harriot, one of their number, wrote a description of the country in 1587. He thus describes a root which must have been the potato: —

"Openank are a kind of roots of round form, some of the bignesse of walnuts, some farre greater, which are found in moist & marish grounds growing many together one by another in ropes, as though they were fastened with a string. Being boiled they are very good meat."

The Spaniards first brought potatoes to Europe, but Raleigh was undoubtedly the first to introduce the plant into Ireland. — *St. Nicholas.*

A NEW DEVICE FOR DARNING STOCKINGS. — A New York woman has suggested, and her husband has invented, a little loom or machine for darning stockings, which adds one more to the many little devices for lessening the labor of the household. It will darn any hole up to two and one-half inches one way and five inches the other. There is a flat wooden piece that is inserted in the stocking under the space needing darning. Then the loom shuts on over it.

The holes should be first surrounded as in darning by hand. A needle threaded with the darning cotton or yarn starts at one corner of the space to be attended to, and the warp is put on to the little loom with this. There are two sets of teeth, just as in a silk or cotton loom, which are worked by a simple little thumb-lever, and the needle thrusts the width of the darn under one set of the threads of the warp.

The lever is then pushed down, and the alternate set of threads is lifted, for the needle to be passed under again. It is done in remarkably quick time. Anybody can handle it, and the darning is so smooth that no objection can be made to it.

LEATHER belts or boots that have been soaked in water and dried hard may be softened by rubbing plentifully with coal oil. If the leather is very dirty, brush it first with hot soap suds.

BEDS AND BEDDING.

All mankind spend, on an average, one third of their life in bed. Out of a life of seventy-five years, twenty-five years are spent in sleep on some kind of couch, the couch differing more or less with the habits of the people and the advances made in civilization. There is a regular gradation from the savage's bed of leaves on the ground up to the downy bed of the millionaire; and, strange to say, the sleep of the savage on the hard bosom of Mother Earth is usually sweeter and more refreshing than that of the man of wealth.

Man is a creature of habit. The soldier of the frontier, after years of tent life with a blanket on the ground for his bed, tosses restlessly about on a huge mattress or feather bed, and at last solves the problem by taking off the upper clothes and spreading them on the floor, where he finds the sleep he has been vainly seeking. The hard, even surface is just what suits him, and he sleeps soundly. Should the millionaire exchange his soft mattress for the camp blanket and grounds, no doubt his tender flesh would rebel against the hard surface, but a little perseverance would soon harden the tender tissues, and his sleep would be far sweeter than in his own splendidly furnished room at home.

Though the well and strong can soon adapt themselves to circumstances, one who is sick cannot lie on an uncomfortable bed without suffering. Great care is required on the part of the nurse to have the bed so made up that it will be the most restful and sanitary couch possible under the circumstances.

The ideal sick-bed frame should be of metal. Iron bed frames are now made and nicely painted so as to be artistic and pleasant to the eye. The expense of purchasing is very moderate, so that two such beds for sickness are within easy reach of people of very moderate means. The woven wire springs make them very elastic, and a thinner mattress will be needed than with either the rope or slat bed. The frame should be about three feet wide, six feet and three or four inches long, and two and one half or three feet high. It is always better to keep the patient on a single, narrow bed, as the wide, double, or even three-quarters bed, especially when low, renders the giving of treatment or moving the patient very difficult for the attendant, as well as fatiguing and worrying for the patient, who will naturally gravitate toward the center and sink into the uncomfortable hollow there, and the nurse will be obliged to get up on the bed to move him.

The under mattress should be elastic, firm, and even, of some material that is not overheating, and that can be easily cleaned. In cases of contagious diseases, inexpensive material should be used for the mattress, as it often has to be destroyed. Wood shavings, clean straw, or corn husks are suitable for making a comfortable sick-bed, if the nurse understands how to arrange the straw or husks so that the bed will be even, and to bind it into position by a comfortable or a stout sheet or quilt. An old straw bed may be much improved by shaking it out of doors or putting it out in the wind. The hollow fibers of straw will fill with air, which not only makes the bed more elastic, but also more healthful. Thus the air displaces the poisonous material which has been exhaled from the patient's body; and when the patient comes to lie on it again, the skin will absorb the fresh oxygen instead of the poisons.

Hair, feathers, down, wool, moss, pine needles, leaves, grass, hay, in fact anything which will form a porous, elastic surface for the body to rest upon, may be utilized for a mattress. Of all the materials above mentioned, feathers and down are the least desirable, and in fact make the hardest bed; for the patient sinks down into the fluffy mass, and soon becoming overheated, begins to perspire; and the

wastes of the body being retained, form a filthy poultice in which the poor, helpless patient is immersed. No wonder he is restless and tosses about wearily the whole night long, and in the morning looks worn and exhausted. A rest on the soft side of a plank were more refreshing and healthful.

The family feather bed is usually an heirloom, descending from one generation to another, and bringing with it the germs of past generations. Bed-sores are often due to the overheating of the feather bed. A bed made of hair or wool can be ripped up, washed, and cleansed by heat, and on this account is much preferable to feathers. Hair is cooler than wool, and also more porous. Cotton makes a good over mattress, but needs remaking and carding over frequently, as it tends to become matted and lose its elasticity, if used for any length of time. Of the cheaper materials, fine wood shavings, known as "excelsior," is the best for the under mattress. On woven wire springs this makes a very healthful, porous, elastic, firm bed, and being cheap, it can be frequently renewed, especially in cases of sickness.

In the country, fresh straw can usually be obtained, and is also a very useful, wholesome bed. A good bed-maker can arrange it so as to form a very comfortable resting place for even the very ill.

The upper covering of the bed must vary with the season. In hot weather a simple cotton sheet over the upper mattress and another over the patient will be all that is required. For cooler weather, blankets may be used. Blankets are better than quilts or comfortables for this purpose, as they are lighter, and the amount of upper bed covering can be more easily regulated. They can be frequently washed. Woolen blankets are most serviceable, being of open texture. The more air space there is in both upper and under bedding, the better.

Two sets of bed-clothing are needed for the sick, one for night and another for day use. The patient, even if very sick, can be gently lifted from the bed to a cot, or from one bed to another, while the bed is aired and cooled. The bed should always be smoothly and carefully made, free from wrinkles or any unevenness. This is very important, as weak, chronic invalids, such as paralytics and those crippled by injury, may suffer from bed-sores unless all is smooth under them, and they are turned frequently. Several times a day the under sheet should be pulled smooth, and all crumbs and other dirt should be brushed off.

In fever cases, the sheets and pillow cases, which should be of cotton cloth, ought to be exchanged for clean ones daily, or oftener, especially if the discharges from the bowels and bladder are passed involuntarily. In such cases, a piece of oilcloth or rubber cloth and a draw-sheet should be laid beneath the hips, and the draw-sheet — which is an ordinary sheet folded four double — should be withdrawn every time it is soiled. Brown paper, or even old newspapers, will protect the mattress better than nothing, where no oilcloth can be had. Take great pains about this matter, as a bed foul with discharges is dangerous, not only to the patient, but also to all others in the room.

It requires some skill to change a patient's bedding, especially one suffering from a severe surgical operation or from an injury, or one paralyzed. It is usually easiest to move such a patient by putting him on another freshly made bed; but if no such bed is at hand, a substitute may be secured by making a cot frame, using four round pieces of hard wood an inch and a quarter in diameter and about three feet long. Fasten each two pieces together at the center by a pin or bolt or a strong nail for each pair of legs, and join them together at the top by two poles about an inch and a half square and six feet long. Take a piece of canvas two and one half feet wide, and fasten to the poles, thus making a folding cot. Any stout cloth will answer for the top, as heavy sheeting, sacking, or the like. A comfortable and a sheet over this will make a good resting-place for the sick one while his bed is airing.

If the sheets are to be changed while the patient is on the bed, turn him on his side, and push the soiled sheet up as closely to him as possible; then arrange one half of the clean sheet in nice even folds, and spread out the other half evenly on the bed; or roll it up lengthwise of the sheet and tuck it closely up to the patient. Then let him return gently to his back again, and then turn to the other side, when he will be on the half of the clean sheet that has been spread out for him. The soiled sheet can now be removed without any trouble, and the clean one unrolled and spread out smoothly on the bed. Soiled upper coverings should be replaced by clean ones.

Pillows may be made of the same material as the mattress; wool, hair, cotton, or air make the best filling, although feather pillows are often used, and being exposed to the air, are not as objectionable as the feather bed. These should be kept clean, and should be frequently shaken up, changed, and turned. In fact, much of the good rest a nervous patient gets will depend on the cleanliness, neatness, and proper arrangement of his bed.

BED RESTS.

When a patient who has been ill reaches convalescence and begins to sit up, he feels the need of a firmer rest for the spine than pillows afford. The bed rest is also a great convenience for people suffering from heart disease, asthma, or any other trouble which causes labored breathing.

The bed rest should form an inclined plane the whole length of the spine, so as to afford an even support to the back. A wedge-shaped pillow filled with hair, straw, excelsior, or the like, will answer the purpose. Always see that the filling is firm and elastic. A chair turned so that the back forms an inclined plane, and padded with pillows or quilt, is also useful in such cases; or a bed rest may be made by using an adjustable frame with canvass or duck tacked over it. If pillows are used, be sure that they are so arranged as to form an even support to the shoulders and spine, not simply tucked one above another under the head. This would only tire and annoy the patient.

Do not let a patient sit up too long the first time, as the head is likely to become very tired, and the patient will feel uneasy, and dread getting up the next time. Ten minutes at first, then fifteen, and so on, always stopping short of extreme fatigue.

When preparing a patient who is very weak, for sitting up, always select the time of day when he is feeling best and strongest. Wait at least an hour after taking a meal, as the blood and nerve energies are required in the stomach at this time to digest the food. Never allow the patient to be annoyed by callers, or to hear or read about anything exciting; it might cause a serious relapse. If possible, arrange the bed so that he can see out of doors, and rest his eyes by looking at something pleasant in the distance, a patch of blue sky, a green field, the distant hills and woods. Such a view is like a glimpse of heaven to the weary invalid, who has been gazing, perchance, for weeks or months on the four walls of his room. The prospect that he will soon get out of doors will inspire him with fresh hope and courage, and may help a great deal in the struggle for life and health. The power of the mind over all the bodily functions is very great. Dejection depresses them all, and hope and joy increase their activity.

The nurse should see that his patient is quiet and free from all anxiety for several hours before bedtime. Never stir him up nor excite him for any cause during the evening, as he may lose a full night's rest thereby; and rest is all-important to the sick or convalescent. Plan to have all treatment over and the room and bed arranged early, so that no time will be taken out of the patient's rest hours for this work.

IMPORTANCE OF GIVING THE DIGESTIVE ORGANS REST AT THE BEGINNING OF ACUTE DISORDERS.

At the beginning of all acute diseases, and especially of fevers, the digestive organs are usually greatly disturbed in their functions, and unless they are allowed to rest for a little time, the food taken will not be digested, but will remain in the alimentary canal until it is spoiled, and thus it will greatly increase the severity of the disease. It is well in such cases, especially if the patient has been eating heartily before the illness, to let him fast for a day or two, freeing the intestinal canal of all fecal matter by a mild saline cathartic and a copious enema.

Many cases of fever are due to the poisons generated in the bowels and stomach, and taken into the system by the absorbents. Well-meaning but ignorant friends often do the sick much harm by urging them to eat of the unwholesome dishes concocted for their benefit. A person who has been eating heartily before his illness is not likely to suffer for food if he is allowed to fast for a day or two at this stage of the disease. Besides, it is always well to remember that food swallowed is no more in the body than food held in the hand. It can furnish neither strength nor building material until it has been digested, absorbed, and passed on to the tissues to be assimilated. If it is spoiled in the process, it becomes a disease-producing, strength-wasting element. Instead of sustaining and keeping the body alive, it tends to break down and destroy.

Great care is also required in the feeding of patients convalescing from severe wasting diseases, as typhoid fever, scarlet fever, dysentery, and the like. In such cases there is always a great demand for food, as the wasted tissues are being repaired rapidly, and the appetite is apt to be overactive. The digestive organs are still weak, however, and

very easily deranged. It is then that the nurse or parent needs good judgment to know just how and when to give the needed food, and when to restrain the morbid craving.

In cases where the bowels have been severely injured, as in typhoid fever, dysentery, etc., it is well to continue the use of bland fluid foods, and to avoid all coarse foods, as breads and mushes made from coarse grains, berry seeds, and the like; also foods hard to digest, as vegetables, meats, etc. Let the patient return to the use of solid foods gradually. At first give him a nicely poached egg, a slice of carefully prepared toast, or a baked apple, and later give him a mealy potato, increasing the variety and amount until the patient returns to his ordinary dietary.

During the craving period, patients, especially children, should never be tempted by seeing forbidden dishes prepared and eaten by other members of the family. It is better for the invalid to take his meals in his own room. He should not be where he can be tantalized by seeing what is on the family dining table, until he is strong enough to partake of the food safely. A little painstaking and self-denial on the part of the other members of the family is often a great help in these trying times. The mother needs to cultivate the power to say "No" to her child when she knows the food so much craved will do the child harm. It is not kindness, but cruelty, which permits the weak to injure themselves.

MENTAL STRAIN.— There is a great deal of harm done by excessive urging or overdriving of children in school, as the reader must be aware. Yet, on the other hand, there are many scholars whose natures need this urging, and are not properly developed without it. If a given degree of "pressure" seems to the teacher's judgment moderate, how shall it be decided to be excessive by persons who are not witnesses? Who is a better judge than the teacher, of what constitutes a fair amount of work? In reply, it should be said that a parent knows more about a child, in the generality of cases, than a teacher. It is the parent's eye that can best see when the child is "unlike himself;" and the parent is justified in feeling anxiety whenever the child loses sleep and the desire for food and play.

The means by which children are urged are well known, consisting of credits, ranks, prizes, public exhibitions, and the moral influence of a teacher of strenuous disposition. It will not do to condemn all these at once, for they have arguments in their favor. But, as a general thing, the giving of prizes, or at least public displays upon the stage, may safely be forbidden in the case of girls as useless, if not harmful. Their nervous system responds too quickly to such stimuli.

If there be novels that do harm "by giving false views of life," are there not schools for girls which do precisely the same thing, by the excessive importance which they allow the pupils to attach to a paltry gift, or, far worse, to success in beating rivals?

The scholar's future health cannot but be benefited by an effort to conquer indolence; but — to return to our chief point — children ought in some cases to be allowed to seem to be indolent; and it is palpably unsafe to subject all scholars to an equal pressure.

"Overdriven" children will often study late and sleep poorly; they then rise late, dress in haste, and rush to school in dread of a mark for tardiness, often not pausing to sit down at the breakfast table. They thus enter on the day's work with an exhausted and irritable system, which does not have a chance during the forenoon — so taken up is it with school thoughts — to remember its need for repair and rest. The luncheon basket probably contains food suited to attract a jaded system and to produce dyspepsia — cake and pie and doughnuts. The child finishes the school tasks, and goes home with an armful of books and an aching head — in need of food and rest and play, but hardly aware of either, and intent on learning simply the next day's lessons. There is no recovery from this strain, for the lessons are not learned until bedtime, when the experience of the day before is repeated, and so on day after day until the fixed term expires.

This overwork is unfortunately apt to occur at the very time of year when the system is least able to bear it. The "exhibitions," the closing examinations, and the stress of the struggle for prizes, come in the months of April, May, and June, when the body craves fresh air and the eyes long for green fields; when, too, the powers of the system begin to flag from the withdrawal of the stimulus of cold, which has kept them strung up to a higher pitch all winter. This constitutes a very serious objection to the present system of school exhibitions. It is needless to say that teachers are not exempt from this strain.— *D. F. Lincoln, M. D.*

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

THE PEPSIN ERA.

In writing the history of medical fads and widespread medical delusions, the medical historian of the future will doubtless designate the present period of medical development as the "Pepsin Era." Never before has there been known to society such an interest as is at present manifested in the discovery of artificial digestive agents. New ferments of both animal and vegetable origin have been brought forward, one after another, until at the present time almost every stage of the digestive process is artificially imitated, and every digestive ferment which enters into the process of food conversion is manufactured on a large scale, and widely introduced as an essential means of dealing with cases of indigestion.

Pepsin, the first of all these ferments, has probably been more extensively used than any other single one; and, if we may believe the assertions of certain manufacturers of pepsin with reference to the constituents of their product, it may be reasonably supposed that this single digestive agent is annually swallowed in quantities far exceeding the total amount consumed of all other kinds. Thousands of tons of pigs' stomachs have been subjected to various processes by which pepsin is extracted from them, and vast quantities of this organic extract of uncertain composition have been swallowed with the idea that it is in most cases an essential aid to digestion. Recent investigations, however, have shown very clearly that those who have entertained the idea that pepsin is often required as an aid to digestion, have been found in error. Recently, Mosso has clearly demonstrated the fact that the stomach is able to manufacture an almost indefinite amount of pepsin. In the experiment referred to, 2000 liters of water were passed through the stomach of a dog and afterward tested in relation to its digestive properties. It was found that the diluted gastric juice thus obtained, when acidulated with hydrochloric acid, was capable of digesting 150 pounds of albumin. It thus appears that the stomach of a dog produces, in less than twenty-four hours, an amount of pepsin capable of digesting more than the animal's own weight.

Since the disorders of digestion have been studied in a scientific manner by the aid of the test-meal, and careful chemical investigations of the stomach fluid thus made, the same fact is found to be true of human stomachs — pepsin is found to be very rarely absent. This fact was noted by Leube many years ago; and recently, Dr. Robert Saundby, of Birmingham, Eng., has made the same assertion. He declared, in a recent letter, that although he had found a great number of cases in which hydrochloric acid was deficient in the stomach fluid, he had encountered but one case in which pepsin was absent. Our own experience, which comprises the careful chemical examination of more than 4700 stomach fluids obtained from nearly 4000 different individuals, agrees entirely with that of Drs. Saundby and Leube. A few cases have been encountered in which the known ferments of the stomach fluid were lacking, but these cases are very rare indeed. They constitute less than one per cent of the cases of chronic stomach disorder which we have encountered. Indigestion is very seldom due to lack of pepsin. It is not infrequently due to deficient free hydrochloric acid, and it is still more frequently due to positive or latent dilatation of the stomach with a motor insufficiency. A cure for indigestion is not to be found in swallowing pepsin; and the same may be said of hydrochloric acid. The patient's stomach must be reconstructed, not simply relieved of all necessity for work by the substitution of an artificial gastric juice for an animal product of glandular action in the stomach.

THE SALOON A SOURCE OF CRIME. — It is in the interest of all social order, of morality, and of municipal prosperity, that saloons should be suppressed. Every good man ought to be interested in any movement by which this source of evil may be uprooted. Judge Wayland, chairman of the Standing Committee of the National Prison Association, remarks as follows with reference to the influence of the saloon upon crime: —

"Another prolific cause of crime is the saloon. A large preponderating percentage of our distillers and brewers, and the proprietors and patrons of our saloons, are of foreign birth or parentage. In the saloons, criminals are made and screened. Here is the habitual resort of habitual criminals. Here the good become bad, the bad worse, the worse infamous. But does the law afford no relief? There is grim irony in the very question. The saloon hobnobs with the police whom its agents have appointed; smiles at and with the magistrates whom it has placed in office; rejoices in a mayor of its own selection; fears no hostile legislation from those whom it has sent to the State capital, and trusts to the executive veto. The respectable part of the community is called upon to move against the common enemy in solid column. There is, also, great necessity of child-saving legislation. The adult criminal must look to his laurels."

PREVENTION OF CONSUMPTION. — The State Board of Health of Michigan has recently issued instructions to consumptives and their friends which we deem so important that we urge each of our readers to commit the instructions to memory, and to communicate them to every person of their acquaintance who may be suffering from consumption, or who may have friends suffering from the disease. There is no way in which more lives can be saved than in the communication of such information as this. One seventh of all the persons who die in this country, die of the one disease, consumption, a malady which is preventable, and might be suppressed if only the right measures could be universally adopted, The following are the instructions above referred to: —

"Consumption is the most destructive disease, the number of persons dying annually from this cause in Michigan amounting to about three thousand.

"Consumption is a dangerous communicable disease, the most dangerous one in Michigan. One consumptive may spread the disease to very many healthy persons. The chief danger exists in the expectoration of the consumptive person; and if this expectoration is carefully destroyed before it is dried, little danger need be feared.

"Consumptives should be instructed not to spit upon sidewalks, the floors of rooms, public halls, street and railway cars, and other vehicles, nor where fowls or dairy cows may take in the sputum or the dust of it with their food. They should spit into pieces of cloth, or receptacles made for the purpose, containing a saturated solution of carbolic acid (one part of carbolic acid crystals to about fifteen parts of water). Such pieces of cloth should be destroyed by fire before the sputa becomes dry, and other receptacles should be cleansed with scalding water, their contents having been destroyed or otherwise carefully disposed of. Handkerchiefs which may have been used from necessity should be boiled half an hour before washing.

"It is best that all persons who have a cough should carry small pieces of cloth (each just large enough to properly receive one sputum) and paraffined paper envelopes or wrappers in which the cloth, as soon as once used, may be put and securely enclosed, and, with its envelope, burned at the first opportunity.

"Remember that sputa must never be allowed to become dry."

THE RELATION OF CONDIMENTS TO IMPURITY. — The powerful inflaming influence of rich, highly-seasoned foods is well known as a fact of observation. It may be well, however, to consider briefly the physiological facts upon which this influence depends.

The effects of mustard, pepper, and other condiments upon the sexual organs are so well recognized by physicians that they are always proscribed in all cases of acute disease of these organs, as in gonorrhea in men, as they enormously increase the flow of blood to these parts. The reason is very evident. The irritating oils to which the special properties of these condiments are due are eliminated by the kidneys, and hence, being concentrated in the urine, affect particularly the genito-urinary organs. In the case of capsicum, cayenne pepper, mustard, and similar condiments, the indigestible particles which contain the acrid oils are carried along down with the food and deposited in the rectum, where they produce congestion, irritation, and resulting catarrh and hemorrhoids, as well as increased sexual excitability.

TYPHOID FEVER AND SHELL-FISH.

In a recent number of the *British Medical Journal*, Sir Willliam Broadbent adduces a striking array of facts to demonstrate the probable connection of typhoid fever with the use of oysters. The learned editor of the journal adds further evidence to the same effect. In a later number, Sir Peter Eade, M. D., F. R. S., connected with the Norfolk and Norwich hospital, points out the fact that the oyster is not the only shell-fish which may well be held under suspicion in this connection. Dr. Eade describes an epidemic of typhoid fever investigated by him several years ago, which he believed was due to the use of oysters, and remarks further as follows:—

"It is well known that mussels are collected in large quantities on our shores, and are stored in the beds of our estuaries until required for sale. I have myself seen them lying stored in the bed of one such tidal estuary, into which the sewage of the adjacent town was (and I believe is) constantly discharged, although, of course, at a little distance from this 'living fish-warehouse.'

"If, then, oysters be proved to be capable of ingesting typhoid germs, and of passing them on undigested to human consumers, it seems in the highest degree probable that mussels also may be capable of being such carriers of contagion; and it is well known that these mollusks are constantly on sale in public stalls in our large towns, and are largely consumed by the poorer classes.

"With the evidence now before us, and considering the seriousness of the matter, I cannot but think that attention should be directed to the mode of storing these, and that medical officers of health should forthwith insist upon their not being allowed to be placed in waters contaminated by town sewage. Doubtless the accepted view has been that current water, and especially sea water, was an immediate and complete destroyer of these living germs, while we should certainly have expected that the digestive processes of the mollusk would have destroyed their vitality. But the facts now being adduced appear to render this view doubtful and dangerous. Of course, the typhoid bacillus is specific, and, if no local typhoid disease existed, ordinary sewage matters could not propagate this disease; but it would become recurringly dangerous, as cases of this disease from time to time appeared or reappeared in the town draining into the water.

"I may mention that quite recently I saw, in consultation, in one of our country towns, a case of typhoid where the patient had visited London some ten or twelve days before his seizure, and had there eaten oysters."

The remedy suggested by Dr. Eade, while appropriate, is nevertheless evidently inadequate to cope with the evil against which it is directed. The idea that it is possible to enact laws of any sort which will so regulate the dietetic habits of the oyster, a natural-born scavenger, as to make it safe and wholesome as an article of food, is really preposterous. When one stops to consider the matter, the oyster loves sewage, he revels in it; he will have it if it is to be obtained. Typhoid germs and other mischief-making microbes are the oyster's tidbits; he takes them for an appetizer and a dessert, and, when he can get them in sufficient quantity, for the substantial portion of his meal; he takes them for breakfast, dinner, supper,—all the time, in fact when they come within his reach.

The only way to render the oyster safe is to place a sanitary taboo upon it as an article of diet. Let him pursue the even tenor of his way as a water purifier and marine scavenger, a business for which he is eminently fitted. If he multiplies so fast that the waters of our seacoast, bays, and inlets become dangerously pure, the turkey buzzard can be easily

trained to consume him in quantities sufficient to keep the supply within the limits of sanitary needs.

Dr. Cameron, the medical officer of health for Dublin, some fifteen years ago, contributed a paper entitled, "Typhoid from Oysters." Dr. Cameron has since published reports of a large number of persons who have suffered from enteritis as the result of eating oysters. He states also that he has recently found sewage in considerable quantities in oysters. He says: "There seems to be little doubt that oysters and other edible bivalves, taken to places to which sewage has access, must occasionally be the vehicle of pathological bacilli."

THE USE OF STIMULANTS IN CASES OF HEMORRHAGE.—The almost universal practice of freely administering stimulants in cases of hemorrhage is in the highest degree detrimental and dangerous. The faint feeling which accompanies the loss of blood is nature's method of slowing down the circulation, and so lessening the flow of blood. The effect of stimulants is to dilate the blood-vessels, and hence to increase the loss of blood; consequently they should be avoided in such cases. The same is true in all cases of fainting, from whatever cause. Avoid alcoholic stimulants. Alcohol is a narcotic, and is not properly termed a stimulant; hence, when the patient is suffering from a shock, or is in a state of collapse, a condition in which the nerve centers are benumbed and the nervous activities below normal, revivifying agents should be employed, instead of those that will still further lessen nerve sensibility.

MILK IN BRIGHT'S DISEASE. — Milk is both the food and the remedy *par excellence* for Bright's disease. During the acute or subacute stage of the disease, it should be used exclusive of all other articles of diet. During the entire course of the disease, milk should constitute the chief liquid food. We need not here recall the fact that milk is a complete food; neither need attention be called to its chemical composition. It is only necessary to remark that three liters of milk are sufficient to nourish a man completely, even when engaged in light work.

Contrary to those who think that four liters of milk are necessary to support life, and especially contrary to those who instruct patients of this class to take as much milk as possible, even to the extent of five or six liters, we are of the opinion that not only three liters of milk are sufficient, but also that it is not necessary to exceed this quantity. In the majority of cases we may prescribe, at the beginning of treatment, two liters of milk, adding an additional liter when the patient feels the need of it.

Milk may be taken either boiled or unboiled, hot or cold, according to the convenience and taste of the patient. Raw milk is generally better digested than boiled milk. Milk should be taken regularly, every three or three and a half hours, in the proportion of six to ten ounces or more, according as the total quantity taken in twenty-four hours is to be two or three liters.

The dose of milk should be taken slowly, in small swallows, so that the clots formed in the stomach may be as small as possible. For cow's milk, which is generally employed, we may, as required in individual cases, substitute, in whole or in part, the milk of the goat or the ass, also kephir or kumyss. If the taste of milk is very repugnant to the patient, it may be flavored with orange water or some other agreeable flavor. It is unnecessary to employ for this purpose brandy or other alcoholic liquors.

A REMEDY FOR INSECT BITES AND STINGS.—

Aqua ammonia	30 parts,
Collodion	10 "
Salicylic acid	1 "

Apply a few drops of this solution to each sting or bite. By means of the collodion, the aqua ammonia is retained for some time in contact with the injured part, thus effectually neutralizing the poison.

MICROBES IN ICE. — At this season of the year this question becomes one of importance. We quote as follows from the *Sanitarian*: —

"M. Riche, at the request of the French government, has recently made a study of the microbes to be found in ice. It was found that ice which to the eye is perfectly transparent, and apparently free from any sort of impurity, may contain more than seven times the amount of organic matter which is allowable in water for drinking purposes. The specimen of ice was found to contain 175,000 colonies of germs for each cubic centimeter (¼ drachm). This specimen contained more than forty times the amount of organic matter allowable. This subject is one which certainly deserves to receive more attention from sanitary officials than it does at the present time."

ANSWERS TO CORRESPONDENCE.

A PRE-NATAL GROWTH.—Mrs. H. B., Ill., writes: "Be so kind as to advise me what course to follow in the following case: A child four months old had a small hard lump less than one half an inch above its left eyebrow when it was born. The lump gradually increased in size until it was about the size of a pea, when it was opened by a physician, and a small sack containing yellowish white matter was extracted. We thought then that it would heal soon, but pus has been collecting in that spot ever since. Also, another hard lump is now forming there."

Ans.—The lump is probably a small dermoid cyst; it should be removed.

WHITE VS. WHOLE-WHEAT FLOUR.—F. M. H., N. Y., writes: "On page 60 of GOOD HEALTH for 1895 it reads, 'The best white flour contains nearly as much gluten as whole-wheat flour, and is sometimes preferable.' Since white flour is made mainly from the white starchy center of the kernel, which is supposed to be deficient in nitrogen, phosphorous, and other valuable food elements found in the brown gluten and the germ, how is it *possible* to make white flour having all the needed elements?"

Ans.—White flour made by the best patent process is chiefly composed of the free white starchy center of the kernel. This is removed and made into so-called "family flour" in the patent process; the best patent flour being composed chiefly of that portion of the grain which lies just beneath the outer covering and which possesses the highest nutritive value of any single portion of the kernel.

NUMBNESS OF THE HANDS — GARGET.—Mrs. P. C. B., Mich., writes that she has been troubled with numbness of the hands more or less for twenty years. When attempting to use the hands, they stiffen or grow so numb that it is very difficult to write, knit, or sew, or indeed do any ordinary work. She asks: "1. From what does this trouble arise? 2. What can be done for it? 3. What causes garget in a cow? 4. Is there any help for it?"

Ans.—1. Probably a disturbance of the abdominal sympathetic nerve from indigestion.

2. Correct the cause. Fomentations to the spine, a sponge bath in the morning, and a moist abdominal bandage worn at night will doubtless be helpful. See "Home Hand-Book" for directions.

3. Germs.

4. In most cases it is curable.

BITTER TASTE IN MOUTH — SLEEPLESSNESS, ETC.—A. L. Ind., writes: "Please advise me in regard to my failing condition. I am thirty-six years old, and a strict vegetarian of steady and temperate habits. My appetite is excellent, but water has lately become repulsive to me by reason of a bitter taste. I do not sleep well, and am as tired on rising as on retiring. I feel weak from my waist to my feet, with a continual but not severe pain in the region of the kidneys, which extends at times to the thighs. Any excitement will remove the weakness, and I feel like a new man. But the effect is only momentary, and in spite of my best efforts my ambition slips away from me, and I fear I shall have to give up work if I do not get relief soon."

Ans.—You are suffering from indigestion. Discontinue the use of milk. Use kumyss and granose. Take two or three charcoal tablets after each meal. You can get these of the Sanitarium Health Food Company, Battle Creek, Mich. You are getting to be a nervous dyspeptic; your case needs attention. Take a cool sponge every morning. It would be well for you to visit the Sanitarium for a few weeks this summer, to learn how to live, and get a good start in health.

DIET — EXERCISE — BATHS, ETC.— A subscriber, Ill., asks: "1. What would you recommend in the way of diet, exercise, baths, etc., for a woman who during pregnancy is troubled with an inactive liver and indigestion? She is troubled with nausea hardly at all. She is subject to bilious attacks occasionally in an ordinary state of health, but during the period already mentioned, the liver seems to cease its activities almost altogether. 2. Would eggs lightly cooked be injurious? 3. What are the ingredients composing 'Bromo-Seltzer'? 4. Would you sanction its use in cases of sick headache?"

Ans.—1. Sitz bath two or three times a week; moist abdominal bandage to be worn during the night; a cool or tepid sponge bath every morning; careful attention to diet; avoid milk; eat kumyss, granose, and take charcoal tablets after each meal.

2. Eggs are wholesome.

3. Bromine and alkaline salts.

4. No. In sick headache, the stomach should be washed out with a stomach tube, and the diet should be regulated as above indicated.

A SKIN AFFECTION.— R. L. D., Ohio, writes as follows: "Please tell me what should be the treatment for an affection of the skin which may be described thus: The disease affects principally the knee joints, the inside of the arms, and portions of the face. It is characterized by intense itching; and when rubbed, small scales or dry blisters come off, leaving tiny openings which bleed freely. In time these openings enlarge to the size of a large pin-head, and refuse to heal, but bleed when rubbed. Where the disease appears on the face, there is a slight roughness and thickening of the skin. The skin on the sides of the nose cracks, and a watery fluid exudes, over which scales form. The skin of the nose is coarse and oily."

Ans.—The disease is probably eczema, or salt-rheum. These cases are sometimes very obstinate. The diet must be regulated, and the general health must be improved; the bowels must be made regular. Bathe the parts with a hot soda solution. A teaspoonful of common soda to a pint of water is sometimes useful. Compresses consisting of cloths moistened with the same solution, worn over night, are also useful. Bathing the parts in hot water is a valuable remedy, especially when the skin is thickened. Ordinary zinc ointment is also valuable. Another valuable remedy consists of subcarbonate of bismuth one part, vaseline three parts, to be used as an ointment.

RYE MEAL.— T. S., S. Dak., asks: "1. Will rye meal alone cooked in water furnish a perfect food? 2. Ought it to be eaten three times a day?"

Ans.— 1. It would sustain life for a long time, but it would doubtless become very distasteful and monotonous.

2. Rye meal is not unwholesome. Two meals a day are better than three.

DIET FOR INDIGESTION — NUTS AND FRUITS, ETC.— Mrs. J. C. K., N. Y., asks: "1. I suffer a great deal from indigestion. What diet would you recommend? 2. Ought nuts to be eaten with fruit? 3. May beans, peas, and lentils be taken with fruit?"

Ans.— 1. We do not know what diet will be suitable. A careful investigation of each individual case is necessary as a basis for a prescription for diet.

2. Nuts and fruits naturally go together.

3. Yes; if the foods are properly cooked and properly eaten.

"GOOSE SKIN" — HOT OR COLD BATHS, ETC.— Mrs. A. L. G., Chicago, writes as follows: "My children are very strong and well, and have for a number of years taken a cold bath the first thing in the morning. Though their skin seems to be in a perfectly healthy condition, it is strangely rough, especially to the touch. It looks like goose skin, and instead of the children's outgrowing it, it is gradually growing worse. The oldest girl is fifteen. Kindly tell me what is wrong, and advise me as to what I ought to do."

Ans.— The condition is one of disease. Give a warm bath two or three times a week, with six or eight ounces of sal-soda in the water; afterwards apply a little oil.

TOBACCO SMOKE — FAULTFINDING — NERVOUS PROSTRATION. — A subscriber asks: "1. What would be the probable effect of tobacco smoke constantly in the house upon a person having nervous prostration? 2. Also what effect would an atmosphere of continual fault finding be apt to have upon such a patient?"

Ans. — 1. It is very injurious.

2. Most depressing and damaging.

PAIN IN REGION OF SHOULDER BLADE.— A. M. K., Va., writes: "1. About ten years ago I began to have a pain in the left shoulder, in region of shoulder-blade, which seemed to be brought on by any more than ordinary exercise of the left arm. The slight but continuous motion given the body in horseback riding would produce it. It has gradually grown worse, until now, upon any exercise, it is quite severe, affecting more or less that entire side of the body, and is habitually uncomfortable. There is a slight lateral curvature of the spine about opposite the seat of the pain, the bulge in the spine being on the opposite side. Will this probably grow to be something more serious and inconvenient? 2. May it be averted by proper treatment? 3. Would treatment at the Battle Creek Sanitarium be beneficial? Kindly state cause, and give advice in the case."

Ans.— 1. The spinal trouble will probably increase unless cured by proper treatment.

2. Yes.

3. Yes. The cause is probably an unbalanced action of the muscles of the spine,— perhaps general debility.

CRACKERS — CREAM — MILK, ETC.— I. E. P., Kan., asks the following questions: "1. Will you give a good receipt for making crackers? 2. Is cream as constipating as milk? 3. What is the best way in which to cook onions? 4. Is oatmeal good for persons of weak digestion?"

Ans.— 1. Good crackers can be made only by machinery. Mrs. Kellogg's cook-book contains a few receipts that can be used at home.

2. No.

3. In a kettle out of doors.

4. Some persons cannot digest preparations of oats as well as wheat preparations. The Sanitarium Health Food Co.'s granola is excellent for persons with weak digestion.

JAUNDICE — COLD FEET — CONSTIPATION.— Mrs. M. M. W., Ill., asks: "1. What is the trouble when the whites of the eyes are yellow? 2. Is it jaundice? 3. I wear heavy stockings and shoes, but still have cold feet. What can I do to equalize the circulation? 4. Have followed the directions for the treatment of constipation found in GOOD HEALTH and 'The Monitor of Health,' but am not benefited. I live a sedentary life, but walk some nearly every day. Please give me advice."

Ans.— 1. There is probably obstruction of some of the bile ducts.

2. Yes.

3. Probably you have nervous dyspepsia or gastric neurasthenia, with irritation of the lumbar ganglia of the sympathetic nerve. This requires correction of diet, and treatment for the relief of indigestion. A cold sponge bath taken every morning, a moist abdominal bandage worn during the night, abundance of exercise out of doors, and careful diet will benefit you; eat granose and kumyss, and take charcoal tablets. (Sanitarium Health Food Company, Battle Creek, Mich.)

4. Continue to persevere in treatment, and make a faithful trial of granose and the charcoal tablets, and you will doubtless be benefited.

A BRONCHIAL COUGH — GINGER ROOT — ALUM.— E. W. H. asks: "1. The writer is troubled with a bronchial cough which shows itself on exposure to draft or inclement weather. A nibble of ginger root or alum keeps the cough down. Are these articles injurious? 2. If so, what remedy would you advise?"

Ans.— 1. Probably not in the quantity in which they are taken.

2. The body should be hardened so that the susceptibility will be overcome. The patient should be gradually accustomed to the morning cold bath and the use of the volatilizer (Sanitary Supply Company, Battle Creek, Mich.) three or four times a day.

NIGHTMARE.— J. C. F., Mich., wishes to know the cause of nightmare.

Ans.— Disturbance of the sympathetic nerve arising from indigestion.

RELIEF DEPARTMENT.

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

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

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

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

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

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

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

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

No. 270 is a boy ten years old, living in Ohio. His father is dead, and his mother is in such poor health that she cannot care for him. He has brown eyes and hair. His health is good. He has never been sick. He is said to have a kind disposition, and has not been neglected.

No. 272 is a German boy who is now living in Nebraska. His father and mother are both dead, and the little boy, now at the age of thirteen years, is left homeless. He has gray eyes and dark hair, and his health is fair. Some friends are at the present time caring for him, but cannot provide a home for him much longer. They say that he has shown a desire to do right, and we trust that in a new home, which we hope can be provided for him, he may be surrounded with those influences which will be the means of developing in him a beautiful character.

No. 283 is a little girl five years old who is now living in Indiana. She has blue eyes and light hair, is in good health, is said to be obedient, and religiously inclined, also very affectionate toward those with whom she associates.

Her brother, No. 284, is three years of age, with blue eyes and light curly hair. He is an active little fellow, in good health, and admired by those who know him. The father has had chances to place these children in homes, but he is anxious that they be placed in a Christian family. The father has cared for the children, but he is unable to care for them and earn a living too. He will be glad of some assistance. Only those who can give these children religious as well as educational advantages need apply.

No. 280.— Word comes to us from Wisconsin of a girl nearly fourteen years old whose mother is working hard to support two children and a husband who is ill. This girl has gray eyes and brown hair, and is said to be bright, but she needs a strong, yet kind hand to guide her.

No. 281 is a Swedish boy ten years of age, with brown eyes and dark hair, and having good health.

No. 282 is his brother, seven years of age. He has blue eyes and light hair. The father and mother of these children are both dead, and they have been cared for by their grandparents for three years. They cannot provide for them longer, and rather than place them in the poorhouse they apply for a home in a private family.

Nos. 285 and 286 are boys living in Pennsylvania. Their condition is like several that have been referred to us before, and from what we learn of them we are satisfied that they are worthy of help. Their father is dead and the mother not able to care for them. She has tried for the past few years to keep them with her, not wanting to part them, but has now reached the point where she can see no other way than to place the children in homes. The boys are seven and eight years old, have blue eyes and brown hair, and are in good health. The mother has kept them with her most of the time.

Nos. 288 TO 291.— The mother of these four children died two months ago. Their father's health is so very poor that he is not in a condition to support them, and hence is very anxious to find homes for them where they will receive Christian care and training. The mother's dying request was that they be placed among Sabbath-keepers. The oldest is a girl of ten years, with brown eyes and hair, and in good health. The two boys, aged respectively eight and six years, also have brown eyes and hair, and are said to be genteel and manly in

appearance. The youngest is but two years old. She is a healthy, rosy-cheeked little girl, with hazel eyes and brown hair. These children have always been under their mother's control, and have not been allowed to run the streets.

No. 287 is a little nine-year-old boy living in Michigan, whose mother desires to place him in a Christian home. His father has deserted him, and his mother is not able to support him. He has blue eyes and light hair.

A SENSIBLE idea was expressed by a kind mother who had taken into her home a boy that had had insufficient care and training in his former home. One day one of her own children was finding fault with the little boy for some seeming neglect of duty. The mother said in her kind way, "Remember, this little boy has not had a mother to care for him and tell him what is right, and I am afraid if my children did not have a mother to continually look after them, they would be as bad if not worse than he is."

When we see children who show signs of neglect, and we feel like casting them off on account of their uncultivated manners, can we not for a moment stop and think what we might have been had we been placed under the same influences?

WHEN persons who have offered to give a home to a child have already had experience in raising a family, and have trained their own children well, we consider that about the best recommendation as to their ability to take such a responsibility.

A SHORT time ago we were made happy by one of our kind friends who called at the *Medical Missionary* office, bringing with her a little girl that she had taken into her home. She seemed proud of the child, and anxious to let us see what a nice little girl she had grown to be. Had this little girl remained in the home where we found her, we are certain that the evil with which she was surrounded would have been the means of leading her down to sin and ruin. We could not help but rejoice when we found that the child had now a good mother, a pleasant home, and every advantage for the development of a Christian character.

A FEW days ago a pleasant-looking woman came into our office and made application for a child. The motive which prompted her to offer a home we are sure is a right one. She stated that during the past winter, when she was enjoying the comforts of a pleasant home, having plenty and to spare, she was reminded of the many homeless children who need some one to care for them, so she concluded that she could do some good by taking one into her home. Being a person who has an interest in the sick and poor of her own neighborhood, we are certain that any child who goes to her home will indeed be very fortunate.

PERSONS making applications for children advertised in this department are requested to send with their applications the names and addresses of two or more persons as references. 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 Clothing Department to receive and properly distribute new or partly worn garments which can be utilized for the relief of the very poor. In connection with this work it is very important that a few points should be kept in mind and carefully observed: —

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

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

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

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

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

LITERARY NOTICES.

THE FUNK & WAGNALLS STANDARD DICTIONARY. — The publication of the Standard Dictionary places before the reading world a work that, for many reasons, is deserving of more than passing mention. In the first place, it is the very latest publication in a field in which we have already the Century, Webster's, Worcester's, the Imperial, and Stormouth, not to mention smaller and more special works. Being the latest, it has of course had the advantage of the work that has been done by its predecessors. In the next place, a book of this kind, in the very nature of the case, must have claims to serious consideration, or its publishers would not have ventured to risk a million dollars in its production. A careful examination of the book, and a comparison of it page by page and at different points of test with the Century and Webster's, its two principal competitors, proves in the most conclusive and convincing manner that its merits amply justify its entrance into a field that to an uninformed observer might seem to be already filled. The special points wherein this book clearly outranks its competitors may be more clearly indicated by presenting them categorically, which will be done in succeeding numbers of this journal.

THE two subjects that stand out most prominently in the July *Arena* are the Age of Consent propaganda and psychical science. Upon the former subject, representatives of different States write for and against changing the laws governing this matter, to make them more in consonance with the laws governing the disposition of property. The editor of the *Arena* gives a study of the facts in regard to palmistry, as viewed by modern science — such specialists as Galton and others. A. Taylor writes of "The Universal Church" — the church of reality and humanity. B. O. Flower contributes the sixth paper in the series on "The Century of Sir Thomas Moore." Anson J. Webb offers an "Outline of a New Philosophy of Money." Col. Richard J. Hinton writes "A Character Study of Wendell Phillips," whom he knew intimately, among other great men of the Anti-Slavery period. This paper gives a glimpse of Theodore Parker, Whittier, and other Abolition notables. Another paper from the pen of the editor considers "The Rights of the Child in the Light of Heredity." John Davis writes a "Study of Napoleon," which will be of interest at the present moment of Napoleon revival.

IN the summer of 1889 *Scribner's Magazine* began the publication of a fiction number, which has had the good fortune to contain some of the brightest American short stories, many of which have made the reputation of their authors. The first fiction number contained Robertson's "How the Derby was Won"; Hibbard's "The Governor," and Sullivan's "The Rock of Béranger,"— stories that have taken their place among the most successful short fiction. The fiction number of 1890 contained a story that made Richard Harding Davis's reputation, "Gallegher," and the number for 1891, Thomas Nelson Page's "Elsket." The August issue of this year, which is the annual fiction number, contains seven short stories, each one selected for its excellence as representing the best work of a popular writer.

MUCH interest will be felt by the public in the return of Rudyard Kipling to India. He has just agreed to furnish a regular contribution to the *Cosmopolitan Magazine* for the coming year, beginning his work upon his return to India. India has never been critically considered by such a pen as Kipling's, and what he will write for the *Cosmopolitan* will attract the widest attention, both here and in England. Though the *Cosmopolitan* sells for but ten cents, probably no magazine in the world presents so great a number of illustrations specially designed for its pages by famous illustrators.

THE woman interested in her home will find much of value in *Table Talk*, which is filled with the latest recipes, menus, fashions, novelties, and ideas, which are a constant delight to the progressive housekeeper. A few of the subjects treated in the July number are "Infant Feeding," by Dr. H. H. Hawxhurst; "Housekeeper's Inquiries," by Helen Louise Johnson; "The New Bill of Fare," and "Linen Novelties," by Mrs. M. C. Myer; "Fashionable Luncheon and Tea Toilets," by Tillie May Forney; and "Sandwiches up to Date," by Emma P. Telford. There are also menus for every meal in the month, a market list, a seasonable talk on books, and so on, all for ten cents a copy, or one dollar a year. To our readers, however, a sample copy is offered free, if they will address Table Talk Publishing Co., Philadelphia, Pa.

GLYCOZONE

Both Medal and Diploma
Awarded to Charles Marchand's Glycozone by World's Fair of Chicago, 1893, for its
Powerful Healing Properties.
This harmless remedy prevents fermentation of food in the stomach and it cures:
DYSPEPSIA, GASTRITIS, ULCER OF THE STOMACH, HEART-BURN, AND ALL INFECTIOUS DISEASES OF THE ALIMENTARY TRACT.

HYDROZONE

IS THE STRONGEST ANTISEPTIC KNOWN.

One ounce of this new Remedy is, for its Bactericide Power, equivalent to two ounces of Charles Marchand's Peroxide of Hydrogen (medicinal), which obtained the Highest Award at the World's Fair of Chicago, 1893, for Stability, Strength, Purity and Excellency.

CURES ALL DISEASES CAUSED BY GERMS.

GLYCOZONE is put up only in 4-oz., 8-oz. and 16-oz. bottles, bearing a yellow label, white and black letters, red and blue border, with signature.

HYDROZONE is put up only in small, medium and large size bottles, bearing a red label, white letters, gold and blue border.

PREPARED ONLY BY

Charles Marchand

☞ Mention this publication.

Chemist and Graduate of the "Ecole Centrale des Arts et Manufactures de Paris" (France).

SOLD BY LEADING DRUGGISTS

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A DEFINITE AND STAPLE PRODUCT

SCIENTIFICALLY PREPARED FROM STERILIZED MILK
BY MEANS OF A SPECIAL AND DEFINITE LACTIC FERMENT.

It has the following advantages over kumyss:—

1st. Uniform quality. 2d. Agreeable flavor. 3d. Keeps indefinitely.
4th. Always agrees with the patient. 5th. It does not require a tap for its use.

The cork of the bottle is withdrawn by an ordinary cork-screw; then by restoring the cork and shaking the contents and pouring into a glass, the same effervescent beverage is obtained which is represented in the very best specimens of kumyss in which the most fortunate results have been realized.

Kumyzoon is especially useful in the following conditions: **Fevers, migraine, nervous or sick headache, biliousness, coated tongue, torpid liver, anæmia, chlorosis, dilatation of the stomach, nervous exhaustion, loss of appetite, emaciation, infectious jaundice,** and in fact, almost every condition in which correction of a septic state of the alimentary canal is required, or in which enforced nutrition is desirable.

Kumyzoon is the food *par excellence* for **Indigestion, Neurasthenia, Consumption, Dropsy, Bright's Disease, Diabetes,** and all wasting maladies.

Its pure, acid flavor, unmixed with any nauseating decomposition, is appetizing and refreshing. Its rich, creamy consistency satisfies without clogging; it allays irritation in the stomach, promotes gastric digestion in cases of apepsia, and seems to be more readily assimilated than any other food.

Keeps indefinitely in a cool place.

MANUFACTURED BY

BRANCH OFFICE, 28 COLLEGE PLACE, CHICAGO.

SANITARIUM HEALTH FOOD CO., Battle Creek, Mich.

PUBLISHERS' DEPARTMENT.

THE Medical Missionary Association, which has genera supervision over the Sanitarium and its philanthropic work, has recently organized a Medical College for the education of missionary physicians. The college will be located in Chicago, being incorporated under the laws of the State of Illinois. The charter has already been granted, and arrangements for the opening of the school October 1 are being rapidly pushed to completion. Only those who mean to devote their lives to missionary work will be admitted as students. A score of names has already been enrolled, and the prospect is that the school will open with twice that number of prospective missionary physicians. The course of study will be the most thorough and complete of any medical school in this country, and for practical purposes, unquestionably the most thoroughgoing of any school which has ever been organized. The course will comprise four years of 45 to 48 weeks each, and will provide for as much work as the best European schools, and considerably more than any American school.

* *
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THE new swimming-bath constructed in connection with the Sanitarium bath-rooms is now completed, and ready for use. The bath covers nearly 2500 square feet, and is supplied with every facility for teaching the art of swimming. It is proposed to make swimming a regular part of the course of physical training at the Sanitarium. Everybody ought to know how to swim. Swimming is not only one of the most healthful exercises, but is often the means of saving life as well.

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THE Sanitarium Health Food Company is doing a flourishing business. The facilities for producing the unequalled foods of this company have more than doubled within the last three months, but are not adequate to supply the demand. The company is many thousand pounds behind in its orders. The demand for the new food, granose, has been much greater than the supply. The facilities for producing this excellent new food have been increased, and still further additions will be made as rapidly as possible. The large new building especially devoted to the manufacture of foods is being rapidly pushed to completion, and the mammoth ovens, which are capable of baking 300 barrels of flour daily, will be in operation by the time this reaches our readers. But at the rate the business is increasing, it will soon be necessary to double facilities again. The people are finding out that these foods are exactly what they are represented to be,— that they are pure, always to be relied upon, and that they possess qualities which are not possessed by any other foods.

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THE Sanitarium is enjoying this summer the largest patronage in the history of the institution. The ample facilities provided for the accommodation of guests, however, enable the managers to make all comfortable. There are few pleasanter spots on earth than the Sanitarium and its surroundings. The fine oak grove and the lovely lawn over which it is scattered, afford a delightful place for patients to rest, enjoy the pleasant breeze, and chat about the interesting incidents which are every day occurring in Sanitarium life. The new bath-rooms are pronounced by all who have had extensive experience elsewhere, to be the finest in the world. They are certainly commodious and convenient, and are not lacking in elegance, and for efficiency they are unquestionably unrivalled.

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THE publishers of GOOD HEALTH are arranging to start a new publication to be known as the "Good Health Library," in which will be published valuable monographs in regard to individual health and the health of the home. Further particulars will be given next month.

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JUST as this number goes to press, the editor is starting for Toronto, to attend the meeting of the Pan-American Congress of Religion and Education, being invited to give an address upon the subject, "The Mission of Sanitariums," and to speak in one of the churches in Toronto Sunday evening. A short trip will also be made to that great educational center, Chautauqua, where so many thousands have already gathered for a combination of physical recreation and mental improvement. Dr. Jay W. Seaver and his associates are conducting at Chautauqua one of the largest and most successful schools of physical culture in the world. We know of no training school which is more thoroughly practical in its aims and methods than that of Drs. Seaver and Anderson at Chautauqua.

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THE *American Medical Temperance Quarterly*. — This journal is published regularly once a quarter by the Modern Medicine Pub. Co. It deals with items of interest to people and to physicians. It is especially devoted to combating the idea that alcohol is necessary either as a food or a medicine. Each number contains articles by Dr. N. S. Davis and other physicians. It is the only advocate of medical temperance in the United States, being devoted exclusively to this subject. The regular subscription price is 50 cents a year. The journal will be sent in combination with GOOD HEALTH for $1.25 for the two journals.

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AN APPEAL TO THE CHURCHES. — The following letter has been addressed by Frances E. Willard to Christian ministers of all denominations : —

"Private letters which I have myself seen, from a number of American residents in Turkey, of unimpeachable character, have fully confirmed the worst reports of the recent massacre of Armenian Christians by the Turks and Kurds. This is only the climax of a systematic course of heart-sickening oppression and persecution extending over many years. It is only under the pressure of aroused public opinion that governments take action. After the Bulgarian massacres, four hundred public meetings of protest were held in England. I would therefore earnestly urge that every Christian minister devote one Sunday evening meeting to a consideration of the situation of the Armenian Christians in Turkey, and that the meeting pass resolutions of protest, similar in general tenor to those lately adopted by the Evangelical Alliance. Ministers intending to preach

on the subject, or any one wishing to secure the passage of resolutions by any club or society, can be supplied with documents and data, free of charge, by addressing Mrs. Isabel C. Barrows, 141 Franklin St., Boston, Mass. Let us 'remember those in bonds as bound with them.'"

* *
*

"THE CRACK TRAIN OF THE WORLD."—A prominent New York merchant and importer of leather goods said in our hearing the other day: "I have traveled all over Europe and America, and I consider the train which leaves Chicago every day at 6.30 P. M. for St. Paul and Minneapolis, via the Chicago, Milwaukee & St. Paul Railway, 'The Crack Train of the World.'" In this statement thousands of others heartily concur.

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HOLLAND'S GREAT PIANIST COMING.—The musical season of 1895-96 will not be lacking in pianists. Among others, Martinus Sieveking is to be here. Sieveking is a Hollander by birth, coming from an old and aristocratic family, which dates its ancestry back to the fifteenth century. From his earliest infancy, he displayed characteristics indicative of his future career. He is a man of magnetic temperament and striking personality, being over six feet in height, and magnificently proportioned. Mr. Sieveking will come to the States in the fall, and play throughout the country. He will make his début in New York City.

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THE Management of the International Exposition to be held at Atlanta, Ga., September 18, are pushing the enterprise with most commendable vigor. The demand for space in the Woman's Building has been so great that the Woman's Board has been compelled to ask for an appropriation for an annex. The matter has received the favorable consideration of the Finance Committee, and will probably be approved by the Executive Board. The activity and the amount of labor performed by the women of this department is phenomenal, considering the means at their disposal, and the results attained so far are more than astonishing. They have stirred so much interest in most of the States that an overwhelming demand for space has been made upon the management.

CHICAGO & GRAND TRUNK R. R.

Time Table, in Effect Nov. 18, 1894.

GOING EAST. Read Down.					STATIONS.	GOING WEST. Read up.				
10 Mail Ex.	4 L'v'd Ex.	6 Atl. Ex.	42 Mixd Tr'n.	2 Pt. H Pass		11 Mail Ex.	1 Day Ex.	3 R'd L'v'd	23 B. C. Pass.	5 P'fic Ex.
a m	p m	p m				p m	p m	pm		a m
9.00	3.10	8.15	a m	.....	.....D.Chicago A.....	6.45	1.50	9.10	.....	7.50
11.25	5.05	10.30	6.00	.....	.....Valparaiso.....	5.05	11.35	7.10	.....	5.45
p m										
1.05	6.30	12.00	10.05	.....	.....South Bend.....	3.10	10.15	5.44	....	4.10
1.46	7.12	1.45	12.40	.....	.....Cassopolis	2.15	9.40	5.13	.....	3.28
2.33	.....	11.33	3.42	.....	.....Schoolcraft.....	1.20	.....	.....	.....	.....
2.44	7.55	1.48	4.50	a m	.....Vicksburg.....	1.10	8.52	.....	p m	2.37
3.30	8.36	2.40	6.20	7.00	.....Battle Creek.....	12.15	8.15	3.55	9.35	1.50
4.33	9.26	3.25	.....	7.47	.....Charlotte.....	11.14	7.23	3.07	8.40	12.53
5.10	9.55	4.00	.....	8.20	.....Lansing.....	10.40	6.55	2.40	8.00	12.20
6.30	10.45	5.03	.....	9.30	.....Durand.....	9.35	6.05	1.55	6.50	11.28
7.30	11.17	5.40	.....	10.05	.....Flint.....	8.35	5.35	1.28	5.47	10.35
8.15	11.50	6.15	.....	10.43	.....Lapeer.....	7.49	5.02	1.00	5.10	10.01
8.42	a m	6.35	.....	11.06	.....Imlay City.....	7.28	.....	.....	4.48	.....
9.50	1.00	7.30	.....	12.05	.....Pt. H'n Tunnel.....	6.50	3.50	11.55	3.50	8.45
	p m					a m	a m	a m	p m	p m
9.25	.....	.....	.....	.....	..... Detroit.....	.....	.....	10.40	4.05	8.45
	a m	p m					p m			p m
.....	8.15	5.25	.....	.....	.....Toronto.....	.....	9.20	.....	.....	1.00
	p m	a m					a m			
.....	8.15	7.25	.....	.....	.....Montreal	.....	9.15	.....	.....	.....
	a m	p m					a m			
....	8.12	7.15	.....	.....	.....Boston.....	.....	8.30	.....	.....	.....
	a m	p m					p m	a m		p m
.....	7.50	4.25	.....	.....	.....Susp'n Bridge.....	.....	10.15	7.05	.....	2.25
	a m	p m								p m
.....	7.00	5.40	.....	.....	.....Buffalo.....	.....	.....	.....	.....	1.00
	p m	a m					a m	p m		p m
.....	8.53	8.03	.....	.....	.....New York.....	.....	8.15	6.10	.....	8.00
		a m								p m
.....	.....	10.20	.....	.....	.....Boston.....	.....	.....	.....	.....	7.0

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

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

Valparaiso Accommodation daily except Sunday.

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

† Stop only on signal.

A. R. Mc INTYRE, *Asst. Supt., Battle Creek.*

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

MICHIGAN CENTRAL

"The Niagara Falls Route."

Corrected June 2, 1895.

EAST.	*Night Express.	†Detroit Accom.	†Mail & Express.	*N. Y. & Bos. Spl.	*Eastern Express.		*Atl'ntic Express.
STATIONS.							
Chicago.....	pm 9.30		am 6.50	am 10.30	pm 3.00		pm 11.30
Michigan City.	11.35		8.50	pm 12.08	4.50		am 1.19
Niles.....	am 12.45		10.15	1.02	5.55		2.45
Kalamazoo	2.15	am 7.20	11.52	2.16	7.21		4.35
Battle Creek...	3.00	8.10	pm 12.50	2.50	7.58		5.22
Jackson.....	4.30	10.00	2.40	4.10	9.20		6.50
Ann Arbor.....	5.40	11.05	3.50	5.00	10.12		7.47
Detroit.....	7.10	pm 12.20	5.30	6.00	11.15		9.20
Buffalo.....				am 12.10	am 6.45		pm 5.30
Rochester.....				3.00	9.55		8.40
Syracuse.....				5.00	pm 12.15		10.45
New York.....				pm 1.45	8.45		am 7.00
Boston.....				3.00	11.35		10.50
WEST.	*Night Express.	*N.Y.Bos. &Chi.Sp.	†Mail & Express.	*N.Shore Limited.	*Weste'n Express.	† Kalam. Accom.	*Pacific Express.
STATIONS.							
Boston.....		am 10.30		pm 2.00	pm 3.00		pm 7.15
New York.....		pm 1.00		4.30	6.00		9.15
Syracuse.....		8.30		11.30	am 2.15		am 7.20
Rochester.....		10.37		am 1.20	4.10		9.55
Buffalo.....		11.45		2.20	5.30		pm 3.30
Detroit.....	pm 8.45	am 6.30	am 7.20	8.30	pm 1.00	pm 4.35	11.05
Ann Arbor.....	10.25	7.30	8.43	9.25	2.00	5.57	am 12.15
Jackson.....	11.40	8.35	10.43	10.30	3.02	7.35	1.25
Battle Creek...	am 1.17	9.48	pm 12.15	11.43	4.18	9.11	2.55
Kalamazoo	2.10	10.27	1.00	pm 12.22	4.57	10.00	3.36
Niles.....	4.00	11.48	3.00	1 40	6.27		5.00
Michigan City.	5.09	pm 12.50	4.25	2.45	7.22		6.00
Chicago.....	7.10	2.40	6.35	4.30	9.05		7.50

*Daily. †Daily except Sunday.

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

Trains on Battle Creek Division depart at 8.10 a. m. and 4.35 p. m., and arrive at 12.40 p. m. and 6.35 p. m. daily except Sunday.

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

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

ESTABLISHED 1844.

SHARP & SMITH,

73 Randolph Street, CHICAGO, ILL.,

Brace for Lateral Curvature of the Spine.

SHARP & SMITH.

MANUFACTURERS OF

Deformity Apparatus

Of All Descriptions.

Artificial Limbs,

Elastic Stockings,

Abdominal Supporters,

Trusses,

Shoulder Braces,

Etc., Etc.

Family Syringes.

Surgical and Veterinary Instruments.

THE GRAND TRUNK RAILWAY OF CANADA

Are Offering a TRIP to the

Knights Templar and Christian Endeavor

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BOSTON, Mass.

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July and August,

TAKING IN

THE THOUSAND ISLANDS,
ST. LAWRENCE RIVER AND THE RAPIDS,
MONTREAL, QUEBEC,
WHITE MOUNTAINS, and the EASTERN SEA-COAST.

For information, apply to D. S. WAGSTAFF,
DISTRICT PASSENGER AGENT, DETROIT, MICH.

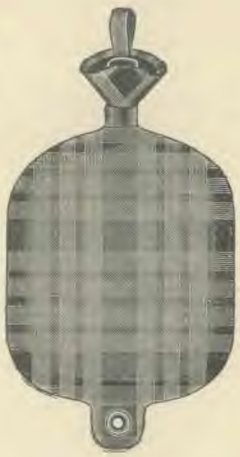
HOT-WATER BAGS.

Style A.
WHITE RUBBER.

As a foot-warmer, or for applications of either moist or dry heat, this bag is invaluable. For moist heat, wring a flannel cloth from hot water, and lay on the bag. It is a durable article, and one not willingly dispensed with after once using.

STYLE B. FLANNEL COVERED.

The same bag covered with flannel or sateen, which to many makes it much more agreeable as a foot-warmer.



Style B.
FLANNEL COVERED.

SPINE BAGS.

RUBBER SPINE BAGS. Very strong and durable; essential in the treatment of some forms of Dyspepsia, Spinal Irritation, and many nervous diseases.

- - - SEND FOR CATALOGUE - - -

SANITARY AND ELECTRICAL SUPPLY CO., Battle Creek, Mich.

The Volatilizer

A NEW INSTRUMENT FOR THE TREATMENT OF

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

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

A Nebulizer and Volatilizer Combined.

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

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

PRICES:

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

SANITARY AND ELECTRICAL SUPPLY CO.,

BATTLE CREEK, MICHIGAN.

ANTISEPTIC

ABSORBENT

CHARCOAL TABLETS

DIGESTIVE

Charcoal Tablets are not a panacea, but they have proven to be **the most valuable remedy** we possess for morbid conditions depending upon fermentation or decomposition of food in the stomach and intestines. They consist of a special form of vegetable charcoal, much superior to willow, freshly prepared, to which is added sulphur, one of our most valuable intestinal antiseptics, and diastase, a starch-digesting ferment. This will at once be recognized as **a happy combination for combatting the action of microbes in the alimentary canal.**

Charcoal Tablets render invaluable aid in the treatment of cases presenting the following symptoms of disturbed digestion: **Acidity, Eructations of Gas, Heartburn, Biliousness, Sick Headache, Nervous Headache, Bad Taste in the Mouth, Coated Tongue,** and **Constipation.** Persons suffering from dilatation of the stomach need to make constant use of an intestinal antiseptic of some sort. The antiseptics entering into the composition of Charcoal Tablets are the **only ones** with which we are acquainted that may be continually used without injury.

MODERN MEDICINE COMPANY,

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Mt. Vernon Academy,

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A THOROUGH SCHOOL for young men and young women. COMPLETE COURSES OF STUDY, Scientific and Classical, SPECIAL COURSE arranged for those whose time is limited.

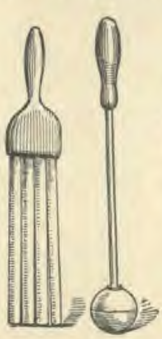
STRONG FACULTY OF INSTRUCTORS.

BEAUTIFUL LOCATION, two miles from town, in a quiet valley surrounded by pleasant hills. **Living Springs of Pure Water on the Grounds.** Formerly a **Noted Health Resort.** Special attention given to **Physical Training. Free** instruction given in **Hygienic Cooking.** Buildings heated and ventilated after the most approved methods. **Graduated Sanitarium Nurse** in attendance. **Expenses reduced** to a minimum. Aid furnished deserving students.

Illustrated Catalogue, containing **Courses of Study** and **full information,** sent free.

Address W. T. BLAND, Principal.

Muscle-Beaters



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