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BIOGRAPHICAL HEALTH STUDIES.

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

16. Frederick Douglass.

IN the course of the last four hundred years the European colonists of the New World have intermarried with the American Indians far more frequently than with negroes; yet only a few of the many million mestizos, as the Spaniards call the white-red half-breeds, have achieved even temporary distinction, while the comparatively small number of mulattoes has produced four such men as the elder and younger Dumas, President Baez, of San Domingo, and Frederick Douglass, the American orator and reformer.

The explanation of that contrast involves an interesting biological problem, and the fact that Indian squaws have found favor in the eyes of Anglo-American squatters and French Canadian trappers, as well as of Spanish Creoles, appears to narrow the question to a comparison of Indian and African race-traits, and to imply that Sambo Africanus can, in some essential respects, boast a decided superiority over the moral or physical characteristics of poor Lo.

The compulsory education of negro slaves is insufficient to account for that difference, since the instruction of young negroes in the rudiments of science was not only neglected but in many cases actually prohibited by law. The physical superiority of the black race is less doubtful. On a recent mid-winter trip to the Gulf Coast I met a party of southern sportsmen who had passed several weeks in Dade county, Florida, and discussed the alleged existence of monkeys in the swamp forests of the Everglades.

"I never shot any myself," said a Florida land agent, "but I often heard their yells and saw some of their stuffed skins. They were just like those black ringtails from Mexico and Brazil. How they got across is a puzzle, but they may have escaped from some shipwrecked banana schooner. They are dying out, though, it seems, and won't trouble us much, at all events."

"Somebody ought to stock our stony hills with African baboons," said a Texas stock farmer; "that would be a new kind of game if they should multiply."

"Yes, but they might multiply faster than you expect," laughed the land agent, "we might get rid of our rickety ringtailers easy enough, but African products, you know, are indestructible. Just look at the difference between the Mexican and African negroes. We got away with our red Indians the moment their lands were needed, but Uncle Remus has come to stay. It might be just the same with African monkeys."

There is, indeed, a striking analogy between the characteristics of the two-handed and four-handed inhabitants of several parts of the tropics. The South American forest Indians are melancholy and stolid, like many species of their Darwinian countrymen; while the African apes and baboons are gifted with the same vitality and the same trouble-proof good humor that characterizes the typical African negro.

Sambo's intellectual superiority to a Cherokee Indian is less decided; but we should remember that in a great plurality of cases mulattoes are the offspring of white fathers and black mothers, and that in the union of dissimilar parents, according to one

of the remarkable laws of hybridism, the mental peculiarities of the child are generally inherited from the father, the physical from the mother.

Mestizos, too, are generally the children of white fathers, and considered in the light of Lebourneau's law, the result of the comparison would seem to prove that the union of stoicism and faith (Indian mother and Spanish father) is very much less favorable to the production of genius than the union of logic and impulsiveness (British-American father and black mother). And it so happens that Dumas, Baez, and Douglass could all trace their lineage to unions of the latter kind.

To his descent from a slave-girl, Douglass owed his health, his vigor, and dexterity, and that more than half physical blessing—constitutional good humor.

From his father he inherited an indomitable love of knowledge, and as a boy of eight years, he already began to "covet the prizes of education as a poor lad would hanker after some sweet forbidden fruit."

He was born near Eaton, Talbot county, Maryland, in 1816 or '17, perhaps 1818, and was brought up as a slave on the plantation of Colonel Edward Lloyd, who considered intellectual ambition a demerit in a black girl and something approaching the heinousness of high treason in a black boy. Little Fred was a chubby youngster, and could not hope to evade the drudgery of the woodchopper's camp on a plea of frail health, but a natural aptitude for constructive mechanics opened to him another gate of escape, and in his tenth or eleventh year he was permitted to "buy his own time," as the slave-owners called it, and hire himself out to a Baltimore furniture dealer, and before long to the carpenter of a shipyard.

The latter kind of job suited him exactly. It was healthy and clean, allowed him to pass a large portion of his time in the open air, and left him leisure enough to indulge his passion for book studies. He learned to read; and with that golden key to the treasure-vaults of knowledge once in his possession, soon became an intellectual as well as a physical athlete. In his eighteenth year he could wrestle any man in the navy yard, and hold his own in an argument against all comers.

Colonel Edward Lloyd, slave owner and county magistrate, would have needed a good grip to hold a wolf of that kind by the ears, and in 1837 Frederick Bailey (as they called him after his father's name) made his escape from Baltimore in the disguise of a Spanish sailor, and got sound and safe to New Bedford, Massachusetts.

His work in Baltimore had put several hundred dollars in his master's pocket, and the Colonel's complaints remind one of the lament of Heinrich Heine's Spanish bear leader, who inveighed against the "black-haired ingratitude of the brute that had broken its chains and taken to the woods, though he had always treated it as a friend and teached it dancing."

"I only owe that man one good turn," said Douglass, "though I do not propose to thank him for it; he once threatened to flay me alive if he should ever catch me with a book again. Forbidden commodities become luxuries, you know, and I have been an insatiable reader ever since."

It was in October when the deserter reached New Bedford, and it might seem a puzzle how the son of an African mother could so easily support himself by outdoor labor in the climate of that wintry latitude; but the enjoyment of freedom is a cordial, and Douglass gives an additional explanation of his weather-proof energy. "My mother's race," he says, "has the advantage of blunt nerves; I have seen colored picnicers play cards in a mosquito-swarm that would have driven a white man crazy, and the truth is that I do not feel cold weather as severely as many English Americans seem to do: I mean I do not feel frost as an actual pain, though I cannot say that I am partial to it, either. It benumbs me, body and mind, in the long run; but I do believe that a black man who could afford to dispense with hard labor, would suffer less in Canada than his rich white neighbors."

In the summer of 1841 the self-made freedman attended the Nantucket convention of the Anti-slavery Association, and at the invitation of William Garrison made a speech that proved the turning event of his career. The plaudits of the assembly interrupted the young orator so often that Garrison called a halt, and in the name of his committee offered the living illustration of their doctrine the Massachusetts State agency of the Association. So much wit, so much eloquence and native grace in a man who had been bought and sold, like a beast, could not fail, they argued, to turn thousands of their prejudiced opponents into converts, not to mention the fact that the new agitator could describe the horrors of bondage from personal experience.

Douglass enjoyed the advantage of a voice that could be heard and understood at the farthest end of a lecture hall, and humorously observed that "if the worst came to the worst, he could outbawl his opponents," "though," he added, "I really believe

they like to hear me speak, just for the curiosity of hearing a black creature talk like a human being."

That sort of self-banter anticipated, and often disarmed, the attacks of his adversaries, though it was frequently misunderstood by men of his own race, who, indeed, continued to depreciate his merits in spite — or perhaps because of — his ultimate triumphs. The anti-Douglass faction of colored demagogues denounced his compromise policy and exhausted the vocabulary of wrath in reprobating the toadyism of the "renegade" and his "selfish indifference to the neglect of black office-seekers, as long as he could contrive to perpetuate the tenure of his own job," with many still uglier insinuations.

The truth seems to be that Frederick Douglass could not entirely divert himself from the bias of the biological law which, in the offspring of race-mixtures and specie-mixtures, turns the sympathies to the side of the superior race. "The mule chats about his dear uncle, the horse," says a Spanish proverb, and the Spanish-American Indians complain that "the grossest arrogance of the white Creoles cannot cure the half-breeds from the temptation to take their part in every quarrel that leaves them wind enough to cheer for the cavaliers."

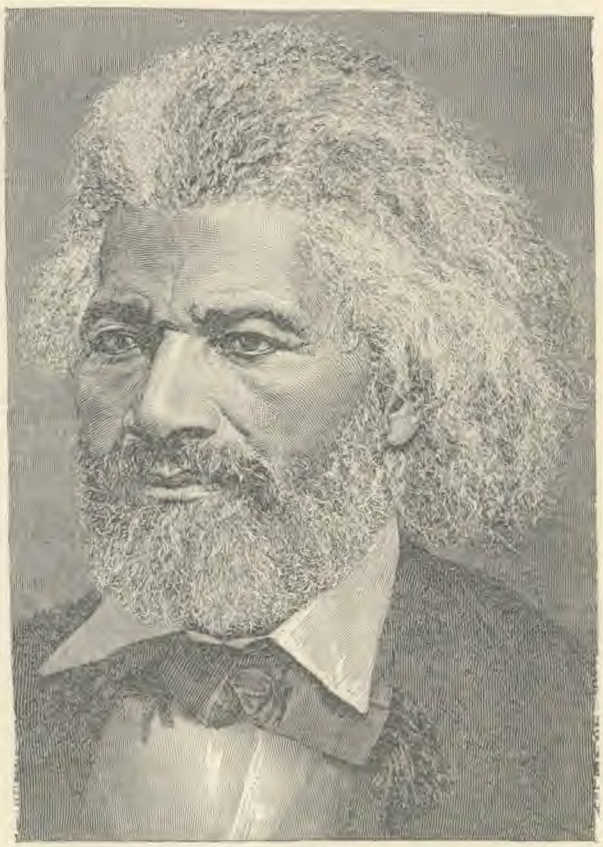
Frederick Douglass spent the last years of his life in vindicating the cause of his black half-brethren, and sincerely pitied the lot of the practically disfranchised freedmen, but he reserved his esteem, on the whole, for his white friends, of whom he had no lack, because sincere admiration is, after all, the most effective form of flattery.

As early as 1845 he had become a pet of all sorts of reform associations, and in '46 one of his lady friends contributed $700 to get him manumitted in due form of law. His old master, the book-abhorring colonel, hesitated, but might probably reflect that the local bastiles could not be trusted to hold a prisoner of that sort, and in December, 1846, signed a full release for "my negro man, Frederick Bailey, otherwise called Fred. Douglass."

The law-protected freedman then extended his lecturing tours to the far West, to Canada, New Brunswick, and finally even to Great Britain, where he set the abolitionists all agog, and could have gotten support enough to make himself comfortable for life, if an instinctive foreboding of coming events had not drawn him back to America. "I can live on ash cakes," he said, "or do justice to a fashionable dinner of twelve courses; but I cannot digest the bread of idleness. Activity has become a condition of comfort to my constitution."

On his return to America he started a newspaper and published the second volume of his autobiography, making his headquarters at Rochester, New York, where he watched and waited, listening to the mutterings of the gathering "storm"— the explosive crisis of the anti-slavery movement.

Douglass was in Washington when the threatened thunder squall finally burst, and passed the next four years in the "feverish excitement of a half-saved sailor, who watches a sea storm from a nook of the shore cliff."



FREDERICK DOUGLASS.— 1894.

The refugee was, indeed, only half saved. In 1859, Governor Wise, of Virginia, had peremptorily demanded his surrender on a charge of complicity in the John Brown plot, and though he evaded arrest by timely flight to British territory, the charge had never been formally withdrawn, and his capture in the South would probably have been followed by a repetition of the Harper's Ferry tragedy. Under the circumstances, his friends insisted on keeping him out of the army, but he did what he could in the way of gathering recruits and haranguing Union sympathizers in the doubtful border States. A newspaper correspondent of that time described

him as "a tall, dark mulatto, a bold, vigorous, earnest, and fluent speaker, and a ready and able debater."

After the war, Douglass became editor of the *New National Era*, published at Washington, D. C., but soon surrendered the work to his sons, and resumed his lecturing trips. "I am too restless for indoor employment," said he in an interview with Dr. Holmes, "perhaps because I got used to physical labor, and cannot digest my food without some fit substitute for that stimulant. Oratory does me that service, though, strange to say, habit and practice have made it a pleasant pastime, rather than a severe vocal and mental effort, as some lecturers appear to consider it. While facing a sympathizing audience, I am never for a moment at a loss for words, and am only now and then bothered to make an impromptu choice between a multitude of ready-formulated ideas that throng for utterance."

In 1871 president Grant appointed Douglass secretary to the San Domingo commission, and on his circuit tour of the sea-girt Eden he mingled with the natives without the least fear of the climatic diseases which at that time caused a hegira of the white residents. He somehow felt himself contagion-proof; and the large mortality among the colored population of our yellow-fever districts, must, indeed, be ascribed to the unsanitary condition of their dwellings, rather than to any hereditary predisposition. On the contrary, the race antecedents of the Ethiopians ought to make them almost miasma proof, like their long-lived ancestors in the jungles of the Senegal. In Brazil, where the negroes do not live in back-alleys and stifling log-cabins, but in *calanas*, —almost arbors in lightness of construction,—they generally outlive the Portuguese Creoles, and flock, in the capacity of nurses, to the cities of the fever-stricken provinces.

Douglass now had a subject for lyceum lectures, and became more than ever a pet of fashionable circles; quite a "diner-out," too, and table-talk expert. He had a digestion like an ostrich, and facetiously defied the former oppressors of his race to kill him with made dishes, while he considered it a sort of duty to vindicate a black man's right to a seat in the most aristocratic banquet-halls of the universe. "They shelve our demands for the recognition of our civil rights, and then pet Fred Douglass to palliate their qualms of conscience, and fuddle him into connivance," as a disappointed colored office-seeker maliciously expressed it; but Fred Douglass took good care that no one should "fuddle" him with distillery products.

The traveler Burkhardt states that "the Arabian camel, though not specially discriminate in the choice of its vegetable food, has an instinctive horror of the *palma Christi* (the castor oil plant), because the leaves, as well as the seeds, of that shrub produce a sort of delirium." With a similar sanitary instinct the better class of our colored fellow-citizens would seem to avoid alcoholic beverages, which affect them as hashish affects the Caucasian visitors of the Malay archipelago. The police reports of New Orleans, Savannah, Charleston, and other Southern cities, abound with the records of murderous assaults committed by colored roughs under the influence of drinks that would make a Russian boor merely jovial or at worst maudlin sentimental. I am not sure that Frederick Douglass ever took the pledge of a temperance society, but remember to have seen him refuse a glass of wine on a train crowded with convivial excursionists. "Why, you ain't afraid to drink, are you?" asked the proprietor of a bottle which Douglass seized only to pass it to the next man. "Oh, I'm not prejudiced," said Douglass, "but," with a peculiar twinkle of his eye, "I own that I am afraid —I might take too many drinks, the first thing I know. It is easier to start than stop a thing of that kind." In the next minute, it is true, he joined in a laugh at the expense of the imaginary "temperance town," but the talented table-talker could not find it in his heart to suppress a joke on any tempting topic.

Practically, Douglass dispensed with strong stimulants to the last. The freedman of Colonel Edward Lloyd had too wholesome a dread of slavery to put his neck in the yoke of the alcohol habit. One other beneficent after-effect of his Maryland experience may have had a good deal to do with his enjoyment of almost uninterrupted good health: He had learned to control his temper under extreme provocation, and never permitted himself to indulge in a digestion-spoiling fit of fury. Like other agitators, he realized the significance of Mirabeau's remark, that revolutions cannot be accomplished with rose-water, and came in personal contact with more than one ugly opponent; but his only reply to malicious innuendos and even gross insults, was a pitying smile, till he saw a chance to silence his aggressor with a paralyzing repartee.

If Colonel Lloyd was right that his "negro-man, Frederick Bailey, was born in the spring of 1816," the famous orator must have almost finished his seventy-ninth year on the day when a telegram from Washington City announced his sudden death. During the afternoon of February 20, he had at-

tended a convention of the Equal Suffrage Association, and chatted pleasantly with Susan B. Anthony and others of the leading members, who had known him for years.

In the evening twilight he returned to his home at Anacostia, south of Washington, and seemed to be in his usual good spirits. Leaning back in his rocking-chair, he treated his wife to a humorous account of the reform-meeting, when he suddenly gasped, clutched at the window-curtain, like a man trying to regain his balance, and sank down unconscious. Twenty minutes after, the faint traces of pulsation had ceased. Failure of the heart, due to excessive fatigue in climbing the terrace of his residence, was the verdict of the family doctor.

The ethics of the bold agitator were hardly those of a mediæval saint, and, from the standpoint of an ancient philosopher, the end of his life, like its many successes, may be said to have compensated its inauspicious beginning. The disciples of Epicurus joined the Stoics in the belief that a sudden and painless death is reserved for the favorites of the gods, though according to the most fastidious conceptions of the *euthanasia*, it should come in extreme old age, and in slumber.

(To be continued.)

HYGIENIC DANGERS OF MODERN CIVILIZATION.

BY E. L. MOSELEY, A. M.

In his admirable book on physical education, Dr. Felix L. Oswald has shown that much of the ill health and attendant suffering of mankind might be avoided if people would have more confidence in their natural instincts. In a primitive state, no doubt, instinct was as trustworthy a guide in directing man to do what was best for him as it is now for the animals in the woods; and even in civilized life, if he had not been taught that his natural desires are perverse or promptings of the devil, he might in many cases be saved from the disease or death that follows the violation of nature's laws. The life of modern times, however, is so highly artificial that it requires not a little education for the man to play his part successfully in business or in society; why then should we expect him, without any education in the matter, to be able to maintain his health amid the peculiar conditions with which modern civilization has surrounded him, — conditions peculiar because quite beyond the experience of his ancestors, and to which, therefore, it is quite impossible for him to conform his actions under the guidance of any inherited instincts?

The dangers arising from machinery, electric currents, inflammable fluids, explosives, etc., are so obvious, and the accidents caused by them so frequently described by the newspapers, that scientists do not need to trouble themselves about warning people of these, though they can perhaps render some service by pointing out just where the danger lies, and also by showing how the machinery may be constructed or the combustibles prepared so as to be less dangerous; but it is more important that they should warn people of dangers to health incident to our modern civilization, which the ordinary observer is not likely to discover for himself. Every year investigators are making advances in elucidating the causes of disease, though the masses of the people seem painfully slow in learning the results of these investigations, partly, no doubt, because of the aversion of sensible people to reading any newspaper article that relates to health or disease for fear that it will turn into a patent medicine advertisement. It might, however, tend to promote the teaching of sanitary science in the schools, and cause scientific men to improve other opportunities of educating the people in these matters, if it were more generally understood that the changes in the conditions of life which have taken place in recent times make such teaching highly important.

The first men doubtless dwelt where there was a warm or mild climate, as all the near zoölogical relatives of man do now. Even within the historic period, the seat of the highest civilization has moved northward from the banks of the Nile and Euphrates to those of the Tiber, and later to those of the Seine and the Thames, and on this side the Atlantic, to the 48th parallel, which gives us colder winters than the 50th in Western Europe. In a mild climate there was no necessity for teaching ventilation, for no one living there would think of shutting himself away from the air. When our European ancestors built fires in their houses for warmth, the necessity of getting rid of the smoke compelled them to have openings enough to allow of considerable movement of air; and when in the 16th century chimneys were introduced, they improved the sanitary condition by carrying away the smoke more effectually and at

the same time causing a more thorough change of the air. But when in our own century the open fireplaces gave way to stoves, and at the same time houses were more tightly built than they had been before, the necessity arose of teaching people that the air of a room was liable to be made impure by their own breath. The 18,500 patents on stoves and furnaces issued by the United States Patent Office up to June 30, 1894, show how much the modes of heating have been changed in recent years.

In 1790 there were only six cities in the United States which had a population of more than 8000 people. The gathering of the population into cities has caused a large portion of the people to live in close quarters, without pure air and without enough light, and the smoke of factories and railroads and steamboats has contributed in no small degree to rob the city dweller of both these essentials to health. These unsanitary conditions, to be sure, are well known to all sanitarians, but the people have not yet learned to cope with them, or even to appreciate the magnitude of the evil, for their great grandparents had no experience with such conditions of life.

The water of a new or sparsely settled country, if clear and free from unpleasant taste or odor, may generally be drunk with impunity ; not so in densely populated districts. The Chinese must have learned long ago not to rely upon their senses in determining the wholesomeness of drinking-water, for they do not drink cold but hot water, or tea instead. They doubtless learned long ago, from experience in a thickly settled country, that disease is apt to be conveyed in drinking-water. In the island of Hong-Kong, way up toward the summit of its highest peak, where cold streams, whose water I felt quite safe in drinking, were rushing down the slope, I saw Chinese coolies boiling water to drink. In the time of the Roman empire, not only the imperial city herself but some of the towns in the provinces were supplied with water brought from the hills through costly aqueducts whose ruins still remain.

In the lethargy which prevailed in mediæval Europe, little attention was given to the water supply, and she paid the penalty in awful epidemics, like the black death and repeated visitations of the plague in the centuries that followed, till the people awakened to the necessity of better water for the cities. Within the last ten years, Paris has made vast improvements in this matter, and it is only a few years since Spain and modern Italy began to do much in the way of sanitary reform. The rapid increase in urban population which has lately been going on, not only in our own country but also in Germany and Great Britain, has made imperative greater attention to the source of drinking-water. The increase in commerce and manufacturing, while it has built up the cities, has also tended directly to pollute the streams, the factories being commonly located on their banks. Even in towns of a few thousand people, neither running water nor that of wells is apt to be safe to drink, yet in many parts of our own country these towns have so quickly taken the place of the wilderness that people have not yet learned that they must look to other sources if they would have good water. Few of the large cities of this country have as yet made an outlay at all comparable with that of Paris or Liverpool, which bring a portion of their water supply more than seventy-five miles.

From the Chinese we might take a sanitary suggestion regarding another drink, cows' milk. They do not use it, though this may be for other reasons than because of having found that it was liable to transmit disease. Pure milk is a healthful food, but within the last few years we have learned that it is also a good culture medium for several kinds of pathogenic bacteria, and that because of the long distances it is transported, the bad air of the room it is often kept in before being sold to the city consumer, or the impurity of the water used in rinsing the cans or diluting the milk, it needs more care to keep it pure than any other article of diet.

It has been said that Christianity has not proved itself equal to coping with the evil of alcoholic intemperance as Mohammedanism and Buddhism have done; but the explanation is found partly in the fact that Christianity, unlike the other religions, has affected chiefly the people of northern latitudes, on whom alcohol has a stronger hold than upon even the Christians of such mild climates as those of Spain or Italy. The migration of the highest form of European civilization from the shores of the Mediterranean to those of the North Sea, accounts in some degree for the increased drunkenness of modern times, but a larger share of blame is attributable to the introduction into mediæval Europe of fractional distillation which added brandy and whisky and gin to the wine of the ancient Greeks and Romans. The extension of commerce, too, doubtless tended to swell the world's misery arising from this form of vice, not only by carrying firewater to people who knew of nothing stronger than fermented liquor, and in some cases not even this, but also by reacting on those engaged in the trade, for the greatest drunkenness seems to prevail in the

nations having the most extensive commerce, and in them to affect most strongly the portion of the population engaged in commercial pursuits.

The revolution which has been effected in milling processes in the course of the present century, has caused an injury to the public health far greater than people imagine. Knowing that a piece of white bread is a wholesome morsel, they are blind to the fact that the wholesale substitution of fine flour in bread, biscuit, cake, pie, and other forms for the coarse bread or porridge of their ancestors, has wrought a great detriment to their digestive organs. For the teeth, coarse bread offers so many points of advantage, leaving them clean, furnishing nutriment for their repair, and affording them the exercise so essential to keep them in good condition, that the abandonment of this kind of food for delicacies made of fine flour may be regarded as the chief cause of the suffering from decayed teeth which characterizes our modern civilization.

In our own country where this cause of deterioration of the teeth has been carried to the greatest extreme, it has given rise to a new profession, and now the numerous schools turn out so many doctors of dental surgery that some of them go abroad to practice, where they find it profitable to advertise themselves as graduates of the University of Pennsylvania, the University of Michigan, or some other American school. But the teeth are only one of the numerous sets of organs that are injured by the extensive use of fine flour. Many a North-German peasant has found that the dyspepsia from which he suffered after emigrating to this country could be cured by the readoption of the *schwarz brod* of his *faderland*, while the relief of most cases of constipation is so safely and easily effected by the use of graham or other kinds of coarse bread that only ignorance can account for the exclusive use of fine flour among the masses of the people.

Fashion, however, has lent its influence even in this matter of food. The women vie with one another in making the whitest bread. Except from custom the eater would hardly manifest a gustatory preference in favor of either white or brown, but a sort of æsthetic taste akin to that which makes one prefer a clean white table-cloth to a red one, on the ground that if it appears to be clean it really is so, inclines him to the former. The housewife would not dare to set the table for guests without white bread, and as it is too much trouble to make both kinds, the white in most households has supplanted the brown altogether. That this is not due to any natural preference for the white is shown by the large amount of brown bread used at restaurants where both kinds are offered.

In our Northern States, where the winter cold and summer heat are both more severe than in Western Europe, ice has come into common use for the preservation of fish, meat, and other foods, and from a sanitary point of view is preferable to salt for this purpose, but its free use in the household in summer to keep milk, butter, etc., has led to the extensive consumption of iced foods and drinks, a hygienic danger almost wholly peculiar to the present generation, and as yet of little moment outside our own country. But the injury done to our digestive organs by ice water has not yet equaled the irritation caused by the fiery spices imported from the tropics.

With the stomach alternately paralyzed by ice water and goaded by pungent condiments, civilized man might yet survive in comparative comfort were it not for the nerve-destroying poisons from all parts of the world which modern commerce and chemistry have laid at his door. The woman that eats morphine or injects it into her arm with a hypodermic syringe, attracts less attention than the drunkard, and so there are few people who realize how common the practice is becoming. It may well be doubted if the alleviation of pain effected by their medicinal use would half atone for the misery caused by opium, morphine, laudanum, paregoric, and above all, opiated soothing syrups. Chloroform, when discovered, was hailed as a great boon to mankind. It is now a debatable question if it is not rather a curse. Cocaine has still more recently been added to our list of drugs, and bids fair to surpass all other anæsthetics in its maddening influence. Our ancestors could not find in their forests or fields a tithe of the poisons which nowadays make life miserable for the patrons of our drug stores.

Faith in the curative property of charms has been handed down to us through many generations, but the mediæval belief in the healing power of relics of the saints was harmless compared with the fascination that patent medicines of unknown and to them mysterious composition have for ignorant people of modern times.

Our ancestors were not taught the importance of muscular exercise or of taking good care of their eyes. Among them there was little need of such teaching, but every sensible person knows there is need of it now, and the need is the greater because it corresponds to new conditions of life with which our ancestors had no experience, and consequently transmitted to us no knowledge.

SOLILOQUY ON FRUIT.

[THE author of the following parody was evidently, from the despairing tenor of his verse, a woe-begone dyspeptic, doubtless possessed of a pocket in his stomach, and several varieties of hyper- or hypo-pepsia, or both of these dire maladies combined. We would recommend a test breakfast in this case, and have no doubt that the results of the analysis would show that great relief might be obtained by a systematic use of the stomach-tube.— ED.]

To eat, or not to eat, that's the question,
Whether 'tis safer in one's soul to suffer
The stings and arrows of outrageous thirst,
Or to take up boldly certain luscious fruits,
And, thirst appeasing, eat them? To taste,— to eat,—
Once more : and by thus eating fruit, to say
That soul-devouring hunger, raging thirst we end,
Dyspepsia's heir to,—'tis a consummation
Devoutly to be wished. To taste,-- to eat,—
To eat! perchance to ache ; — ay, there 's the rub ;
For in thus eating fruit what pains may come
When we have shuffled off our mortal doubts
And entered boldly on such tempting diet —
Must give us pause. There 's the respect
That makes calamity of such long denial:
For who would bear the whips and stings of thirst,—
The parched tongue that cleaves to husky throat,
The withering touch of famine that e'en now
Doth shrivel our poor bodies while alive,
When he himself might their quietus make
With a bare orange? Who would fardels bear
To groan beneath such weary deprivation ;
But that the dread of something after eating,
Those direful woes from whose mere recollection
Dyspeptics should shrink,— puzzle the will
And make us rather bear those ills we have
Than fly to others that we know full well?
Thus mem'ry doth make cowards of us all,
And thus the native hue of keen desire
Is sicklied o'er with the pale cast of thought,
And enterprises of such pleasant promise,
Beguiling thus with fruit our yearning palates,
Through recollection are thus turned aside
And lose the power of action.

THE CHINESE PRACTICE OF FOOT-BINDING.

IN the June (1894) number of the *China Medical Missionary Journal* there is an interesting article on this subject, by Dr. Marie Haslep, of Shanghai, with an editorial foot-note giving citations from an article by Dr. Faber. It seems that Chinese writers disagree as to the origin of the practice, but it is thought to be certain that it originated in an imperial harem during the T'ang dynasty, about 1400 years after the Confucius. It is said to have been resorted to to disguise natural deformity. It is illegal, because the emperor's will is the country's law, and the emperors of the present dynasty have publicly prohibited it. It is also contrary to imperial example, for the empress of China, the highest ladies of the court, and all Manchu ladies allow their feet to grow in their natural form and to their natural size.

According to Dr. Haslep, the ordinary manner of binding the feet is as follows: —

While the great toe is left straight, the other toes are folded on the plantar surface of the foot, often until the tips of the toes are on a line with the edge of the inner side of the foot, and then the foot is bound "snugly." Gradually the bandage is made tighter and tighter. When the metatarsal bones begin to curve, making the characteristic lump on the dorsum of the foot, the bandages are tightened more rapidly than before. If swelling takes place above the ankle, the foot is bandaged more tightly. If ulceration occurs, the foot is bandaged tighter. Swelling is not a desirable complication. Ulceration is greeted with joy, for it is usually a sign that the foot is yielding gradually to the inevitable. "*Lan siau kiah*" (ulcer, small foot) is a common saying. To make the smallest foot, with the minimum of suffering, and produce no untoward results, is the desideratum ; this process should take about ten years. Patience will then show her perfect work ; that which foreigners call a deformity and restricted locomotion are necessary sequelæ, not untoward results.

This is the method ordinarily practiced. But there are careless persons, or cruel, who, having neglected to begin to bandage the feet of a child at the proper time (when she is between three and five years of age), or having bought a child with unbound feet, desire to accomplish the same end in a shorter time. In these cases the feet are bandaged tightly and smaller from the first. The work is sometimes done by a relative or friend, ignorant of the risks taken by so doing, or ignoring them. Oftener the services of a professional bandager are obtained. This woman carries with her a stock of small wooden shoes of various sizes. These are the patterns. Her patrons choose the size desired. A contract is then made to have the foot of this size in a certain length of time — three years or more or less as the case may be. The shorter the time, the harder for the child, especially if she is one of the neglected ones whose feet have been left to

nature more years than is well, if they cannot be left with her for all time.

The professional bandagers, for the most part, fulfill their contracts with superb indifference to the children's sufferings, and sometimes with such results as the death of the child, gangrene of the feet, necrosis of bones, etc. In any case, says Dr. Haslep, with the predisposing element of impeded circulation, freezing or burning, both common casualties, will excite trouble more readily than in the natural foot. What shall be done, she asks, to stop this cruel practice? To her there appears but one true way, and she thinks it is also sure. Educate the heads and hearts, she says, and let these educated heads and hearts care for the feet. This will take many a year, and judging from the history of its analogue in the West, China may become a Christian nation, may take her stand among the foremost nations of the world, may even, as some prophesy, lead all other nations, and her women hold a position above that of even the most envied women of to-day, before the era in which all Chinese women's feet will be of the natural size arrives.— *N. Y. Medical Journal.*

STUNTED BY TOBACCO.— Reclaiming children from a slow death by nicotine poisoning is a work which Mrs. Florence Kelley, the Illinois State factory inspector, has undertaken. She has discovered that over one thousand boys and girls are employed in cigar factories and tobacco packing establishments in Chicago. Without exception, where the child has worked in the factory for any length of time, his physical condition has been found most lamentable. The tobacco has affected the eyes; the skin is yellow, almost green from the effect of the nicotine, and there are disorders which medical examination has shown to prevail in eight cases out of every ten.

"The rooms in which they work," said Mrs. Kelley, "are almost stifling with the strong smell of tobacco. Girls who strip the stems from the leaf bend over their work with their faces close to the tobacco. In long rows at tables, divided into scores of compartments, sit girls who are rolling cigars. Some are employed in packing the goods. Most of those who have been employed in factories for two months or over have sore eyes. This is explained by the fact that when the children are tired and their eyes are weary, they habitually rub them with their hands stained with the nicotine, which causes irritation. For the most part the children are weak and puny. There is a noticeable depression of energy. The constant inhalation of tobacco causes dyspepsia, the action of the heart is affected, and the general physical condition of the tobacco-working children is far below the average."— *Reformatory Record.*

DUST, UPHOLSTERY, AND DISEASE. — Householders in furnishing would do well to remember that the ordinary practice of covering a floor with a carpet is not without its disadvantages, even its dangers. The particles which give substance to the pure search-light of a sunbeam as it penetrates the window-pane are of the most varied character. Harmless as are very many of them, there are also many more possessed of true morbific energy and capable of almost unlimited multiplication. Any one can see, therefore, how, when sheltered in dusty, woolen hangings, chair upholstery, and carpets, they render these articles veritable harbors of disease. The less we have of such, the better, especially in bedrooms. Some practical deductions naturally suggest themselves. As to curtains and carpets, it is but rational that they should, as a rule, consist of the smoother and harder fabrics which will bear thorough brushing. If thicker floor-cloths and rugs be used, they should be such in size and arrangement that they can be readily taken up and beaten. It is but part of the same argument to say that as much of the floor as possible should be either varnished or laid with oilcloth, so as to allow of frequent cleansing. Cane and leather, for a like reason, are incomparably superior to the richest upholstery when we come to speak of general furniture. Some, perhaps, may imagine that in making these observations we treat this matter too much as a hobby. Only one circumstance, however, is required in order to convince any such of their real and practical significance, and that is the actual presence of infectious disease. When this appears, all forms of cumbrous comfort in the apartment must give place not merely to a freer and simpler arrangement, but even to bare, sunlit, and airy desolation.— *London Lancet.*

A WELL-KNOWN writer says: "I saw last summer, when coming from the Maine woods, a Catholic priest, the picture of perfect health. Some one said to him, 'I wish I could have health like yours.' 'You may,' he replied, 'if you will live as I do. I eat but once in twenty-four hours. After my full breakfast, I eat nothing until the next morning.'"

PHYSICAL EXERCISE FOR WOMEN FROM A MEDICAL STANDPOINT.

BY LAWRENCE H. PRINCE, M. D.

(Read before members and friends of the West Side Ladies' Gymnasium of Chicago, Feb. 12, 1895. Lenore Fancher, Director.)

(Concluded.)

ANOTHER quite frequent disorder among women is what is known as lateral curvature of the spine. This is not a disease of the spine itself, but is a curved condition of the spinal column, due to a want of development or weakness of the muscles of one side of the back. This lack of uniformity of development is usually caused by too close application to work, bringing into play too exclusively the muscles of one side. The trouble often begins at school, and is almost always found among the more studious girls, those who do not care to romp and play, but who take their books home at night and continue for some hours what they have been doing all day, laying a sure foundation for future invalidism, if nothing worse. The curved back is nothing in point of seriousness to the effect of this "too much work and no play" policy upon the developing brain and nerves. The real function of the school is in these cases overlooked, and instead of being compelled to hold back, these poor unfortunates are literally driven forward and kept constantly at the danger line. I trust no one here who has an interest in the present, and especially in the future, welfare of one or more of these bright girls, but will give this important matter a little serious attention. Instead of feeling anxious about the sturdy boy who keeps at or near the foot of the class, and taking comfort in the high standing of the thin, pale-faced, hollow-cheeked, studious girl, the pride and boast of her teachers, leave the boy alone and look out for the girl, or you will surely destroy a good brain by overwork. Lessen her work, turn her out of doors several hours a day, and straighten her spine by strengthening the weakened muscles.

This same spinal curvature from unequal muscle development, is not uncommon in women who work steadily for several hours in positions calling into action only certain groups of muscles. As a result the spine becomes more or less curved, and a train of symptoms usually referable to disordered nerves, is set up, which is extremely distressing, to say the least. Medicine alone is at best of but temporary benefit, and in many cases utterly useless. Shoulder braces, stays, and various other appliances are frequently used, with the false notion that they will straighten the spine. They simply take the place of the muscles for the time being, and the muscles, from disuse, become weaker and weaker, and the conditions arising from muscle strain grow progressively worse. Strengthen the undeveloped muscles by the proper exercises, and the trouble will disappear.

By aiding the power of assimilation of food, exercise will increase the weight of the individual suffering from too little flesh, and will relieve the "too, too solid" sufferer, by favoring elimination. Exercise favors the discharge from the body of poisonous material, which, if allowed to accumulate in the tissues, gives rise in some persons to gouty or rheumatic symptoms. Such work as the majority of the men and women in large cities are doing, is of a nature that is very liable to produce a disturbed action of one or more organs, and this kept up day after day for weeks and months brings about local disease, which in turn adds to the functional inac-

tivity. A vicious cycle is thus formed, which it is found difficult and often impossible to break up.

The effect of some forms of work is an over-activity of one or more groups of muscles, or of one or more organs, and at the same time diminished activity of other muscles and other organs. This state of affairs, being continued without remedy, will certainly lead to a condition of unhealthy muscles, nerves, or organs. The underworked muscles weaken and diminish in size, the neglected stomach or liver or brain or other organ becomes sluggish and inactive, and cannot perform its function properly, and thus interferes in time with the individual as a whole. The muscles and organs required for constant use in the work done, are handicapped on account of the ever diminishing help from the sluggards, and so they must be forced. The results of this abuse of the human machine vary with the nature of the work it is called upon to perform.

The essential value of proper exercise as a prevention of tubercular disease of the lungs, in those predisposed or having such a tendency, and as a curative agent in the early stages of the disease, should alone make physical culture popular.

The excuse is frequently given, when exercise is advised, "Oh, I get exercise enough in my daily work, and I am tired enough to rest when that work is done." This mistaken idea as to the effect of exercise has deprived many of its benefits. Those of you who exercise regularly and properly, will support me in the assertion that nothing can relieve the sense of muscle weariness and nervous tension, the result of a hard day's work, so thoroughly, so rapidly, and with such good effect, as an hour's exercise properly done, especially if it is enjoyed. There are a few men and women in all large cities who, from the absence of necessity or from disinclination, do not work, and live an utterly useless and unhappy life. If these could be actively interested in gymnastic exercise, an appetite for work would soon be created, and they could then make of themselves useful members of society.

The true object of physical culture is not the development of massive muscles, nor is its object the production in individuals of the ability to perform difficult feats of endurance, or of skill, or of strength. Its object, as I have already stated, is to bring the body to as nearly a condition of physical perfection as possible, and to keep it there, that the individual may be the better fitted for the performance and enjoyment of his life work.

There is a great difference in individuals as to the degree and rapidity of physical development, just as there is in respect to mental growth. We must distinguish between quantity and quality in either case. One man may be in perfect physical condition, and still have small muscles; while another may have a bulky frame and massive muscles, and yet be in anything but a perfect condition.

Physical culture should begin at the same time as the cultivation of the mind, and the same careful attention should be paid to the peculiarities and needs of the individual in the one case as in the other. If this is not done, those mostly in need of proper training will receive the least benefit. The teachers of physical culture in our schools should be competent, and they should form their classes, not according to age or size, but according to the conditions and needs of the pupils. Special efforts should be made in the physical education of the weak, and these feeble ones especially should be examined by a physician with the object of discovering deformities and abnormalities of structure and of function, so that the mental and physical training may be properly regulated. Each school should have its medical inspector as well as its teachers of mental and physical culture. I am sure if this arrangement could be made, there would be fewer girls and boys taken away from school on account of broken health, the result of overworked brains and improperly developed bodies. I trust the time is not far distant when there will be in every city public gymnasiums for the use of women as well as those for men. Such gymnasiums should be established in various parts of a city like Chicago, several smaller ones, for obvious reasons, being more desirable than one very large one.

The gymnasium should be perfectly ventilated, as free from dust as possible, be well equipped with the best appliances and apparatus, and contain dressing rooms and facilities for shower and other baths. The gymnasium should be presided over by a competent instructor, who would teach physical culture as it should be taught, in a scientific manner. A system of exercises that has for its object the proper physical education of the individual, should include movements that would at the proper time and to the proper degree bring into action all the muscles of the body.

The exercises should be systematically arranged and adapted to the needs of the members of the class, and should be carefully graded. This is a very important point, and makes the difference between self-instruction and instruction under a competent teacher. The self-instructor is very liable to exer-

cise irregularly, and thus defeat the very object sought. The exercises should be devoid of tediousness, and should be so arranged as to give variety and pleasure. On entering the gymnasium, business and other cares should be left on the outside, and the mind given up for an hour to profitable pleasure. Forget everything, if possible, that is not conducive to cheerfulness. In other words, for one short hour be a child again. It will pay you; it will benefit your home and your children; it will benefit society. Do you not think it would be a grand thing for the community at large, for the whole world, in fact, if those who have to do with making and enforcing the laws, and those who control events of various kinds, would make a practice of having a good playful romp an hour each day? I do not mean by this that your being a child again should be of a nature to interfere at all with the work in hand. In a certain sense your exercise is play, and jolly good play, at that. So do n't spoil the fun by thinking of business and other serious things.

The room in which the exercises are taken should be large and well ventilated. While the class is working, air should be admitted from without in large quantities, drafts being carefully avoided, however.

The costume worn by women during exercise should be of wool, and so made as to allow of the freest possible movement of the body and extremities. There should be no constricting bands at any point, for they are not only uncomfortable, but impede circulation.

There are many special forms of exercise that are of the greatest benefit when suitable to the needs and condition of the individual, and when properly employed. Such are walking, running, cycling, swimming, tennis, base ball, foot ball, and other outdoor exercises, and such special gymnasium work as is done upon fixed apparatus, as well as sparring, wrestling, fencing, club-swinging, and dumb-bell work. These are all useful, and may be employed with benefit, provided, however, the exercise be chosen with regard to the fitness of the individual in each case, and also that it be properly used. Some of the exercises named, of course, it might not be advisable to recommend for women.

It seems to me that the most rational method by which the body can be brought to a state of physical perfection would be one which built up, by simple and gradual means, a foundation of uniformly developed muscles. None of the more complicated or violent exercises should be attempted until the body as a whole has been properly prepared by appropriate cultivation. Those for whom physical culture is the most useful, the poorly developed and the feeble, cannot, for obvious reasons, be safely entrusted to the ordinary out-of-door sports and pastimes. There is in this no definite system of gradual exercises, and therefore no gradual and uniform strengthening of the enfeebled muscles and organs. On the other hand, there is danger of overstraining of tissues and organs not yet in a condition to stand it. This form of exercise, athletics, and out-of-door sports, is generally known as the English system, and affords most excellent training and recreation for the robust and strong, and to those who have gradually prepared themselves for it by preliminary muscle building.

What is known as the German system is described as "embracing all the different branches of gymnastics, free movements, mass exercises in every form, with wands, dumb-bells, flags, bar-bells, etc., figure marching, trot marching, the use of a most varied and exhaustive series of fixed apparatus, the use of clubs and all forms of hand apparatus, and the encouragement of such exercises as come under the heading of outdoor sports. . . . It encourages a gradual and progressive form of instruction, the pupil commencing with the simplest exercises and proceeding to the more difficult and arduous only when the more rudimentary have been fully mastered. Many of the free movements carried out in the German system have been derived from the Swedish system. The German system, while perhaps more picturesque and interesting, is not so desirable, in that its free movements, the fundamental part of the system, are less precise and less complete, and less elaborately systematized as a part of a progressive system of physical education.

"The Swedish system of physical culture, also known as the Ling system, from its originator, is becoming very popular in this country, and is recognized as the most rational of all the methods of physical training. This system includes a very extensive series of free movements, a series of exercises involving marching, leaping, running, and climbing, and certain carefully graduated exercises on apparatus. The free movements have been carefully worked out; the several series are definite and precise, and are intended to develop special groups of muscles; the exercises are systematic and progressive, and form in their entirety a complete and simple system of physical training. The movements are not designed with a view to effect or display, but simply to carry out the scheme of muscular

training. They are designed with care, and each accomplishes a specific object. The exercises begin with the very simplest, and gradually become stronger and more complicated. The use of hand apparatus is only sanctioned after a complete mastery of the free movements has been attained, and then only to add some intensity to those movements."

The system just described is to my mind the most valuable of the various methods for physical training in general, and the only method entirely free from objections when physical culture is demanded for the feeble or for the treatment of disease.

THE DANCE OF LIFE.— Michael Foster, the great English physiologist, in an address recently delivered before the students of the University of Cambridge, gave the following interesting description of the minute processes of life concerned in muscle and nerve-work : —

"Observations and reasonings, into the details of which I cannot enter now, have led physiologists to the conclusion that a muscle not only in the body but also for a measurable time out of the body, is continually undergoing change of substance; that the complex groupings of atoms, molecules, and particles by virtue of which it is alive are continually being made and as continually being unmade; the living complex muscle is always being built up out of, and always breaking down again into, simpler substances. Did we possess some optic aid which should overcome the grossness of our vision, so that we might watch the dance of atoms in this double process of making and unmaking in the living body, we should see the commonplace lifeless things which are brought by the blood, and which we call food, caught up into and made part of, the molecular whorls of the living muscle, linked together for a while in the intricate figures of the dance of life, giving and taking energy as they dance, and then we should see how, loosing hands, they slip back into the blood as dead, inert, used-up matter.

"In every tiny block of muscle there is a part which is really alive, there are parts which are becoming alive, there are parts which have been alive, but are now dying or dead; there is an upward rush from the lifeless to the living, and a downward rush from the living to the dead. This is always going on, whether the muscle be quiet and at rest or be moving; some of the capital of living material is always being spent, changed into dead waste, some of the new food is always being raised into living capital. But when the muscle is called upon to do work, when it is put into movement, the expenditure is quickened, there is a run upon the living capital, the greater, the more urgent the call for action. Moreover, under ordinary circumstances, the capital is, during the action, spent so quickly that it cannot be renewed at the same rate; the movement leaves the muscle with an impoverished capital of potential stuff, and a period of rest is indeed in order so that the dance of atoms of which I just now spoke may make good the loss of capital and restore the muscle to its former power.

"In considering muscular weariness, we at the same time must keep in mind weariness of the nerve centers, for after all the weariness of the whole body from muscular work, is to a very great degree, in fact, chiefly a weariness, speaking broadly, of the brain.

"When we have excessive muscular exertion, the weariness may take a form of distress and if the effort be continued, the distress may become so great as to occasion such complete exhaustion that even death may result. In excessive work of whatever kind it may be, in order for the work to be accomplished, there is made a greater demand upon the blood for oxygen. Difficult breathing or panting results from the changing quality of the blood. There are many things besides carbonic acid which are swept into the blood as the result of the activities of the body; in other words, the product of work in the human body is a poison which must needs be eliminated through the medium of the lungs and the other excretory organs."

THE NECESSITY OF EXERCISE.— People who do not exercise sufficiently have flabby flesh, soft and sickly muscles, and their bones are dry as chalk and are easily broken in a fall. On the other hand, if sufficient exercise is taken, the bones are full of sap, and have a spring of flexibility that will resist a fracture.

A man once wagered that he could lie in bed a week without any material change in his health. Upon arising he found that he had not strength sufficient to enable him to stand on his feet. Muscles, bones, tissue, nerves, and even the blood had been vitiated, and were remarkably weaker. He could not understand why absolute stillness should not rest a man, instead of destroying his strength.

Another man carried his arm in a sling for three months to see what would happen to it. The muscles and skin shriveled, and the flesh was flabby and sickly. The bone of the arm became stiff as though all the vital spring had departed from it.— *Journal of Physical Education.*

Home-Culture

HABITS.

BY PROFESSOR F. W. HOWE.

MAN is a creature of environment. He is affected by everything that surrounds him. That may seem to be a disadvantage to each one of us. But if we were not influenced by that which surrounds us, there could be no such thing as education. Plasticity, the susceptibility to being molded, is a necessary condition of education and advancement. If we were not so constituted as to yield to impressions, progress would be impossible. If we could not yield, — if we came into being ready-made, and so continued through our lifetime,— we should simply be machines — mere automatons.

It is the capacity for being influenced by our surroundings that gives us a basis for habit; and this basis is pre-eminently physiological. The brain is the recognized organ of the intelligence. One who has studied anything of the brain knows that it is very carefully shut away from the external world except through the nerve currents that come into it. It is, perhaps, more than any other organ of the body, protected from ordinary contact with the physical world; and so it can be influenced and molded only by the currents of nervous energy that come into it. A current that has found its way into the brain must find its way out, and the only thing it can do in finding its way out is either to form a new path or to deepen an old one already traced. The channel which is most often traversed in giving impulses to outward acts is the one that opposes the least resistance to the nervous discharge, and consequently that channel is deepened.

Every organ in the body is being constantly replaced. Thus the brain grows in a way to rebuild and make more distinct these paths, or channels, of nervous discharge. We all know that this growth and repair of cells in the brain, as well as those of any other part of the body, is more rapid in youth than in age. That is why the period of youth is so important for the formation of habits. It is much easier to form a channel in the brain when it is comparatively unimpressed and plastic than when it is preoccupied and hardened by experience. The time in life which is most fertile for the production of habits is under twenty years, and from that up to thirty.

The important thing, then, as Prof. James says in his "Psychology," is to "*make our nervous system our ally instead of our enemy.* It is to fund and capitalize our acquisitions, and live at ease upon the interest of the fund. For this *we must make automatic and habitual, as early as possible, as many useful actions as we can,* and guard against the growing into ways that are likely to be disadvantageous to us, as we should guard against the plague. The more of the details of our daily life we can hand over to the effortless custody of automatism, the more our higher powers of mind will be set free for their own proper work. There is no more miserable human being than one in whom nothing is habitual but indecision. . . . Full half the time of such a man goes to the deciding or regretting of matters which ought to be so ingrained in him as practically not to exist for his consciousness at all. If there be such daily duties not yet ingrained in any one of my readers, let him begin this very hour to set the matter right."

But what are we to do in order to set the matter right? In Prof. Bain's "Psychology," the chapter on the "Moral Habits" lays down three rules for their formation, which may be summarized as follows: First, in the acquisition of a new habit or the laying off of an old one, we must take care to *launch ourselves on the new course with as strong an impulse as possible.* We must accumulate all the possible circumstances which shall re-enforce right motives. We must put ourselves persistently in conditions that harmonize with and encourage the new way. We

must make engagements and agreements that are contrary to the old habits. We should take a public pledge, if the nature of the case admits it. At least we should pledge ourselves personally to the new course. In short, we must envelop our resolution with every possible aid. This gives it such a momentum that the temptation to break down will not occur as soon as it otherwise might, and every day during which the break-down is postponed adds to the chances of its not occurring at all.

The second maxim is, *Never suffer an exception to occur until the new habit is securely rooted in your life.* People often excuse themselves for making exceptions to the habit they wish to form, by resolving that they will leave off the old habit gradually ; they are satisfied with the assurance that they will permit themselves to do the forbidden thing "just this once." The only way one can hope to conquer is by refusing to let the first exception, or any exception, occur. Each lapse is like the letting fall of a ball of string which one is carefully winding up. A single slip undoes more than a great many turns will wind again.

It is never safe to dally with a temptation, to turn it over, examine it from all sides, and speculate upon its possible advantages and satisfactions. In the presence of a temptation to a course known to be wrong, the young man or woman who hesitates is lost. Prof. Bahnsen says, "One must first learn, unmoved, looking neither to the right nor left, to walk firmly on the strait and narrow path, before one can begin 'to make one's self over again.' He who every day makes a fresh resolve is like one who, arriving at the edge of a ditch he is to leap, forever stops and returns for a fresh run. Without unbroken advance there is no such thing as accumulation of the ethical forces possible, and to make this possible, and to exercise us and habituate us in it, is the sovereign blessing of regular work."

The third maxim may be expressed as follows: *Seize the very first possible opportunity to act on every resolution made.* Habits are the product of nerve currents of motor energy. They are the result of separate acts, and only action will produce them. No matter how full of resolutions a person may be, or how strong his intentions are, they have no result upon habit or character until they are crystallized into concrete action. "Hell is paved with good intentions."

Then let no good resolution die in passive inactivity. "There is no more contemptible type of human character than the nerveless sentimentalist and dreamer who spends life in a weltering sea of sensibility and emotion, but who never does a manly concrete deed."

To these three maxims Prof. James adds a fourth : "Keep the faculty of effort alive in you by a little gratuitous exercise every day." Do something every day that you do not want to do, for the sake of strengthening the purpose to do what *ought* to be done. The man who has daily accustomed himself to habits of concentrated attention, energetic will, and self-denial in unnecessary things, is the man who is prepared for emergencies. "He will stand like a power when everything else rocks around him, and when his softer fellow-mortals are winnowed like chaff in the blast."

Could the young but realize how true it is that "man is a bundle of habits," they would give more heed to their conduct while in the plastic state. We are spinning our own fate in the habits we form. Down among the nerve cells and fibers and molecules of the brain are being registered and stored up the thoughts and acts and habits that build up character. Probably, in the physiological sense, the brain once fixed in a wrong habit is never afterward exactly what it was before ; and this is the scientific and psychological meaning of a quotation which I hope you will all note down for careful consideration : "Sow the thought, reap the act; sow the act, reap the habit ; sow the habit, reap the character; sow the character, reap the eternity."

THE FIRST MENU CARD.— It was Duke Henry of Brunswick who was first observed in the intervals of a banquet to scan carefully a long strip of paper by the side of his plate, and when the curious guests ventured to inquire into the nature of his studies, he explained that it was a sort of program of the dishes which he had commanded from the cook, to the intent that if some delicacy which especially appealed to him were marked for a late stage in the repast, he might carefully reserve his appetite for it. The simplicity and beauty of the idea appealed instantly to the duke's companions, and the *menu* card from that moment became an institution.

Charlie (sadly).— "Since you 've been married, Tom, you never ask me to break bread with you."

Tom.— "There 's good reason for it, Charlie. You could n't break the bread we have at our house ; you could n't do more than bend it."

MRS. XYLOCOPIA VIOLACEA.

EVERYTHING was lively as usual in the leafy sloyd room. The children were all at work. Mrs. Xylocopia Violacea had the "chair," or more literally speaking, "the tree," as the day's teacher.

She was just exhibiting her sloyd knife to the children, when to their surprise in walked Mistress Mary with no less a personage than the Queen of Hearts. Mrs. Violacea politely buzzed forward to greet her visitors, but the Queen was a graduate of the same school as Mistress Mary, familiar with simply the book form of natural history, so she threw up her hands in a fright, shrieking "Only see

THE QUEEN OF HEARTS.

that horrid bee!" Poor Mrs. Violacea buzzed her apologies for startling her, but the more she did so, the more frightened was the Queen, till it became evident that bees and fashionably educated young ladies were destined to misunderstand each other.

The children came to the rescue, Boy Blue remarking that it was a queer Queen who was afraid of her subjects. The Queen of Hearts tried to smooth matters over by bringing out a picnic basket full of tarts which she had spent her entire time in making, according to the rhyme, "All on a summer's day." Her experience had accorded with the popular saying that "the way to a boy's heart (or girl's either) is through the stomach," and she attributed her success in that line to the fact that she always paved that way with tarts. Others had tried to find that royal road through the brain, and never got there unless their subject was abnormal, for who ever heard of a child who preferred a book to a pie or a cake? For once, however, the Queen of little hearts was disappointed.

"You are very kind," the children said, as she opened her basket, "and the tarts look lovely, but we are too busy to eat now, we can't leave our work."

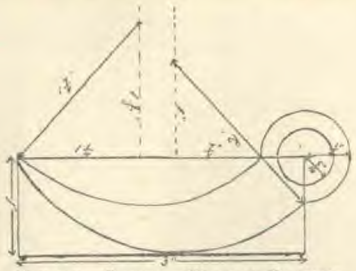
The Queen looked surprised, or did her ears deceive her? Something children loved better than eating! Evidently hand and heart went together with these little folks, and she soon discovered that to be their Queen she must make something besides tarts. So she settled herself beside Mistress Mary, determined to find out what the children loved so much. "H'm," said Mistress Mary, "here we are, children; tell us what we are to make to-day for sloyd work. What new and remarkable thing have you discovered that can be made useful?"

"Oh, we have n't found anything newer than creation, and everything is so remarkable that it is hard to see any difference." "What do you think of a knife," Miss Muffet continued, "with which you could cut a hole into solid wood fifteen times your own length and big enough for you to walk into?" That was what Mrs. Violacea was just showing us when you came in. She has a little sloyd knife with which she carves out a whole house for herself and makes beautiful joined walls and partitions. There now just look at her under my glass," and Mrs. Violacea very considerately held still and put out her knife for them to magnify.

"Is n't that a beautiful shape?" she exclaimed admiringly. "Well, I 'd like to know what useful thing you can make out of a bee's borers," queried the Queen. "I don 't believe your teacher's theory will hold good, that you can get ideas for every useful article from nature."

"I do n't know anything about theories," said Boy Blue, "only I know what she says about the three great pictures God made for us to copy, is true, because I can see things in them every day, and when we want to make plain, useful, solid things, we have only to look at the 'mineral' picture, and in the solid geometrical forms we see there, we find just what we need. When we want to make something ornamental, we have only to look at the 'vegetable' picture, and we find in the light plane forms of geometry in

the leaves and flowers all we need to help us. Then when we look at the 'animal' picture, if we study it carefully, we can get ideas for everything mechanical, for you see animals are just live machines, only God sets them running, instead of men."



ENVELOPE OPENER — WORKING DRAWING.

"And so you are going to get a useful machine out of that poor bee, are you?" exclaimed the Queen of Hearts.

"Oh, we might get ever so many useful things by watching her, but we can't make everything we would like to because we haven't tools, but when Miss Muffet showed us Mrs. Violacea under the microscope and we saw her little knives, we could n't help but think what cute little envelope openers they would make if they were only larger, so we are whittling some out in wood the same shape, only we finish the end with a ring handle. Here is the working drawing: First, in the upper right-hand corner of your wood, draw a circle with a one half inch radius; within this draw another circle with the same center but a radius of five sixteenths of an inch; divide the large circle into four equal parts, use the lower left-hand quadrant for the upper right-hand corner of a rectangle, 3 x 1 inch, then with the compasses spread two inches, set one point outside the rectangle at an equal distance from the lower right-hand corner of the quadrant and the upper left-hand corner of the rectangle, and draw the arc of a circle between these points. Do the same between the upper left-hand corner of the quadrant and the upper left-hand corner of the rectangle.

"Cut out the wood enclosed by the smaller circle, then cut out the entire form, whittle the inside arc for the blade, to a thin edge, bevel the back, and the ring handle from both sides, slip in a small loop of silk cord with tasseled ends to finish, and you will have a sweet little envelope opener that will remind you of Mrs. Violacea whenever you open a letter."

The Queen shrugged her shoulders; "I don't know that I care about that," she said, "however, it's a pretty thing and I will make it." She was convinced that little folks were happier to have their hands occupied instead of their stomachs, and resolved at once on a more hygienic form of conquest thereafter, determining to conquer little hearts.

ENVELOPE OPENER.

through little hands, and she saw she must herself first be Queen of Hands if she would be Queen of Hearts.

THE BATTLE CREEK SANITARIUM DRESS SYSTEM—IV.

WE would continually emphasize the need of a proper physical poise, if only to get the best effects from our dress system. Our garments are designed for perfect figures, and therefore they will prove far less satisfactory to the flat-chested or round-shouldered wearer. Remember that it is the poise of the figure alone which gives the gown its true expression. The following is the way in which to acquire a proper poise of the body: Stand against some hard, flat surface, as the wall of the room, touching it with the heels, hips, and shoulders. Then tip the head over back until the top of the head touches the wall. Now suffer the head to swing slowly forward into a natural position, being careful to retain the position already assumed by the chest and shoulders. This procedure leaves the head erect, the chest well up and forward, and the abdomen retracted, which is the correct poise. This is well illustrated in the accompanying outline figure, shown on next page.

The gown we present this month is the Priscilla, which our designer has lately remodeled and perfected. It is very distinguished in appearance, and when developed in rich material, as silk with cape of fine lace, is sufficiently elegant for any occasion. It may, however, be made of cheaper goods and the cape may be of silk and form the only trimming of the gown; or, to reduce the expense still more, the cape may be of like material with the dress, and finished with a "milliner's fold" of silk. A Priscilla gown even so simple and inexpensive as this, and made by

one's own hands at home, if the body is properly carried, may impart to the wearer an unmistakable air of good form such as is very rarely attainable from other systems except by considerable expenditure of means in the way of high-priced *modistes* and expensive fabrics and trimmings. This effect is wholly due to the artistic cut of the patterns of our dress system, any set of which, if put together accurately, according to printed directions, will form a garment of which the maker may be justly proud. No woman who sews neatly, no matter how inexperienced in dressmaking she may be, need fear for the result when using any of our patterns, if she is only careful to follow the directions closely; always bearing in mind the fact that the needed taste and skill *are supplied in the pattern*, and so the garment will be sure to be all right if only accuracy is used in the cutting and making.

A Perfect Physical Poise.

We would call particular attention to the economy of the gown form for that class of women who are in the habit of making their own dresses. This is the *foundation* upon which any and every gown may be made. It consists of a perfect skirt, a well-fitting waist, and neat sleeves ready for any draping. So it is really a whole dress after all, lacking only the trimming for the waist. This, any practical woman will be able to supply, according to her own taste or fancy. All one's home dresses certainly may be made in this way, while for a mere work dress for women who have a variety of employments, both indoors and out,—washing, cleaning house, etc., or gardening, fruit picking, caring for poultry, etc.,—no trimming whatever would be needed. Such a dress can be very easily and quickly made, as, with this pattern it will need little fitting, and any material such as denim or print may be used, as preferred.

The Priscilla Gown. — This pattern is in fourteen pieces, front, back, and under-arm gore of lining of waist, front and back of outside material, upper and under sleeve portions, puff for sleeve, two collar portions, cape, front, side and back gores of skirt. Serge for the gown and silk for the cape are the materials used in the present instance, but any other kind of goods may be satisfactorily used. The quantity of material required is seven yards of thirty-six-inch goods. Price of pattern, 35 cents. This pattern is given in sizes 32, 34, 36, 38, 40, 42, 44, bust measure.

The Gown Form.—This pattern is in nine pieces, front, back, and side-form of waist, upper and lower parts of sleeve, collar, front, side, and back gores of skirt. The quantity of material needed is five and one half yards of thirty-six-inch goods. Price of pattern, 35 cents. Patterns furnished in sizes 30, 32, 34, 36, 38, 40, 42, 44, bust measure.

For all patterns, address Sanitarium Dress and Pattern Department, Battle Creek, Mich.

The Backward Child.— There is many a mother who feels disturbed and anxious because her child either exhibits small interest in school, or is unable to shine among the other children there, or perhaps even to keep pace with them. She is haunted by a horrid specter of dunceship and backwardness, and of her darling outstripped and left behind in all the other struggles of life as well.

But do not let her be too soon discouraged. If her child does not learn readily exactly what the others are learning, perhaps there is an aptitude for something else quite different, but of just as much value. Let her scrutinize and discover this, and help the child along in the ways where nature directs.

Our system of graded schools is indeed lifting all children to a broad tableland of general information; but however excellent its mental discipline, it allows no space for individual growth in individual ways. Every child is run in the same mould; there is no place for idiosyncracy or for development upon original lines, and there is an ever-present danger of crystallization, of becoming fixed at a given point, or ceasing all development.

If her child has a rooted dislike for a certain thing, or a positive disability in the direction of another, the mother would be wiser to make an effort to have those studies set aside, and to let him give himself to those which he does like, and where,

THE PRISCILLA COSTUME.—FRONT.

THE PRISCILLA COSTUME.—BACK.

THE PRISCILLA COSTUME WITHOUT CAPE.

GOWN FORM.—FRONT.

GOWN FORM.—BACK.

if he cannot distinguish himself, he can at any rate expand what power he has. Surely, if his strength and time are dissipated on those studies concerning which he feels hopeless, there is none left for those in which he might do better.

It is not the man who is just like every other man who helps the world most, but the man whose training and growth make him individual, and give him a coign of vantage that he would miss if he went slipping along just like every one else.

Give the backward boy his chance, then, at that which suits him best, and be sure no harm will result.— *Harriet Prescott Spofford.*

An Imperative Need.— All over this country, and in other countries as well, women are asking for a costume which shall allow the free and healthful use of the body in labor and exercise. They ask for a style of dress in which women can develop vigorous, healthy bodies, strong muscles, and pure blood, for these are the conditions of a soul upright and free. They ask for a system of clothing in which mothers may bequeath to coming generations the precious legacy of acquired health and acquired character. They ask for a style of dress in which, from childhood up, the limbs of the growing child may be free for natural exercise. And the signs of the times indicate pretty plainly that they will not ask in vain. —*Helen Gilbert Ecob.*

Bread without Wheat.— Research shows that so-called "bread" has been made out of very many substances besides wheat and other cereals. In times of remote antiquity all kinds of almonds, nuts, and grains were used for this purpose. In South America an enormous quantity of ground nuts is devoted to this object; they come from Virginia, South Carolina, Georgia, and Tennessee. There they also use poppy seeds, chestnuts, and rice. In ancient times the inhabitants of Thrace made a kind of flour out of the triangular and thorny roots of the water-lily. In Syria they dried mulberries and made them into flour, the chief objection to which arose from the fact that it caused the hair to fall off.

The Egyptians made bread out of a mixture of wheat grains and flour. In Sweden, Lapland, Iceland, and Tartary, they made bread out of powdered fish, dried and ground. In Northern countries they mix tomato flour with powdered meal. The Irish, in times of distress, like the inhabitants of Russia, make bread from a species of moss found in abundance on their coasts. It is said that this bread is nourishing and appetizing. The Indians, during their frequent famines, make an imitation bread of crushed white stones, bark of trees, and sawdust. They consider themselves very fortunate when they can mix millet and its different varieties with it.— *Sel.*

SEASONABLE RECIPES.

Lettuce Salad. — Prepare the lettuce by washing each leaf separately in cold water, rejecting any portion that may be bruised or brown. Drain on a fresh towel or napkin and place in a dish on ice or in some cool place until needed. When ready to use, if the leaves are too large, tear them in pieces with the fingers or a fork (do not cut with a knife), rejecting the large and harder portion of the midrib. Serve with a dressing of strained, stewed tomato and lemon juice, in the proportion of one table-spoonful of lemon juice to one small cup of tomato, with salt to season. A garnish of the chopped or grated yolks of hard boiled eggs makes a pleasing addition.

Cottage Cheese.—This dish is usually prepared from milk which has curdled from lack of proper care, or from long standing exposed to the air, and which is thus in some degree decomposing. But the fact that the casein of milk is coagulated by the use of acids makes it possible to prepare this dish in a more wholesome manner without waiting for decomposition of the milk. Add to each four quarts of milk, one cupful of lemon juice; let it stand until coagulated, then heat slowly, but do not boil, until the curd has entirely separated from the whey. Turn the whole into a colander lined with a square of clean cheese cloth, and drain off the whey. Add to the curd a little salt and cream, mix all together with a spoon or the hands, and form into cakes or balls for the table. The use of lemon gives a delicious flavor, which may be intensified, if desired, by using a trifle of the grated yellow rind.

Steamed Eggs with Tomato Sauce. — Break eggs into individual egg or vegetable dishes, salt very lightly, and place the dishes in a steamer over a kettle of boiling water until the whites are set and a film has formed over the yolk. Serve hot with a dressing of hot stewed tomato which has been rubbed through a strainer to remove seeds and skins.

SELECTION AND PREPARATION OF FOOD FOR THE SICK AND HELPLESS.

THE body is formed from what is taken in from the outside world. We have already taken into account air and water, two very important elements of the bodily supplies, for building up, heating, and disposing of bodily wastes. We have now to consider the third great source of bodily supplies, or what is known as the foods.

The foods consist of a number of more or less complex compounds, containing in varying proportions the four chief elements of the body,—oxygen, hydrogen, nitrogen, and carbon, — which are held in loose combination, admitting of being easily dissolved and broken up in the formation of tissues and the heating of the body. Mixed with these four principal elements are several minerals, earths, alkalies, and other inorganic material, as lime, iron, phosphorus, sulphur, chlorine, sodium, potassium, magnesium, etc. These elements, which enter into the human body, also help to form the inorganic world; they are found in air, water, soil, rocks, etc. Water and air are already in a form to be appropriated by the tissues, and constitute what is known as gaseous and aqueous food; but all the other food elements have to be rearranged by the vegetable world before they can be used by the animal creation in building up muscle, nerve, bone, and tissue; or they are destroyed in the process of producing the heat and force consumed in keeping this living machine in good working order.

Air and water are of fixed composition, but food substances exist in many forms and various combinations. Thus we have those foods furnished by the animal kingdom, as milk, eggs, and meat, which are really made-over vegetable matter, for the milk, eggs, and flesh are all made up of the food the animals have eaten. The plant world furnishes fruits, grains, and vegetables.

Amid this varied supply of foods, the nurse, mother, or other food provider, requires knowledge and skill to select, prepare, and administer this food so as to enable the patient's impaired digestive organs to make of it suitable material for absorption and assimilation. I have space for but a brief notice of food contamination.

Milk forms the universal food of infant humanity. The milk formed in the glands of a healthy woman or animal is a perfect food for the infant or other young mammals, each after its kind. But there are many foreign elements, as disease germs, pus, blood, etc., which may render this food more or less poisonous to the infant, even when given by its own mother. The most common disease germ taken with human milk is the tubercular bacillus, although many others, as pus, erysipelas, and other infectious organisms, may be taken into the infant's body in the same way. The milk may be impaired also by the mother's becoming overheated or excited, as from anger, fear, etc., often causing the milk to become so intensely poisonous that death has occurred in a few hours in a healthy child. Such milk has often been found swarming with living organisms called *vibriones*, which were living on its substance and poisoning it by their excretions.

Cows' milk also is often full of tubercular and other disease germs, which infect domestic animals. It is subject to impairment from the poor food, impure water, and bad stabling too often furnished, and from the excitement resulting from the abuse to which domestic animals are often subjected. Milk is always more or less infected by outside dirt, as the droppings from the body of the cow during milking, or from the hands and clothing of the milker. This dirt is often filled with disease germs, and hence the milk is unfit for use in a raw state. The water used to wash the pails and cans may also be a source of contamination, as may be the cows themselves, and the high temperature and uncleanliness of the place where the milk is kept.

So common is the contamination of cows' milk by disease germs that the only way to be sure that it is safe to use it as a food for human beings is to sterilize it by bringing it to 170° F., keeping it there for half an hour, and then cooling quickly by setting in cold water or on ice.

The knowledge and care needed to select and give a wholesome glass of milk to a child or sick person, is rather overwhelming; yet when we consider that milk has been the avenue through which many epidemics of typhoid fever, scarlet fever, cholera, and last but not least, tuberculosis, — that great white plague which kills twenty-five per cent of civilized humanity, — have been propagated, we find it will pay to study carefully how to get this useful food in a form in which it will be free from all disease-producing germs, as well as how to keep it from souring and developing the germs and poisons which result from decaying animal matter.

Healthy mother's milk and milk from healthy animals well kept and properly fed, the most scrupulous cleanliness being observed about milking and in the care of the cans or whatever vessels are to receive and hold it, is the proper diet for babies. Also have a clean, cool place, well ventilated, in which to keep the milk, or better still, set it on ice or in cold water.

Milk to be used by infants or the sick should be perfectly sweet, as the least taint or sourness may cost a life, by setting up a fermentation in the stomach, which may be weak from disease, and unable to resist the poisons formed from the spoiled food in the digestive organs. Eggs used by the sick should be those obtained from healthy, well-kept, and well-fed chickens, with no suspicion of staleness. The flesh of animals is still considered a necessary food by the great majority of civilized humanity, even among the most advanced and Christianized people. Most medical men are also of the same opinion, although they are compelled to admit that the many experiments of vegetarians in the past, and especially in the present century, have proved that life, with a good degree of health and strength, a fine physical development, as well as superior mental ability and moral strength of character, can be maintained by a strictly vegetarian dietary.

In looking over a recent work on hygiene, I found a list of some nineteen different diseases for which the meat inspectors are instructed to examine the flesh of animals to be used as food, both those which are about to be slaughtered and those which have already been killed. This included nine different diseases of cattle, at least eight of which are known to be germ disorders, and three of these — tuberculosis, anthrax, and actinomycosis — are directly infectious to man, and are often acquired from the diseased flesh which so many epicures consume; six more are germ and parasitic diseases which affect mutton; and four others are found in the hog, conspicuous among which are the minute larvæ of the tapeworm and trichina, lying hidden away in the ham and spare-rib, so tender and toothsome, waiting for some one to eat the flesh and liberate them from their prison. As soon as liberated, they at once set to work, the trichina larvæ boring their way into the muscles of the one who eats the pork, and the head of the tapeworm fastening itself to the mucous lining of the intestines. Then begins the marvelous reproduction of worms, which keep passing off and being renewed indefinitely.

Besides the danger from diseased meat, there is the danger from spoiled meat. Even when the meat is cooled quickly on the outside, it may spoil from the animal heat retained in the deeper tissues. This is often the source of wholesale poisoning, especially in the eating of partially spoiled canned flesh and sausage. Fish and fowl are liable to be diseased, and the savory oyster, so much vaunted as a dainty for the sick, has been proven to be the cause of serious epidemics of typhoid fever.

Truly, as the nurse must choose the patient's food as well as prepare it for him, it would seem as if she must look elsewhere for a safe sick-room diet than to the animal creation, where the chances are that she will find dangerous disease germs and poisons due to decaying flesh or troublesome parasites, which will only increase the discomfort of the already diseased and suffering patient.

This question of proper diet is a very important one. What food to select, how to prepare it, when to give it, and when to withhold it, for the best interest of the sick and suffering, science has not yet told us satisfactorily, but the light she is shedding to-day on the diet question leads more and more toward confirming and establishing the healthfulness of the original Edenic dietary, which was "every herb bearing seed."

The danger of poisoning from good, well-kept grains, vegetables, and fruits is very small indeed, for even when decaying, they do not produce those deadly poisons produced by spoiling flesh. They give rise to comparatively few diseases. Disease germs produced in vegetable culture fluids are much less dangerous and deadly than those formed in animal broth cultures. It is much easier to distinguish and reject unsound vegetables than it is animal food. The earth yields a great variety of

foods from which we may choose. Thus in the grains, we have gluten in some, as whole wheat, barley, etc.; others are rich in starch, as rice and corn; all of them contain oil and the earthy and mineral salts; so there need be no fear that the patient will not be well nourished, if his diet is wisely and carefully selected from this class of foods. The gluten and vegetable albumins supply the nitrogenous matter for tissue building, and the starch and oils give the heat- and force-forming elements. The fruits supply sugar, and also the vegetable acids needed to keep the patient's liver and bowels active. Whatever kind of food is prescribed by the physician, the nurse should see that it is of the best quality and perfectly fresh.

Milk is very often the only food which can be taken and retained by the patient, especially by children. The nurse should see that the supply is from a healthy, cleanly dairy, and that it is properly sterilized. This is best done in a steam sterilizer, but a double boiler will answer, or a bottle or clean fruit can may be set inside another vessel containing hot water, as an ordinary cast metal or granite-ware stew kettle. It is usually best to put something, as two small sticks, in the bottom of the kettle to set the inner vessel on, to keep the bottom from getting too hot. After sterilizing, the bottles should be stoppered with clean corks or the cans covered with clean covers, and set away in a cool place until needed for use. Milk can be taken either hot or cold, and may be used in the form of kumyss, or it may be peptonized or malted. In the last two processes it is partially digested.

Nursing bottles require special care. Many a little one dies from the effect of taking into the system the germs cultivated in the sewer-like, filthy tube through which all the milk passes before it reaches the digestive organs. A nipple is all that is needed on the nursing bottle, and that should be frequently turned inside out and brushed and boiled, and the bottle as well. No milk should be allowed to remain in the bottle from one meal to another, but it should be prepared fresh every time. More will be said on this subject in the future.

Eggs are much used as an article of diet for both sick and well. They should be fresh and kept in a cool, dry place. They may be used for the sick in many ways, as beaten up raw with cream and sugar, poached soft, boiled so as to crumble, or curdled by putting the eggs unbroken into boiling water and setting the vessel off from the fire for fifteen or twenty minutes, keeping it covered. This requires quite a quantity of water, which must be increased in the proportion of a teacupful to each egg used. Eggs may be baked, or beaten up and made into plain custard, or the white may be beaten up alone into a stiff froth with a little lemon juice. Freshness and careful preparation are the essentials in an egg dietary.

If meat be selected, the first essential is that it be the flesh of a healthy animal which had been killed quickly when in an unexcited state, well bled, the viscera removed at once, the carcass quickly cooled, and care taken afterward to keep the meat on ice so as to prevent putrefaction. Spoiled meat often contains deadly poison.

(To be continued.)

DELIRIUM.— Attendance upon delirious patients requires the greatest watchfulness, patience, and tact. A nurse will do wisely to humor them as much as possible, listening quietly to what they say, and above all things avoiding contradiction. Sleep is the great remedy for undue mental excitement; but it is often most difficult to secure. Much may be done, however, by surrounding the patient with conditions that favor repose. Thus, in a private house, the room should be cleared of all its occupants except patient and nurse, light should be as far as possible excluded, by pulling down the blinds and drawing the window curtains if it be daytime, and by lowering the gas if it be night, and the nurse should sit quietly by the bedside, talking and moving about as little as possible, and avoiding all appearance of excitement or anxiety. An ice-bag applied to the head is often of great use, also sponging the body with vinegar and warm water. Sleepingdraughts are never to be given unless ordered by the medical attendant.

Delirious patients are very cunning, and watch their opportunity to get into mischief. Hence the most unwearied vigilance is needed on the part of the nurse. The windows should be fitted with stays, so that they cannot raise the sash sufficiently to jump out, and all razors, knives, and firearms should be put out of reach.

When the delirium assumes a violent form, mechanical restraint may be necessary, and, when it is, it must be applied effectually, or it will irritate instead of soothing. The means usually employed are

the straight-jacket and the restraining-sheet. The jacket is a sort of pinafore, made of canvas, and opening at the back, where it is tied with tapes. The sleeves are made long enough to reach beyond the ends of the fingers ; they are drawn tight by tapes which run through the hem, and are further secured by bandaging the wrists. When these have been fastened, the patient is laid down, and his arms being crossed, each hand is tied to the opposite side of the bed by means of the tapes at the end of the sleeves. The knees must then be prevented from being drawn up by passing a folded sheet across the ankles, and fastening the ends to the side of the bed. Lastly, after rearranging the bed-clothes over the patient, the restraining sheet is laid over the whole, and fastened by straps and buckles at each of its ends to the bars of the bedstead, care being taken that the chest is not pressed upon so as to interfere with breathing.[1]—*Manual of Nursing, by C. J. Cullingworth, M. D.*

KISSING.—We are informed that the Sanitary Committee of the Orange (New Jersey) Board of Health has recommended that a circular be sent out to all whom it may concern, "urging every one to desist, as much as possible, from kissing, as the touching of the lips is likely to convey contagion."

That there is some danger from kissing there can be no doubt. It is a well-established fact that the mouth is full of germs, and many people are not particularly careful about keeping the teeth clean. But it is especially in those suffering from infectious disease that the great danger exists. It is now known that many of the contagious diseases, such as diphtheria, scarlet fever, measles, and mumps, enter the system through the mouth and throat, and are absorbed by the tonsils. Hence, it is believed that careful gargling of the throat, when there is an infectious disease in the house, will protect one from it. To say the least, it is a wise precaution for nurses and attendants to use some antiseptic mouth wash every hour or two. It can do no harm, and it gives confidence.

Some think that consumption can be conveyed by kissing, but this we think is very doubtful. Diphtheria and scarlet fever are the two diseases that are most dangerous in this respect. Many a mother, before and since the Princess Alice, has caught one or another of these diseases by kissing a child suffering from it. It is hard to restrain a mother from kissing her dying child, even in such circumstances, but the risk is terrible and should not be allowed.

The kissing of children is far too common. Most people think they have a right to kiss a child, and the practice ought to be discouraged as much as possible. So, also, should the too common practice of letting children kiss each other, that is, kissing strange children, be discouraged on hygienic grounds. It does no good, and it may do harm. Children are specially susceptible to contagious diseases, and no precaution is too trifling in their case. —*Popular Medical Monthly.*

SOLDIERS AND SAILORS.—In most of the European services great numbers of the men used to die of consumption and allied diseases, and fevers, probably chiefly typhoid. This lamentable result was not in the least due, however, to exposure to weather, but to what may be called a contrary condition—the want of fresh air in barracks. In certain of the best English regiments the losses were from one third more to twice as great as among men of the same age in civil life. The fearful loss of life from disease in the Crimea is well known ; and it is from that time that the reforms date which have brought down the total rates of death from disease to one half of what they were. The present allowance in England is 600 cubic feet of space to each man in barracks.

The ills of sailors are, to a very great extent, caused by dampness, dirt, and want of fresh air. It is commonly forgotten that, by washing down the deck frequently, a source of disease is introduced which is at least as dangerous as, and in feverish localities ten times more dangerous, than simple dry dirt. Good ventilation, scrubbing, and drying are the cure for the chief of the curable ills of ship-life.

SOILED clothing, bedding, and all articles for the laundry, should not be put in a closet with other wearing apparel, or kept in a sleeping or living room, but put in some well-aired, dry, cool outhouse until washed. They are filled with the exhalations from the body, and will give off an effluvia which will infect other clothing. All closets where wearing apparel is kept should be well aired, as dust and dirt are often brought in on our outside garments. When a closet opens into a sick-room, every article of clothing should be removed from it, and should not be brought back again until the sick one has recovered, and the closet and room have been disinfected.

1 Where a straight-jacket is not at hand, the writer has found packing the patient in a dry sheet, after the manner of a wet pack, answers the purpose admirably.

THE BEEF TEA DELUSION.

THE late Dr. Austin Flint remarked on one occasion that thousands of patients have been starved to death while being fed on animal broths, beef tea, etc. No error could be greater than the notion very commonly held by the laity, and still quite too largely entertained by the members of the medical profession, that beef extracts, beef tea, bouillon, animal broths, etc., are peculiarly nourishing in character. We can adduce no better evidence to the contrary than is afforded by the following paragraphs from "Bunge's Physiological and Pathological Chemistry," one of our latest and most reliable authorities: —

"We must guard against supposing that meat bouillon possesses a strengthening and nourishing influence. In regard to this, the most delusive notions are entertained not only by the general public, but also by medical men.

"Until quite recently the opinion was held that bouillon contained the most nutritive part of meat. There was a confused idea that a minute quantity of material — a plateful of bouillon can be made from a teaspoonful of meat-extract — could yield an effectual source of nourishment, that the extractives of meat were synonymous with concentrated food.

"Let us inquire what substances could render bouillon nutritious. The only article of food which meat yields to boiling water is gelatin. It is well known that albumin is coagulated in boiling, the glycogen of meat is rapidly converted into sugar, and this again into lactic acid. The quantity of gelatin is, moreover, very small; for a watery solution which contains only 1 per cent of gelatin, coagulates on cooling. Such coagulation may occur in very strong soups and gravies, but never in bouillon. Bouillon, therefore, contains much less than 1 per cent of gelatin. In preparing extract of meat, the quantity of gelatin is reduced as much as possible, because it is in a high degree liable to putrefactive changes, and therefore likely to interfere with the preservation of the preparation. The other constituents of bouillon are *decomposition products of foodstuffs* — products of the oxidations and decompositions which take place in the animal organism. They cannot be regarded as nutritious, because they are no longer capable of yielding any kinetic energy, or at most such a small amount that it is of no importance whatever.

"Nevertheless, until the most recent times, creatin and creatinin, which are among the chief constituents of meat extract, were regarded as the source of energy in muscle. This assertion was shown to be untrue by the researches of Meissner and of Voit, who proved conclusively that creatin and creatinin are excreted in the urine twenty-four hours after their absorption, without loss. A material which is neither oxidized nor decomposed cannot form a source of energy, apart from the fact that the quantity of creatin and creatinin which is absorbed in bouillon, is so small that it could not possibly be seriously regarded as the source of muscular energy.

"It has further been asserted that the addition of extract of meat increases the nutritive value of vegetable food, and gives the latter the same value as fresh meat. This assertion has also been refuted by Voit and his pupils, who have shown, by experiments made on man and on animals, that the unfavorable conditions of assimilation which characterize vegetable food are not improved by the addition of extract of meat.

"Finally the attempt has been made to attach a value as a food to extract of meat, in consequence of the considerable quantity of salts, 'nutritive

salts,' which it contains. But as I have already explained, there is no lack of salts in our food, but always an excess. Even for the growing organism there is only one inorganic constituent which could be deficient, *i. e.*, carbonate of lime. But there is very little lime in meat-extract; the cask contains only 0.23 per cent CaO. No one would be likely to eat more than 30 grms. of meat-extract, which represents the amount obtained from 1 kgrm of meat, and contains only 0.015 grm. of lime; that is, the same quantity as is contained in 10 c. cms. of cows' milk. It has only to be borne in mind how large a quantity is constantly consumed with vegetable food. I have already noticed the fact that a man who lives chiefly on potatoes absorbs over 40 grms. of potash salts in the course of a day.

"The potash salts, therefore, which exist in bouillon cannot produce any effect on the heart, neither small doses stimulating it nor large ones paralyzing it. But even if we could admit the exciting action of potassium salts, it would be difficult to see why we should take bouillon on account of the potash it contains, since we could get much more with almost any other form of food. Five grams of extract of meat will make a plateful of bouillon, and they contain only 0.5 grm. potassium, the same quantity as is in a small potato.

"It has frequently been asserted that the organic constituents of meat-extract exert an influence on the muscular nervous system, but never on sufficient ground. As regards creatin and creatinin, in particular, Voit has given details; he found that 6.3 grms. creatin and 8.6 grms. creatinin given to a dog produced no symptoms whatever. More recently Kobert has endeavored to demonstrate an action of creatin on muscle. The experiments were conducted on frogs, and excessive doses of creatin; but the result was ambiguous. Human muscle could hardly be influenced by the minute quantity (about 0.2 grm.) of creatin contained in an ordinary plateful of soup. This can be deduced *á priori*, quite apart from the observations of Voit. Our muscles contain about 3 per 1000 creatin. The whole muscular system of an adult man, which amounts to about 30 kgrms. contains consequently about 90 grms. It is also found in the nervous system and in the blood. With regard to the small quantity of creatin which is taken in bouillon, absorbed, and at the same time rapidly excreted by the kidneys, we are uncertain whether it ever reaches the muscles at all. And even if a small quantity should do so, it can hardly be of any importance when we know that the muscles already contain 90 grms. of creatin."

In view of these facts, so lucidly stated, it is evident that no greater mistake could be made than to undertake to nourish a patient upon animal extracts.

Sir B. W. Richardson on Vegetarianism. — For many years Sir Benjamin Ward Richardson has been leaning strongly toward vegetarianism, and recently has expressed pronounced convictions on the subject. In a recent interview, he expressed the opinion that in the course of four or five generations the world would arrive at the conclusion that flesh food should be discarded from the table, and that animals would be bred only to be friends and useful companions of man. Abstinence from flesh, this distinguished physician asserts, would be of great benefit to mankind. He asserts that the fresh fruits, the grains, and the pulses contain all the elements necessary for the perfect nutrition of the human race, and believes that the time will even come when a substitute for milk will be produced from vegetable substance without the intervention of animal life, as readily as beer is now produced by the malting and fermentation of grains, although by a different process. The views of this noted humanitarian and philosopher are well worthy of careful thought and consideration.

A Filter for Salt Water.—The only method of removing salt from water heretofore known, has been by distillation. A German inventor has recently discovered the interesting fact that by filtration of salt water through the trunk of a tree in the direction of the fibers of the wood, the salt may be entirely removed. In a filter of this sort, which has been constructed for use on shipboard, the trunk of a tree fifteen feet in length is employed.

A Fast Boy.—A most remarkable example of rapid growth and maturity, is a case recorded by the French Academy in the year 1729. It is stated that a boy six years of age had attained the height of five feet and six inches; he had a full beard, and had the appearance of a man of thirty. He possessed strength sufficient to lift to his shoulders a bag of grain weighing 200 pounds. Two years later, this senile boy became gray. At ten he tottered in his walk like an old man; his teeth decayed and fell out; his hands became palsied; and at twelve he died with all the signs of advanced age.

KUMYZOON.

THIS is a new food product, the value of which will be well apppreciated by those who are familiar with the use of kumyss, and who have recognized the great good often accomplished by means of this crudely made, and yet often invaluable, food preparation. We quote the following description of kumyzoon from a recent article in *Modern Medicine* : —

" Recent investigations in relation to the nature of stomach disorders, conducted in the Laboratory of Hygiene connected with the Battle Creek Sanitarium, and studies there and elsewhere in relation to intestinal asepsis, have shown that the value of kumyss depends upon the following important properties :—

" 1. Its great digestibility, the casein being finely divided, so that it readily dissolves in the digestive juices instead of making large, hard, and difficultly soluble curds, in the stomach.

" 2. The aid given to the digestive process by the peculiar form of lactic acid present in the kumyss.

" 3. The germicidal properties of lactic acid, whereby the microbes which normally, in diseased conditions, swarm in great quantities in the stomach and intestines, are destroyed, thus preventing the fermentation and decomposition of food in the alimentary canal and the production of ptomaines and other toxic products which, when absorbed into the blood, result in impoverishment of the blood, derangement of all the vital powers, and the development of a great variety of nervous symptoms, and sometimes even the setting up of organic changes in the central nervous system.

" Together with these important advantages which have been properly attributed to the use of ordinary kumyss, various disadvantages have also been recognized, especially the following : —

" 1. Ordinary kumyss is made from raw milk (or a mixture of skimmed milk and whey, which is employed by some manufacturers), to which is added compressed yeast and cane sugar. The yeast grows at the expense of the sugar and produces alcohol. A portion of the alcohol is subsequently converted into acetic acid, the acid of vinegar. If the kumyss is new or medium, it contains more or less cane sugar unconverted, and a large quantity of yeast is, of course, always present. All of these substances are objectionable to the invalid. Cane sugar and yeast promote fermentation in the stomach, which explains why many persons suffering from indigestion have been unable to use ordinary kumyss. It has been shown by Dr. William Roberts, of England, that alcohol hinders the digestion of albuminoids (meat, eggs, gluten, etc.), and that acetic acid, even in a very small proportion, altogether prevents the action of the saliva upon starch.

" 2. Being made from raw milk, which has been shown to contain more than fifty different kinds of germs, most of which are capable of setting up each one its characteristic fermentation, and ordinary compressed yeast, which abounds with germs of various sorts, being added to the milk, it is evident that kumyss as ordinarily made, must contain a mixed multitude of microbes of various sorts.

" 3. From the foregoing it will readily appear that ordinary kumyss must be very variable in quality. The numerous germs which it contains are each struggling to produce its own peculiar kind of fermentation, whereby a variety of flavors, odors, and toxic substances are produced, thus making every individual bottle of kumyss a new variety by itself, and no two bottles are likely to be found exactly alike. This accounts for the fact well recognized by every patient who has made use of kumyss for any length of time, that although he continues to buy of the same manufacturer, and to order the same quality of kumyss (new, medium, or old), he never can get two bottles exactly alike, and is often disappointed and disgusted by encountering some new but extremely

unpleasant, and often nauseating, flavor which he cannot tolerate.

"The manufacturers of kumyss are well enough aware of this difficulty, which has been so great that the majority of persons who have undertaken to manufacture kumyss have been obliged to abandon the business, or have given up the business in discouragement, and those who have persevered in its manufacture have only succeeded because others have abandoned it, so that they have been delivered from the annoyance of competition, and have been able to charge prices sufficiently high to compensate them for their large losses. Kumyss is so valuable a food-medicine for certain cases, that it must be had at any price, and must be used in spite of the inconveniences attending its employment.

"4. Containing, as it does, a great number of microbes of various sorts, including the accidental infections from the stable, and other putrefactive germs, there is in every bottle of kumyss a struggle for existence between these various germs, which certainly ends, sooner or later, in the decomposition of the casein, or putrefaction; hence the kumyss spoils.

"5. The use of ordinary kumyss is inconvenient, as it requires a tap, which is not only a matter of expense, but is continually getting out of order.

"After encountering all these difficulties with kumyss, for many years, the writer determined to find some method for solving the difficulty, and instituted a series of laboratory investigations which have resulted in the production of an article, which, for distinction, is termed 'Kumyzoon,' and which is wholly free from the several objections named above, which apply with full force to ordinary kumyss.

"Kumyzoon possesses the following marked advantages: —

"1. It is made of milk which is thoroughly sterilized by heating at a temperature above the boiling point of water.

"2. It is made without the addition of cane sugar, hence is practically free from alcohol and acetic acid, which are present in considerable quantities in ordinary kumyss, and is also free from cane sugar.

"3. The lactic acid fermentation is induced by means of a special ferment, which is the result of long-continued investigation and experimentation, and which is free from putrefactive and other ferments found in compressed yeast.

"4. Being a product of known elements, subject to known conditions by scientific methods, it is a definite and known product, and is of uniform flavor and composition.

"5. It will keep for many months. It may, in fact, almost be said to keep indefinitely.

"6. It does not require a tap for its use. The cork of the bottle is withdrawn by an ordinary corkscrew; then by restoring the cork and shaking the contents and pouring into a glass, the same effervescing beverage is obtained which is represented in the very best specimens of kumyss in which the most fortunate results have been obtained.

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

"Kumyzoon is just the right thing for use in fevers, cases of migraine, nervousness 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 condition of the alimentary canal is required, or in which enforced nutrition is desirable.

"It is indispensable in connection with rest-cure. Patients can take it for an indefinite length of time without tiring of it, owing to its purity and absolute uniformity in quality.

"Any one who has once given kumyzoon a trial will not be willing to return to ordinary kumyss, which, strange enough, is still made by the clumsy and infective methods of the ignorant Tartars.

"Kumyzoon represents a new kumyss in which practical application is made of the facts and principles of modern bacteriology, and is, I believe, a preparation which will be recognized by all who give it a trial, as a scientific preparation, and one which supplies a greatly felt want."

LIGHT FROM WATER. — Acetyline is the name of a new substitute for light which promises to revolutionize the present modes of illumination. Acetyline is obtained from solid bricks of calcined carbide, which are made by fusing together in an alcoholic furnace, ordinary lime and coal. The acetyline gas is given off by these calcined carbide bricks when water is poured upon them. It is a curious fact that the bricks themselves will not burn, even when held in a gas flame; but the moment water is poured upon them, a gas arises which burns with an intense white flame when ignited.

ANSWERS TO CORRESPONDENTS.

A GROWTH ON THE FACE—DEAFNESS, AND RINGING IN THE EARS.—Mrs. W. C., Ind., writes as follows: "1. I have become quite uneasy in regard to a growth which came on my face about two years ago. It is on the right side of my nose, about one fourth of an inch from the eye. It was at first a mere speck, but it has increased in size, and is now about as large as one sixteenth of a penny. A scab has formed upon it, which, when it comes off, leaves the growth of a dark-red color. There is no pain, but a drawing sensation. Can anything be done for this condition? 2. Also, I am almost entirely deaf in the right ear, and there is a constant ringing in it, like the sound of crickets. Is there any help for this?"

Ans.—1. The growth is a suspicious one. It may possibly be the beginning of a cancerous affection. You should see a skilled surgeon at once.

2. The ear can probably be helped. You should consult an aurist.

THIN HAIR—HAIR GROWERS.—P. S. R., Mich., asks: "1. Is there any remedy for scantiness of hair? 2. Are any of the so-called hair-growers to be depended upon?"

Ans.—1. Rubbing the scalp well with the tips of the fingers frequently dipped in cold water, for five minutes every morning, is a good remedy.

2. No. Some of them stimulate an abnormal growth temporarily, but at the expense of subsequent injury.

COTTOLENE.—Mrs. A. E. G., Pa., inquires: "Does Cottolene contain lard?"

Ans.—We do not know of any analysis of this substance and so cannot answer the question.

ULCERS ON THE EYE.—Mrs. R. J. R., Tenn., asks: "1. What causes ulcers on the eye? 2. What treatment is necessary to cure them?"

Ans.—1. Defective nutrition.

2. Improve the general health and secure proper local treatment from an oculist. Irritation of the eyes resulting from some optical defect which requires glasses, is a cause of ulceration of the eyes. In these cases the wearing of glasses is a necessary preventive.

BAD TASTE IN MOUTH—COATED TONGUE—DIZZINESS, ETC.—J. A. C., Ohio, writes: "I have a bad taste in the mouth in the morning, with coated tongue, and dizzy, dull nervous headache. I have a craving appetite, but after a meal suffer from dull, heavy pain in the stomach. I am nervous, have heartburn, and eructations of gas, and suffer from constipation. I am weak and despondent, and have no ambition to work. My extremities are cold, and the skin is dry and harsh. My diet is graham bread, eggs, milk, and some fruit. 1. Is my trouble dyspepsia? 2. Please advise me as to treatment for my case."

Ans.—1. You are suffering from indigestion.

2. For a proper prescription for treatment, an analysis of the stomach fluid should be made. You ought to take a test breakfast, send the stomach fluid to the Sanitarium Laboratory of Hygiene for analysis, and then we can give you a definite and precise prescription for diet.

FALLING OF THE HAIR.—E. J. M., N. Y., inquires: "1. What will prevent the hair from falling out? 2. Why should it fall out more on the top than on any other portion of the head?"

Ans.—1. There are many causes of falling of the hair. This disease is sometimes due to a parasite growing upon the scalp, affecting the hair follicles. It is sometimes the result of dyspepsia and other diseases which lower the general health. These causes must be removed.

2. Probably because the tissues are thinner and the nutrition of the hair less perfect in this region of the body. See also answer to "P. S. R.," in this number.

EFFECTS OF A DAMP ATMOSPHERE.—W. B. P., Ohio, asks the following question: "As water is known to be a good conductor of electricity, is it fair to assume that a person may feel more debilitated in a damp atmosphere from the reason that the moist air robs the system of its magnetism?"

Ans.—A warm, damp atmosphere has a debilitating effect upon some persons, but it does not have this effect for the reason mentioned. A damp condition of the atmosphere does not favor the absorption of oxygen, hence it lessens the vitality and activity of the system.

STRYCHNINE.—F. C. R., N. Y., asks: "1. Will strychnine used in very small doses be likely to do any harm? 2. Our physician states that strychnine is found in graham bread or flour; is this true?"

Ans.—1. The common use of strychnine as a tonic is, we think, irrational and detrimental.

2. No.

STOMACH TROUBLES—HEADACHE, ETC.—G. C., N. Y., asks: "1. What home treatment would you advise for a woman forty-four years old, who is suffering from stomach trouble, headache, and the usual symptoms which attend the menopause? 2. Are pears considered wholesome fruit, eaten at meal-time? 3. Is celery wholesome and readily digested?"

Ans.—1. A sitz bath two or three times a week, a vaginal douche daily, a morning cool sponge bath, perhaps preceded by fomentations to the spine, are simple measures which will be found helpful, if judiciously administered.

2. Yes.

3. The nutritive value of celery is practically nothing, and when eaten raw, it is almost totally indigestible.

THE "COMPOUND OXYGEN TREATMENT."—H. J. C., Ill., asks: "Will the 'Compound Oxygen Treatment' purify the blood, and in that way help rheumatism and strengthen the nervous system?"

Ans.—No; it is a "Mind Cure."

"CARDINE."— C. F. S., Chicago, writes thus: "Will you please give me your opinion of the value of the new treatment called 'Cardine,' originated by Dr. William A. Hammond, in all forms of heart trouble?"

Ans.— It is worthless; it is simply a trap for catching money.

DARK CIRCLES UNDER THE EYES. — T. McG., asks: "1. What causes dark circles under the eyes? 2. What is a remedy?"

Ans.— 1. Usually an impoverished state of the blood.

2. Build up the general health. Bathing the eyes alternately with hot and cold water is temporarily beneficial.

RHEUMATISM.— L. M. R., Mo., writes: "Am fifty-two years of age, and am nearly helpless from rheumatism. Have taken but little medicine during my life; have been of regular habits, and have used, as a rule, plain food. What would you recommend in the way of diet and treatment?"

Ans.— Chronic rheumatism is a diathesis and requires the regulation of all the habits of life. The diet should be fruits, grains, nuts, and a moderate allowance of milk. Avoid meats and all stimulating foods. Drink abundance of water. Warm bathing two or three times a week is beneficial. The body should be clothed with flannel, summer and winter. Exercise is of great value as a remedy, although difficult of application.

WHITE FLOUR—CIDER—GARGLE FOR SORE THROAT, ETC. — C. L. W. asks: "1. Does the habitual consumption of white flour cause constipation? 2. Is a moderate use of sweet cider harmful? 3. What is the best gargle for sore throat? 4. Is 'Lung Kuro' a safe cough medicine to give a child? 5. Would 'Buchanan's Pills' relieve a bilious headache more than temporarily?"

Ans.— 1. Yes.

2. No, but the cider should be perfectly sweet. No one can have any assurance that the cider is perfectly sweet unless he makes it himself by chewing the apple, which is the only way in which we recommend cider drinking.

3. Hot water.

4. Probably not; we know nothing of the remedy.

5. No.

GALVANIC OR FARADIC CURRENTS IN A TUB.— W. E., Ontario, Can., asks: "Which of the following methods do you consider best for the application of galvanic or faradic currents in the bath tub? 1. To place one electrode at the head, the other to be placed at the foot, thus passing the current through the body? 2. To place one electrode at the head or foot as desired, passing the second electrode over the body in a general way, or localizing the current, if considered necessary? 3. In the sides of a tub and near the bottom are a number of electrodes connected with a battery. These electrodes are so arranged that the current can be sent through any one or all of them, and thus be localized in chest, stomach, bowels, hips, knees, or any other part requiring special treatment."

Ans.— All the methods are good; the best method is to combine them all.

BUTTER — FRUIT JELLY — OLIVE OIL, ETC. — H. W., Cal., asks: "1. Which is the more healthful food, butter or fruit jelly? 2. Is pure olive oil harmful as food? 3. Is milk and vegetables or fruit a bad combination? 4. Have a great deal of pain in the bowels. It is worse at night and on rising in the morning. Live very plainly and take very light suppers. What can be the matter? 5. My little boy, nine years old, has very sore feet. Perspiration is abundant and offensive. The flesh is raw in places and very painful. What ought to be done for them?"

Ans.— 1. Both are objectionable.

2. Millions of people in the East thrive upon olive oil as an article of diet in connection with other foods. We have no personal experience in its use.

3. Milk and vegetables are a bad combination. Milk and fruit do not necessarily disagree.

4. Probably indigestion.

5. Cleanse the parts daily; change the stockings daily; keep the parts covered with soft cotton on which is applied a little zinc ointment.

ACID STOMACH.— RHEUMATISM, ETC.— R. W. P., Ohio, writes in relation to his case as follows: "Am sixty years old, and a farmer. Have always been a hard worker and a hearty eater. Have been troubled for several years with pain in my right breast. A year ago rheumatism set in, and is now so bad that I can hardly get any rest nights, and it is with great difficulty that I can walk at all. Have now stopped all medicine. Kindly advise me as to diet and home treatment."

Ans.— Avoid meats, butter, cheese, pickles, mustard, pepper, and all irritating and indigestible foods. Make a diet consisting of well-cooked fruits, grains, nuts, and a moderate allowance of milk. The Sanitarium Health Food Company's foods would be especially adapted to your case. Our antiseptic digestive tablets would also be useful. To obtain these tablets, address, Sanitas Company, Battle Creek, Mich.

SWELLED NECK — SUPERFLUOUS HAIR. — H. P., N. Y., a new subscriber, inquires: "1. What is the cause of a swelled neck, and is there any cure for it? 2. Please give a remedy for superfluous hair."

Ans.— 1. The usual cause is the enlargement of the thyroid gland or of one or more of the lymphatic glands.

2. See answer to "Inquirer."

OBESITY — CIGAR SMOKING, ETC.— C. B. B., Conn., asks: "1. What is the Banting system of treatment for obesity? 2. Will the smoking of a moderately strong cigar by a person accustomed to it, cause the pulse to beat faster? 3. If a person is perfectly well in every respect, how much faster should the heart beat after a meal than before? 4. Does the Sanitarium Health Food Company manufacture a cereal coffee, or any substitute for coffee? 5. Is 'Ayre's Hygienic Substitute for Coffee' a pure, nutritious article?"

Ans.— 1. Meat diet, abstinence from water drinking, and abundance of exercise.

2. Tobacco depresses the heart.

3. Five to ten beats.

4. Yes.

5. We know nothing of the article.

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. 256 is a boy six years old, having blue eyes and light brown hair. He is just as needy and deserving of a home as an orphan. His stepfather has deserted him, and his mother, who is failing rapidly with that dread disease, consumption, wishes to see him placed in a good home. He has been living in the country, not having had many associates, and has not been neglected. He is with relatives in New York, who can care for him but a short time longer.

Two half-orphan girls (Nos. 257 and 258), eleven and nine years old, need a mother to care for them. Their father is not able to work all of the time, on account of ill health, hence desires to place his children in private families. The children both have blue eyes and light hair, and are of a loving disposition. They are now living in one of the New England States. Will some kind friends in the East offer them a home?

No. 261 is a boy fifteen years old, living in Indiana with a family who took him two years ago. He had had no religious training, but they have given him such privileges as they could, but now they feel as if they cannot assist him in obtaining the education he needs. The boy is a Christian, intelligent and well advanced in his studies, but he longs to have an opportunity of obtaining an education, and is willing to work for his board and clothes while attending school.

Is there not some one living near a college or high school, who will be glad of an opportunity to help this aspiring youth to realize his noble desires?

NOS. 262 AND 263.— A little boy and girl eight and six years old living in Pennsylvania have been brought to our attention. They are motherless, and their father, being in very poor circumstances, needs assistance. He desires to place his children in the homes of Christian people. We learn that they are good children, easy to teach, and of good appearance. They are now with their aged grandparents, who cannot care for them longer.

WORSE THAN ORPHANS.— Two colored children living in Colorado have lost their mother, and as nothing is now known of their father, they surely deserve the sympathy of those who have an interest in those who are needy. The oldest (No. 266) is a boy twelve years old, while the little girl (No. 267) is only four. These children had a mother who gave them good care, and we earnestly trust that some one will deem it a privilege to take these little ones and direct their feet into the right path. The person who writes us concerning these children says, "I believe them to be bright, active children, with no bad habits."

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 can be surrounded with those influences which will be the means of developing in him a beautiful character.

Of late we have received word from several widowed mothers with one or two children, who on account of being left with no means of support except their hands, are in need of assistance. Some of these mothers have such great love for their children that they cannot think of giving them away entirely, but they certainly have a claim on our sympathy and help. If there are any of our readers who would take a woman to work for them and are willing to take a mother and child into their home, we would be glad to correspond with them.

A mother who has two half-orphan boys in her home, says: —

"We are well pleased with the boys. They have some faults, but who is faultless?"

She tells of an experience with one of the boys which showed much love and wisdom on her part and the good which resulted from the course taken. The child had a very quick temper, and would become very angry when things did not go to suit him. His new mother says: —

"I did not scold him when he would get angry, but just let him alone until he got over it, and then I would talk to him and tell him how sorry it made me feel to see him doing that way, and also how sorry the Lord was when he saw him so angry."

One time he became angry because he was not permitted to go to a place of amusement which was not considered proper for him to attend. When he went to bed that evening, his mother started to give him the usual good night kiss, but he told her he did not want her ever to kiss him again. The mother writes: —

"I told him if it was his wish, I would not, but it would make me feel very bad. So putting my hand on his head, I just said, 'Lord, bless my boys,' and left them for the night. I said nothing to him about it the next day, just kissed Howard good morning and never let on. The next night when I went to bid them good night, I kissed Howard and turned to leave the bed, when Artie threw his arms around my neck and said, 'Mamma, are n't you going to kiss me too? O, I am so sorry I talked so. I am going to be a good boy and do as the Lord wants me to. Do you think he will forgive me?' From that time on he has been a different boy."

He is now trying with the help of the Lord to conquer his temper. The mother says she could not think of giving the children up, as she and her husband have learned to love them as their own.

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.

VISITING DAYS AT THE HASKELL HOME.

Persons intending to visit the Haskell Home will please note that the visiting days are Sundays and Wednesdays, from 4 to 6 p. m. It is necessary to make this announcement, as so large a number of visitors have called at the Home on other days that the very interest of the friends, which we have no desire to discourage, has been something of a hindrance to the workers. J. H. Kellogg.

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.

RHODES'S UNITED STATES.—"History of the United States from the Compromise of 1850." By James Ford Rhodes. Vol. III, 1860–62. With maps. 8vo, cloth, uncut edges and gilt top, $2.50. Vols. I and II, $5. Harper Brothers, New York City.

The third volume of Rhodes's "History of the United States" is now at hand, to continue the dignified and judicial review of political and social conditions and military operations through the years 1860–62; and in this, as in the preceding volumes, the reader is impressed with resources of learning that, as has been well said, give to each statement of the author the value of a decision, not the merely personal interest of a plea.

Table Talk for April proves all that is claimed for it, in that it is the housekeeper's and home-maker's help on all culinary and household topics. This issue opens with an article on the "Etiquette of the Spring Season," by Mrs. M. E. W. Sherwood, the well-known authority on such subjects, and is followed by an article on the "Peanut," by W. F. Tomlinson, of the Agricultural Department, at Washington, D. C. The housekeeper's inquiries, recipes, and *menus* by Miss Helen Louise Johnson; the fashions as touched upon by Miss Forney; the "New Bill of Fare," by Mrs. M. C. Myer; the "Literature of Childhood;" a "Dinner with Wagner," are all bright, interesting, and helpful. It is published by *Table Talk* Publishing Co., of Philadelphia, at $1 per year, and a sample copy is offered free, to any of our readers.

IN the April *Arena* Prof. Frank Parsons begins the publication of a very important series of articles outlining the scope of the New Political Economy, and showing wherein it differs upon social and ethical grounds from the orthodox economics of the Manchester school. Prof. Frank Parsons is one of the most able and thoroughly equipped writers on law and economics in the country to-day. The paper in this issue deals with "The People's Highways," and it should be carefully studied by all who realize the importance of a settlement of the railroad problem. The general scope of the series will be to deal directly with the great modern economic problem presented in monopolies. It will cover monopoly in transportation, commerce, manufacture, property, finance, and the making of law. The *Arena* Publishing Co., Boston, Mass.

THE question that is agitating the transportation world at present is, "Will the electric motor supersede the steam locomotive?". The consolidation of many short-line electric roads into longer systems connecting great cities has progressed so rapidly that the steam railways have begun to feel the competition. Joseph Wetzler, editor of the *Electrical Engineer*, discusses this question in the May *Scribner*.

IN December, 1893, *The Dominant*, a journal of musical progress published at Philadelphia, Pa., inaugurated a Prize Patriotic Song Contest, offering as prizes $100 for the best poem, and $50 for the next best poem. Two prizes of $100 each for the best music for each poem were also offered. The poems and music are genuine homespun productions, being the work of American citizens, none others being eligible to enter the contest, and in this particular stand unique, as do all our national songs. They are called, the one "Sons of America," and the other, "Old Glory."

We are authorized to state that the publisher of *The Dominant* will gladly send a reasonable number of copies of these two patriotic songs absolutely free of charge to principals of industrial schools, orphanages, and other charitable institutions, who may wish to introduce them.

The Monthly Illustrator begins another volume with the April number. The notable features of the last volume were the space given to the exposition of the work and progress of American painters, and the generous allowance of instructive, as well as entertaining, semi-scientific papers which give substance as well as beauty to this magazine. One might appropriately apply to this magazine a sentence of Mr. King's article in the April number: "Open the book, and you are straightway beyond frontiers; you look down on nations; you traverse seas and pierce the hearts of continents. A thousand new and brilliant thoughts, which had been, as it were, congealed on the very end of the author's pen, melt and flow in the mellow sunshine of this Art." Harry C. Jones, editor and publisher, 92, 94, and 96, Fifth Ave., New York.

PUBLISHERS' DEPARTMENT.

BACK NUMBERS OF GOOD HEALTH WANTED. — The Good Health Publishing Company wish to obtain copies of the January and February numbers of GOOD HEALTH of this present year. To those of our subscribers who will send us these numbers, even though slightly soiled, we will extend their subscription three months, provided they will write us at the same time they send the journals.

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THE MICHIGAN STATE BOARD OF HEALTH. — Just now, the Michigan State Board of Health is undergoing its regular bi-annual persecution at the hands of the members of the Michigan State Legislature. This is the way the politicians of Michigan compensate the members of this excellent and useful body for their arduous and unrecompensed labors. There is no State board which renders to the State anything like the amount of skilled service which is rendered by the members of this Board. They are all experienced, skilled physicians, whose time is worth at least from twenty-five to fifty dollars per diem, and yet not one of these men, except the Secretary, who gives his whole time to the work, receives a single dollar as compensation for the professional services which he renders to the State. Lawyers, who give the State the benefit of their professional learning, receive compensation ; but these physicians, who labor in the interest of public health in the capacity of a State Board of Health, although they spend their time in the preparation of valuable papers, in visiting conventions to deliver addresses, in visiting cities and towns to examine the plans of public buildings and to make sanitary inspections, receive no compensation whatever for their time, and barely sufficient to pay traveling and hotel expenses. The quarterly meetings held by this body are not merely social gatherings, nor are they simply business meetings, but are occasions in which the several members of the Board consider and discuss with great earnestness and depth of learning, questions of the most profound importance to the people of Michigan.

Every annual report published by this Board contains matter of the highest value, not only to the people of Michigan, but to the public at large. Sanitarians everywhere recognize this fact, and the reports of the State Board of Health are widely introduced by the medical scientific press, as they appear from year to year. So thoroughly satisfactory has proved to be the plan upon which the Michigan State Board is organized, that it has been used as a model by the great majority of States which have organized Boards of Health within the last twelve or fifteen years. The excellent features of the plan are chiefly due to the wise forethought of the present Secretary, Dr. H. B. Baker, to whom is largely due the success which has attended the work of the Board. Not only the organization of the Board, but its methods, have been widely copied in this and foreign countries.

It is only necessary that one should make himself familiar with these facts to be persuaded that there is no other State board entitled to so large a share of public confidence, esteem, and gratitude as is this Board. Through its labors, thousands of lives have been saved in Michigan alone, to say nothing about the many thousands which have been saved in other States through the far-reaching influence of this able scientific body.

That an attack is made upon the Board, or upon its work, every two years, is not due to its inefficiency, but to the fact that, in the efforts which it is making in behalf of public health, it may sometimes interfere with private interests which are antagonistic to the public welfare. There are always to be found a few persons who are at enmity with the Board, because it has, in the line of its duty, come into antagonism with personal and selfish interests. The proposition before the State Legislature to abolish the State Board of Health, is a measure which must be regarded as decidedly antagonistic to the public good, and it is to be hoped that our law-makers will give the matter very careful and serious consideration before they allow such a step to be taken. There is no State board which is so fully entitled to the gratitude of the people of Michigan as the State Board of Health, and there are certainly few individuals who have done so much for the general good of the people of this State, and who have labored so earnestly and so unselfishly in behalf of public interests as has Dr. H. B. Baker, the able and accomplished Secretary of the Board. Dr. Baker has, at various times, been offered very great inducements to leave the work to which he has devoted the best part of his life, and, if money could be a temptation to a man of his character, he would long ago have left the State, and would now be filling a position of greater prominence, requiring less attention and arduous labor, and affording better compensation than that which he now occupies. But Dr. Baker has stood at his post, notwithstanding the many difficulties with which his labors have at times been surrounded, and has performed a service for the State which no other man in Michigan, and few other men in the United States, have been prepared to do.

In what the writer has stated above, he has not stated anything at random, for he has had a good opportunity to know the work of the Board, and to look into the admirable system of administration which has been organized and faithfully carried out by Secretary Baker. We feel sure that when all the facts are brought to the attention of the Legislature of this State, it will promptly recognize the advisability of making no change whatever in the present admirable plan upon which the work of the Board is carried on, but, instead, will give to the Board larger facilities for its labors, and a better financial support than has hitherto been accorded it.

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THE American Association for the Advancement of Physical Culture holds its annual meeting in New York City the last week in April. This able body is doing much to further the interests of physical education in the United States. That the present meeting is likely to be a very interesting one may readily be seen by the following brief resumé of the program, which we have received from the Secretary : —

Dr. Enebuske will read a paper on "Diagram of Working Capacity and Resistance as Manifest in Gymnastic Exercise." Mr. Schuyler B. Moon will read a paper on "How Boys Grow," and will lay before the meeting some new

data on comparative proportions. Dr. E. M. Hartwell will present a paper on "Bowditch's Law of Growth, and What it Teaches." In this connection he will give some interesting statistics regarding an apparent relation between growth and vitality. He will also show a chair for automatic recording of proper heights for school seats, etc. A paper is also expected from Dr. W. T. Porter, of St. Louis, on the "Growth of Children." These papers will all be brief, and discussion is invited.

On Thursday the general public session will be opened by a paper on "The Value of Strength Tests in the Prescription of Exercise," by Dr. J. H. Kellogg. The paper will contain a study of the relative strength in the sexes. A paper on "The Relation of Physical Education to Modern Life," will be read by President W. L. Hervey. A paper on "Exercise and Nutrition," will be read by Dr. W. L. Savage. A paper on "The Hygiene of Bodily Culture," will be presented by Dr. E. M. Schaeffer. Miss Clara G. Baer will furnish a paper on a new game, the "Newcomb." The discussion of each paper is invited, as the time for reading will be limited to fifteen minutes, except on permission of the Association.

At the various sessions to be held during the meeting, interesting papers will be presented on various other subjects. Script and Proper Desks as related to Education," "Practical Methods of Teaching Exercise to Public School Children," "The Influence of Physical Training on School Life," and many other papers of equal interest.

* * *

THE latest improvement in progress at the Battle Creek Sanitarium is the construction of a large swimming-bath, the bath being nearly fifty by sixty feet in size. It will be fitted up with modern conveniences for teaching the art of swimming. It will also be used as a plunge-bath in connection with the bathing department of the institution. It is proposed to add instruction in swimming to the otherwise very complete arrangements for physical culture with which the institution is provided.

* * *

DR. O. G. PLACE reports from Boulder, Colo., that the Sanitarium recently established there is succeeding admirably. The three buildings occupied are full, and the board of managers is at present looking about for larger accommodations. It is probable that in the next six or eight weeks a permanent site will be selected, and if a suitable building or structure cannot be found, a building sufficient to accommodate fifty or one hundred patients will be speedily erected. There is room for a grand work to be done in this line in Colorado. At the present time there is no place in the whole Rocky Mountain region where an invalid can have the benefit of the superior care which is given to invalids at the Battle Creek Sanitarium. In saying this, we of course except the small beginning which has been made at Boulder. Whether or not the institution will be permanently located at Boulder depends chiefly upon the encouragement which may be given by the citizens of that place. By giving proper encouragement, the people of Boulder can secure for their beautiful little town an institution which will do more toward building up its prosperity and advertising it throughout the length and breadth of the land than any other institution which could be established there.

AT a recent meeting of the Medical Missionary Board, it was decided to establish a small Sanitarium in Portland, Ore. A physician has been on the ground for more than a year, opening up the way for this work, and the time seems to have arrived when an institution should be put in operation there. A board of local managers has been appointed and the preliminary steps are now being taken for opening an institution at Portland to be conducted in accordance with the same principles as the institution at Battle Creek.

* * *

GRANOSE.— This new food, recently developed at the Battle Creek Sanitarium, and manufactured by the Sanitarium Food Co., has proved a remarkable success. Everybody likes it, which cannot be said of every article which has been prepared as a food specially designed for invalids. It is, in fact, almost as useful for the well as for the sick, as its regular use by those in good health will be found in the highest degree conducive to the maintenance of sound digestion and regularity in the activity of the bowels. Granose represents the whole grain undeteriorated by any milling process, as it is made directly from the whole wheat, only the choicest and plumpest wheat being found acceptable for the purpose. Granose, while possessed of so excellent and agreeable a flavor as to be relished by all, is especially good for a certain class of invalids who are unable to digest anything else. Persons who suffer from sour stomach, biliousness, nervousness, constipation, coated tongue, and a generally disordered condition of the stomach and bowels, are, as a rule, relieved by the use of granose with wonderful promptness. It is one of the best foods offered by the Sanitarium Health Food Co.

* * *

MAY FESTIVAL.—For the May Festival at Ann Arbor, May 16 and 17, 1895, the Michigan Central will sell excursion tickets at one fare for the round trip, good for return until May 19, 1895.

* * *

INTERNATIONAL CONFERENCE, EPWORTH LEAGUE.— June 25 to 27, 1895, the Michigan Central will sell excursion tickets to Chattanooga, Tenn., and return at one fare for the round trip, good returning within fifteen days from date of sale, provided, however, that if the ticket should be deposited with the local agent of the initial line at Chattanooga, on or before June 30, 1895, the return limit may be extended until 30 days from date of sale.

* * *

BAPTIST YOUNG PEOPLES' UNION OF AMERICA.— On July 16 and 17, 1895, the Michigan Central will sell excursion tickets to Baltimore, Md., and return at one fare for the round trip, limited for return until August 5, 1895.

* * *

MICHIGAN HOME SEEKERS' EXCURSIONS.— On May 7, 1895, the Michigan Central will sell excursion tickets to Lansing and points north on the Saginaw division, and to all points on the Mackinaw, North Midland, Saginaw Bay, and Northwestern divisions, and to many points on connecting lines, at one fare for the round trip; limited for return to 20 days from date of sale. Stop-overs will be allowed in either direction north of Lansing, Saginaw, or Bay City, within the limit of the ticket.

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.

☞ Mention this publication.

SOLD BY LEADING DRUGGISTS

PREPARED ONLY BY Charles Marchand

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

28 Prince St., New York

GRANOSE,

A NEW FOOD-CURE for CONSTIPATION AND INDIGESTION.

GRANOSE is a preparation from wheat, in which all the elements of the grain are preserved, and by combined processes of digestion, cooking, roasting, and steaming, brought into a state which renders assimilation possible with the smallest amount of labor on the part of the digestive organs. **It is accepted by many stomachs which reject food in all other forms.** GRANOSE has the advantage of being not only in the highest degree digestible, wholesome, and curative of many disorders of nutrition, but at the same time it is

THE MOST PALATABLE OF FOODS.

The delicate, nutty flavor of GRANOSE, its delicious crispness, its delicate, appetizing odor, and above all the remarkable manner in which it agrees with the most refractory and fastidious stomachs, justify the assertion that it easily surpasses, for general purposes, all other food preparations which have been placed upon the market.

A SOVEREIGN REMEDY FOR CONSTIPATION.

Within two or three days after beginning the use of this food, the great majority of persons suffering from chronic constipation find themselves ALMOST ENTIRELY RELIEVED, and the continued use of the food insures regular movements of the bowels in nearly all cases except those in which intestinal inactivity is due to mechanical causes, for the relief of which surgical measures are, of course, required.

Notwithstanding the above representations with reference to the excellent qualities of this food, the manufacturers assert, in the most positive manner, that **Granose is pure wheat,** containing no other ingredient whatever except a minute proportion of chloride of sodium. This food is already in use in a number of the principal sanitariums, in which it is daily verifying the above statements.

For sample, address,

SANITARIUM HEALTH FOOD COMPANY,
Battle Creek, Michigan.

For RECREATION
AND RECUPERATION
RIDE A

Monarch,

THE KING OF BICYCLES.

Best Spring Tonic you can take for "that tired feeling."

Absolutely the Best that Money can Produce.

Strictly Up-to-Date.

Light, Strong, Speedy, Handsome.

Four Models.

Weight, 18 to 25 lbs.

Prices, $85 to $100.

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KEEP YOUR EYE ON THIS TRADE MARK.

DON'T FAIL

To compare the BEN-HUR with the highest priced wheel on the market.

The BEN-HUR

At $85

Creates a Sensation in the Trade.

WHY?

BECAUSE we have reduced the price **from $125 to $85.** It is high grade in every detail. It is built of large tubing. It is built on popular lines. The reputation of our goods is **unexcelled.**

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CHICAGO & GRAND TRUNK Ry.

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 G. 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	12.45	12.40	.....	..... Cassopolis	2.15	9.40	5.13	.....	3.28
2.33	.....	†1.33	3.42	.....	..... Schoolcraft.....	1.20	.....	.....	.....	.....
2.44	7.55	1.48	4.30	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	.....	8.10
		a m								p m
.....	.....	10.20	.....	.....	..... Boston.....	.....	.....	.....	.....	7.00

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 Nov. 18, 1894.

EAST.	*Night Express.	†Detroit Accom.	†Mail & Express.	*N. Y. & Bos. Spl.	*Eastern Express.		*Atl'antic Express.
STATIONS.							
Chicago.....	pm 9.30		am 6.50	am 10.30	pm 3.30		pm 11.30
Michigan City.	11.35		8.50	pm 12.17	5.20		am 1.19
Niles.....	am 12.45		10.15	1.15	6.23		2.45
Kalamazoo	2.15	am 7.20	11.55	2.30	7.40		4.35
Battle Creek...	3.00	8.10	pm 12.50	3.05	8.18		5.22
Jackson.....	4.30	10.00	2.40	4.25	9.35		6.50
Ann Arbor.....	5.40	11.05	3.50	5.15	10.25		7.47
Detroit.....	7.10	pm 12.20	5.30	6.15	11.25		9.20
Buffalo.....				am 12.35	am 6.45		pm 5.30
Rochester.....				3.38	9.55		8.40
Syracuse.....				5.40	pm 12.15		10.45
New York.....				pm 1.45	8.45		am 7.00
Boston.....				3.45	11.45		10.50
WEST.	*Night Express.	*N.Y.Bos. &Chi.Sp.	†Mail & Express.	*N.Shore Limited.	*Weste'n Express.	† Kalam. Accom.	*Pacific Express.
STATIONS.							
Boston.....		am 10.30		pm 2.00	pm 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 8.30
Detroit.....	pm 8.45	am 6.30	am 7.20	8.30	pm 1.10	pm 4.35	11.10
Ann Arbor.....	10.25	7.30	8.43	9.25	2.12	6.57	am 12.15
Jackson.....	11.40	8.35	10.43	10.30	3.15	7.35	1.25
Battle Creek...	am 1.17	9.48	pm 12.15	11.43	4.31	9.13	2.55
Kalamazoo	2.10	10.27	1.00	pm 12.22	5.09	10.00	3.36
Niles.....	4.00	11.48	3.00	1.40	6.27		5.00
Michigan City.	5.00	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.

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MESSRS. COON BROS.: *Battle Creek, Mich, April 24, 1895.*

From the trial given the Cyclone Washer, I do not hesitate to say that it does its work in a most satisfactory way, and with the least labor and fatigue on the part of the operator of any washing machine with which I am acquainted; and I would most heartily recommend it to anyone who desires to lessen the labor and expedite the work incident to the family washing.

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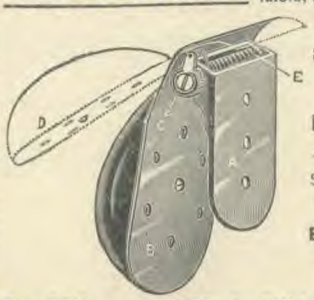

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THE GRAND TRUNK ROUTE

To **BOSTON**, in July, 1895.

Meeting of the United Societies

Y. P. S. C. E.

As civilization grows upon the world so does Christianity place the mile-stones. The Young People's Societies of Christian Endeavor have laudably repaired each year to some grand convention place, where together they have formed plans for mutual advancement and public good. Hardly a better place could have been selected than Boston for the coming meeting.

It is with a great deal of pleasure that this Company submits for the consideration of the Christian Endeavor Societies and their friends a brief description of the attractions they have to offer *en route*, to this convention.

Leaving the Brush Street Station in the city of Detroit early some afternoon, those taking the trip will traverse the Southern Division of the Grand Trunk Railway as far as Toronto.

In the event of the passenger not wishing to take the time for as extended a trip as most of the following description entails, this Company can furnish transportation direct via Niagara Falls, Buffalo, Rochester, Syracuse, Utica, Albany, etc., to Boston, returning the same way or via any return route mentioned hereafter.

If Port Huron is more contiguous to the point from which the journey is commenced, the same as the foregoing could be said of this portion of the route.

The traveler will be delighted with the journey thus far, passing through the prosperous cities of London, Woodstock, Dundas, and Hamilton. The reason the city of Dundas is mentioned, is because of its munificence in providing a beautiful picture for the sightseer.

The railroad traverses the edge of the mountain which overhangs the city, spreading an interesting panorama of hill and valley, dotted by the quaint buildings of the town, with here and there a rising church spire, reminding one strongly of the old quotation which might be made, from Barbara Fritchie: "The clustering spires of Fredericktown, green walled by the hills of Maryland." While it is not in Maryland, it is in a country which during the war-time enjoyed with it the same sympathies. Gliding down the Copetown grade from Dundas, a view of Burlington Bay, at Hamilton, is suddenly spread before us.

These scenes are all beautiful. From Hamilton we traverse the shores of Lake Ontario into the Union Depot at Toronto, the "American City of Canada." From Toronto we take the main line of the Grand Trunk Railway to Kingston Wharf, on the St. Lawrence River. The palatial steamers of the Richelieu & Ontario Navigation Company will here take the pilgrims on the historic waters of the St. Lawrence, through the Thousand Islands and numerous rapids to Montreal. The Rapids of the St. Lawrence have for years occupied a prominent place in the history of picturesque America.

As we are all likely familiar with its ancient history, it would be an idle waste of time to change the current of our pleasant thoughts, by a too meager description of the varied grandeur and power of the mighty St. Lawrence.

MONTREAL.

This city will be visited by many for the first time. Its wealth of buildings, including convents, churches, and hotels, will, after the journey is completed, afford food for pleasant thought.

It is a city of upwards of three hundred thousand inhabitants, made up of English, Scotch and French. The French, being the early settlers, have left a strong stamp of originality and racial mannerisms upon nearly all one sees. The prevailing language is French. Even the English-speaking people have imbibed the spirit of Parisian grace in shrugging their shoulders and gesticulation, which fairly makes one thankful to have made their acquaintance.

From Montreal the Grand Trunk Railway will take us across the River St. Lawrence on the Victoria Bridge, an immense tubular steel causeway, some two miles or over in length.

As most of us will make the trip between Montreal and Quebec in the night time, it will be sufficient to say that the road-bed is good, and that the time of arrival in Quebec is early in the morning.

QUEBEC.

Oh! for the spirit of reminiscence. Oh! for the love of antiquity. Could we but always live in the shadow of such monuments of the past as these. One needs no trip to ancient Europe or the Continent to live again the centuries ago. Quebec is old, Quebec is new. Old in its citadels, its fortresses, its walls of stone, bearing on their crests the ancient British cannons and mortars. It is new, in that its antiquities are here—they are with us, living, present monuments to the Anglo-Saxon race.

France here saw her glory fade. Here she relinquished the profit of the victories of her voyageurs, her missionaries, and her soldiers. She here bade a sad good by to her possessions on the continent of America. The Englishman took them all, but like a victory of the prison house, he could take neither the Frenchman's God, nor his love of country and his native tongue.

Our time can be most profitably spent looking at the quaint monasteries, and pictures by ancient artists filling most every prominent building in the city. We can listen to the history of each and every one if we can but "parlez Francais," because in this old, yet new France, French is indeed the court language.

From Quebec the Grand Trunk Railway will take the train to Gorham, the base of the White Mountains, where can be had in the near perspective a fine view of these Eastern Hills. Thence to Portland, Maine, and Old Orchard Beach. Here one can listen to the song of the grand old Ocean, and, as we hear it in the Gladiator, "telling its story to the smooth pebbles on the beach." The enjoyment of a sea bath is just the thing before we land in Boston.

The Return Trip.

So many varied routes having been chosen and talked over, both direct back from Boston via Niagara Falls, also by way of New York and Niagara Falls, that it will be hardly possible to include a list of the attractions of any one line, it not having as yet been selected. We are pleased to say that we can offer a direct trip back via the Fitchburg and West Shore Railroads, taking in Saratoga and Niagara Falls, without extra charge; Fitchburg Railway to Albany, West Shore or Hudson River Day Line of Steamers to New York, and any of the lines back to Niagara Falls, among which are the West Shore, Delaware, Lackawanna & Western, Erie, and last but not least, the picturesque Lehigh Valley Route, through the Lehigh Mountains, Mauch Chunk, Glen Summit, Wilkesbarre, the Coal regions and Lake Geneva, and all of which run in direct connection with

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The ingredients of which these tablets are composed constitute the most valuable known means of establishing an aseptic condition of the stomach and intestines. The great objection to their use heretofore has been the inconvenience of their administration. The discovery of a special form of vegetable charcoal, and of the method of combining it with other valuable ingredients, has enabled us to overcome the objections heretofore existing, and to present these most valuable agents in an efficient and agreeable form. These tablets, while they contain no foreign substances or excipient whatever, may be taken as easily and agreeably as a caramel.

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