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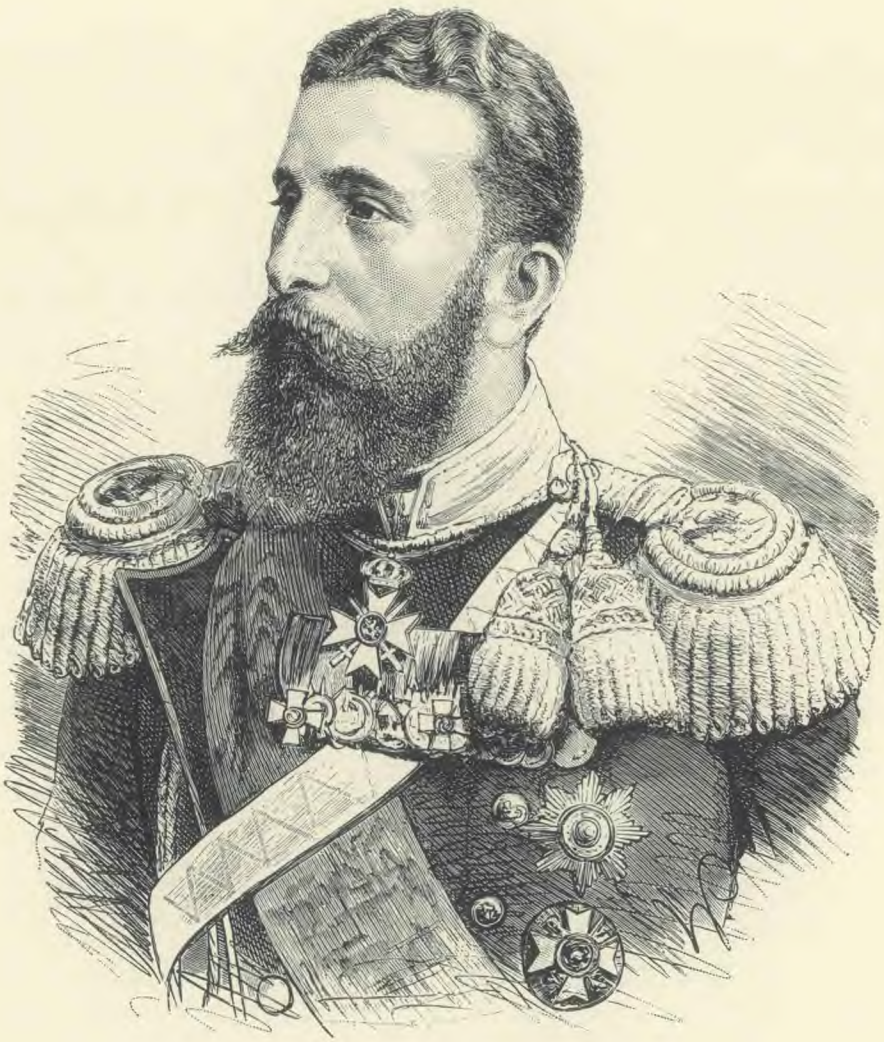

PRINCE ALEXANDER I.

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BIOGRAPHICAL HEALTH STUDIES.

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

7. Prince Alexander I.

WHEN the naturalist Brechm visited the United States on his last lecturing trip, the American press correspondents often tried to elicit his views on scientific questions of the day, and once ventured upon the topic of moral evolution.

"Is Nature neutral in such matters?" asked one of his interviewers, "or can the 'survival of the fittest' be understood to mean the survival of the best man — in anything but a prize fighter's sense of the word?"

"It mostly means the survival of the toughest," said the professor; "that toughness may happen to be combined with beauty and agility, as in the case of the falcon and the squirrel, or simply with impudence and indifference to squalor, as in the case of the sparrow and the rat — both of them irrepressible 'survivors.' In the arena of social competition," he added, "it is sadly often the same."

"You mean the noble and heroic are liable to be crowded out by impudent toughs, blest with an indifference to smudge?" "Alas, yes," laughed the professor, "it cannot be denied that on a planet like ours, the chance of survival depends upon something besides noble sentiments. Sensitiveness, you know, is a primary condition of genius, just as sympathy is of benevolence; and neither sensitiveness nor a capacity for intense commiseration can be said to be specially conducive to longevity. Just think of Lord Byron, or of the Black Prince, whom the sight of wounded soldiers affected like a fever. Such men may accomplish wonders while they live, but that may be only a little while."

The biographical chronicle of the last six months could have illustrated that truth in the still more striking fate of Prince Alexander of Bulgaria — perhaps the noblest man who has ascended a throne since the time of the philosopher-prince Saladin. In the formation of his character, Nature contrived to realize more than the ideal of the model knight Bayard, — a cavalier, not only without reproach, but with numerous positive merits; Frederick the Great's wit and energy without his misanthropic crotchets; George the Second's zeal for reform without his peevish temper; James the First's love of knowledge without a trace of his pedantry.

Prince Alexander of Hessen Battenberg was a direct descendant of Landgrave Philip of Hessen, the protector of the first reformers, the same bold Protestant whom Ulrick Hutten called the manliest man of his century, and repeatedly proposed as a candidate for the throne of the German Empire. With the enterprise of that heroic ancestor, young Alexander had inherited a winsome disposition that made him the pet of the city of Darmstadt. Groups of peasant girls used to gather about the terrace of the Schloss park to have a chat with the little prince. More than one high guest of the Schloss offered to adopt or protect him; and at least one of them, the Emperor of Austria, nobly redeemed his pledge in the storm and stress of after years.

The pet of society was also a favorite of Nature, and reached his twelfth year without having made the personal acquaintance of any one of the numerous ailments of childhood. One main cause of that remarkable immunity was the boy's passionate love of outdoor life — especially of woodland rambles. A hundred years ago one of his grand uncles,

the Landgrave of Hesse Cassel, hired out his army to the British government, and invested nearly the entire profits of the transaction in the creation of the fairy realm of Wilholmohohe. A double avenue of oak trees, graded, and straight as a ruler, leads up from the Cassel ramparts to a mountain plateau, where some forty thousand acres of ground were turned into a summer park. Groves of majestic pines and beaches alternate with mountain meadows, dome-like grottoes, and cascades, the whole crowned by a castle with a colossal statue of Hercules on its pinnacle, and a collection of antiquities rivalled only by the Imperial Museum of Vienna. On a summer trip to Cassel, young Alexander visited that Alhambra of the North in the company of his tutor, and after a half hour's ramble in the mountain park, suddenly clutched his mentor's arm and burst into a flood of tears. The inquiries of the astonished pedagogue elicited the fact that the woods, the forest meadows, and the singing thrushes had so far surpassed the boy's conceptions of heaven that now for the first time he was appalled at the thought of death, and perhaps also at the approaching end of the vacation that threatened his departure from this rediscovered paradise.

He afterward often declared that no marvels of architecture had ever affected him in a similar manner, and that a display of articles of luxury left him indifferent, or even annoyed him with the anticipated necessity of having to refrain from romping in a show-case room of that sort.

"*Ich will ein Foerster werden,*" — "I want to be a manager of a government forest," — was for years his usual reply, when he was asked about his predilections in the choice of a vocation.

His father, however, sent him to the cadet school, the Darmstadt Military Academy, to "brush the aristocratic cobwebs out of his head," as he expressed it. If there was any necessity for that process of expurgation, the prescription certainly answered its purpose; within a few months the new cadet was as popular with his fellow tyros as with his teachers, and soon became an expert gymnast. Thanks to the efforts of the reformer Jahn, athletic exercises have become a regular branch of education in all public schools and especially in the regimental schools of the military barracks, where the officer of the day is expected to supervise the Turner hall attached to every drill shed.

In the controversies about the expedience of maintaining vast standing armies, Prince Battenberg often remarked that one main offset to the evils of the system was the guarantee of turning out trained athletes at the rate of 155,000 a year. Gymnasiums, to be sure, are also attached to every village school, but as a facetious recruiting sergeant said of his awkward squad, "You cannot expect all the cardinal virtues for thirty cents a day," and a fagged-out village pedagogue with a hungry family and $200 dollars a year, cannot always be expected to resist the temptation of neglecting the gymnasium side show. The training of the regimental Turners, on the other hand, is thorough in the strictest Prussian sense of the word, and the adoption of a similar plan was one of Prince Alexander's first reforms in the work of re-organizing the Bulgarian army.

About 85 per cent of the commissioned officers of the German army are still selected from the scions of aristocracy, and the advancement of a cadet prince would have been pretty rapid; but the namesake of the Macedonian campaigner detested garrison life, and in 1877 solicited employment in the expedition which the Russian government was then fitting out for active service in the Balkan.

"He entered as a volunteer attaché, with the rank of a second lieutenant," says one of his companions in arms, "and under circumstances where even the berth of a captain was no bed of roses; but a month after his arrival the young volunteer had no reason to complain — he had become the idol of the Russian soldiers and the favorite companion of the Russian staff officers. They actually intrigued to procure his temporary transfer to their own brigades, no symposium, no after-parade chat was considered complete without the bright young foreigner who had no enemy even among his rivals, and whose conversational abilities would have enlivened Savage Landor's dialogues in Tartarus."

But popularity was all the more remarkable because the young volunteer set that "*vodka*"-worshiping horde an example of almost total abstinence. He also abhorred the promiscuous gallantries of the young Russian officers, but evaded the charge of pedantry by his talent for banter, and his readiness to join in any other kind of madcap frolic. After the lapse of twenty care-fraught years, a glance at his portrait still justifies the verdict of the Empress of Austria, who pronounced him the "handsomest army officer of Christendom" (possibly with a moral reservation in favor of the Circassian chieftain), and predicted his rapid advancement if he would turn his attention to diplomacy. Russian soldiers have earned a reputation for cosmopolitan tolerance in recognizing merit of that sort; and the historians of the first Napoleon's invasion of the Muscovite Empire attest the fact that in the midst of a delirium

of national exasperation, the Cossacks refused to fire upon Marshal Murat, and carried their admiration of his horsemanship to the length of inviting him to become their "hetman." "*C'est un charmeur*," said even Prince Gortschakoff, after his introduction to the prince elect of Bulgaria, and tried to prevent his personal interview with the czar when the interests of Russian politics required his ruin.

In the czarovitch phase of his existence, the future autocrat, however, had several opportunities to make the personal acquaintance of the Hessian volunteer, and before the end of the campaign, became so fond of him that he invited him to St. Petersburg, and afterward emphatically indorsed his nomination for the vacant throne on the Danube.

The offer to accept permanent service in the Russian army would perhaps have been accepted under those circumstances, if the six months' campaign had not acquainted the prince with the shady side of the Muscovite character — the almost universal prevalence of intemperance and peculation, and the almost brutal arrogance of superior officers in the treatment of their subalterns. Under the influence of *vodka* and *slibocitz*, the typical Colonel Knoutusoff becomes first maudlin affectionate, then grandiloquent, and finally downright abusive; and the adventure-loving volunteer who would have braved the extremes of hardship and danger, felt his constitutional inabilty to submit to deliberate insults and the wanton maltreatment of the men under his charge. He knew too much of martial law to waste time on expostulations, but the necessity of swallowing his resentment affected him physically as severe disappointments affect persons of less sensitive organization. Even in his cadet years an undeserved reproof would convulse his nerves and spoil his appetite for the rest of that day; nay, the mere mention of an act of outrageous unfairness had sometimes a similar effect, and the recital of General Haynau's treatment of the Hungarian patriots filled his eyes with tears of indignation, "causing his teacher to call him aside and offer him permission to retire to his room, as he appeared to have been taken sick."

He returned to his native city, and had nearly completed his studies at the Darmstadt Lyceum when, like Marshal Bernadotte at his country seat, he was astounded by the report that the representatives of a foreign nation had called him to a vacant throne. The honor was the more flattering from having been entirely unsolicited, and the offer was made irresistible by his personal impression of the Danubian principalities. Bulgaria, stretching nearly five hundred miles from west to east, with the Danube for its northern border and the high Balkans on the south, has a magnificent seaboard — natural boundaries, in fact, almost as well defined as those of Italy, which it rivals in its scenic and climatic attractions. The inhabitants, even after three centuries of Turkish misrule, are, all in all, the healthiest race of continental Europe, brave, hospitable, fond of athletic sports, passionately fond of poetry, loyal to their chief, but withal as impatient of oppression as their kinsmen, the heroic Montenegrians.

The Bulgarian patriot Stambuloff who had met the prince in the Balkans, indorsed the plan with the remark that he "hardly knew whom to congratulate most, the nation or its intended ruler."

The approval of the czar settled the matter, and during the next sixteen months Prince Alexander was kept as busy as Nicolas Carnot in the crisis of the French Revolution. He "renounced his right to sleep," and contented himself with cat-naps of thirty or forty minutes, to utilize the nights for drosky trips along the frontiers, where he inspected forts, intrenched camps, and drilled recruits, to forestall the risks of the expected rupture with the Turkish government. In the intervals of those preparations he studied the natural resources of the principality. Unlike most other countries of southern Europe, Bulgaria has preserved the wealth of its primitive forests; droughts are rare; and the farming districts need only good roads to become as valuable as the gardenspots of southern France, to which they exactly correspond in latitude and climate. Three highways were surveyed and graded from Sofia east to the Dobro Pass, and north to Tirnova and Nicopolis; and in default of a sufficient number of male laborers, women were employed at the same wages, the Prince laughingly quoting Lord Byron's letter from Thessalia, where he "saw peasant girls work in the quarries, and no reason why they should be sentenced to a perpetuity of indoor labor."

The new sovereign, soon intrusted with the practical dictatorship of the country, also turned his attention to law reforms and the sanitary improvements of the squalid river cities. In the hope of enjoying a period of protracted peace, he had established a museum for the collection of Roman antiquities, in which European Turkey is almost as rich as Spain, when the warlike preparations proved, after all, the salvation of the country. A jealous neighbor, King Milan of Servia, made the negotiations with the East Rumelian rebels a pretext for invading Bulgaria, and at first rather enjoyed the

advantage of a surprise-party leader, but in the first pitched battle was in his turn surprised by the military abilities of his young rival, who out-manœuvred him at all points, captured his artillery train, and did not give him a moment's rest till he had hustled him back across the border hills.

The would-be conqueror was glad to get off without loss of his own territories, but the simultaneous peace with Turkey did not suit the plans of the czar, who had secretly hoped to make a quarrel with the sultan an excuse for another raid on Constantinople. Besides, the internal policy of the prince elect was far too liberal to meet the approval of the Muscovite champions of despotism. Recriminations were followed by threats and the ugliest intrigues; warnings were thrown away on the unsuspecting prince, who thought his former friend capable of brutal arrogance, but not of downright treachery, till his eyes were opened by the explosion of the hidden mine. A number of Bulgarian army officers, corrupted by the lavish bribes of Russian agents, contrived in their turn to bribe the palace guards, and one night aroused their sovereign from his sleep and forced him into a closed carriage, which was kept galloping valley-ward. At the next river port it was met by the crew of a Russian steamer, who took charge of the prisoner, and with gratuitous excesses of personal violence dragged him aboard and flung him into a dungeon-like rear cabin, where he was guarded like a captured highway robber; requests for explanation being answered merely by Russian blasphemies, till the captive was taken ashore near the Russian frontier and dismissed with the injunction to "beware, under penalty of worse consequences." There was no misunderstanding such arguments, and rather than wear his crown as the satrap of an Oriental despot, Prince Alexander renounced his throne, and with it the daydreams and ideals of his life. "All the best are doomed to come to an evil end," and the rule of a true nobleman over a noble nation could not be made to fit the political program of our latter-day world.

A heroic struggle with adversity was once supposed to invoke the aid of the gods, and it certainly often enlists the sympathies of high-minded women. Prince Alexander's *fiance*, a princess of the imperial house of Prussia, hastened to assure the refugee of her undiminished affection, and the city of Berlin was all agog with the rumors of the impending nuptials. It was then that Chancellor Bismarck saw his chance for a home blow at the heart of a man he had never missed an opportunity to snub and thwart,— the magnanimous Emperor Frederic, then struggling with the crisis of life-endangering disease, and anxious to utilize his few remaining days for the benefit of the nation that had hailed his accession as the advent of a golden age, and would have parted with its fairest province to prolong his life by a single year.

There is not a shadow of doubt that the end of that life was hastened by the vindictive arrogance of the man who made the possible (but by no means probable) interference of the czar a pretext for vetoing the proposed marriage, and threatened his immediate resignation if the dying emperor should hesitate to enforce his veto or presume to compromise the matter in any way. Tortured by the agonized appeals of the princess on the one hand and the mastiff growls of the remorseless bully on the other, the emperor at last sacrificed his private inclinations, and with sore misgivings, signed a document which proved his own death warrant and ultimately that of the rejected lover.

The official veto,— "the meanest act ever palliated under the pretext of political expedience," as Premier Stambuloff had the courage to call it,— was ratified, and Prince Alexander retired to pass the rest of his life, or rather of a lingering death, in the solitude of the Styrian Alps. He still received visitors, accepted invitations to hunting parties or answered letters in a mechanical sort of a way, and even yielded to the advice of well-meaning friends by getting married; but his soul was buried with the lost hopes of the past. He died, in the most literal sense, of a broken heart, grand projects of reform and half-accomplished plans for the redemption of an earthly paradise, the pledges and Eden dreams of a pure love— all sacrificed to the interests of a sordid despotism, and the peace of Nirvana remaining the only refuge from the after-effects of a cureless wound!

Under the staggering effect of the Prussian outrage, Prince Alexander indeed felt at first as if his soul were on the point of departure for the land that had received the spirit of Kaiser Frederic; and friends who saw him a few weeks after, thought he was looking twenty years older. The buoyancy of his step was gone, his appetite had failed entirely; and to his intimate associates he made no secret of the fact that "life had lost its charms, and that the impending end could not come too soon."

The constitutional vigor inherited from a lineage of long-lived ancestors, deferred that hope for a few years; but on the receipt of the last reports from faction-torn Bulgaria, the presentiment suddenly proved true; the wounded heart could bear no more — no more.

"Es muss der Held, nach altem Brauch,
Der thierisch rohen Mächten unterliegen,"—
"Heroes, according to established custom,
Have to succumb to beasts and brutal force,"—

unless, perhaps, their heroism, like that of the great Frederic, should happen to be alloyed with an intense distrust of mankind, or with the still rarer gift of that thick-skinned stoicism that enabled Marcus Aurelius to "love justice and truth, yet live without anger in the midst of lying and unjust men."

(To be continued.)

NURSING IN HOMES, PRIVATE HOSPITALS, AND SANITARIUMS.

BY MRS. S. M. BAKER,
Medical Matron of the Surgical Department of the Battle Creek Sanitarium.

(Continued.)

How few, outside of the trained specialists, understand that of the different forms of hydropathic treatment, one will produce a tonic effect, another a sedative, another a moderate eliminative, another a full eliminative, effect; that one will diminish pelvic congestion, another will reduce cerebral congestion, and so on through the list of ailments and remedial measures. The relief from pain which a hot sitz bath will give, the invigorating effect of a cool shallow bath, the soothing influence of the hot spray, or alternate hot and cold sponging of the spine, the comfort of a blanket pack or home-arranged Turkish bath in conditions requiring their use, or of a cool wet-sheet pack in fevers, the indescribable exhilaration of a salt glow, is something known only to those who have witnessed their magic working.

In the struggle with the disease which the nurse has aided the physician in combating by means of some one or two of these lines of treatment, the value of which the intelligent physician is coming more and more to appreciate, she has instilled the idea of the rational use of dietetics and of that simple though wonderful and universal remedy, water, into the minds of the family; and now that the crisis is past, she has come to the waiting time, often the weary waiting, for the return of strength. Can the nurse do more than to see that the diet, treatment, fresh air, and sunshine are made to do their part in bringing the longed-for strength? The long-unused muscles of the patient are weak and almost useless, and she must find her strength in the use of them. She must have exercise to quicken the sluggish circulation, to stimulate the nutrition and carry off the waste. Even while still in bed, she can be led through a gradually increasing scale of exercises. Beginning with hand and arm flexing, and foot and leg flexing, after a few days she can attempt head rotating or arm raising. Perhaps she is too feeble to raise the arm more than a little or a few times the first day, the next a little higher, till the arms can be extended directly upward; then turning from side to side, or other exercise as she can bear, being careful always not to overdo. As she is able to sit up in a chair, trunk bending, twisting, or rotating may be added to the other movements; then the breathing exercises after meals; the quick and the slow and deep inhalations and exhalations, broadening the chest, developing the lungs, purifying and enriching the blood, and sending the glow of returning health to the cheek. These movements are all supplementary to the massage, and manual Swedish movements, with active and passive movements; and the patient is on her feet in much quicker time and with more strength than if the important matter of exercise had been neglected.

The criticism has sometimes been made that hospital training schools for nurses do not accomplish all that is desirable in the preparation of nurses for work in caring for the sick in private homes. Hospital work is somewhat routine in character, and necessarily runs in more or less definitely fixed grooves which are determined by the general class of work to which a hospital is devoted, or by the predilections of superintendents or of the house or consulting physicians. In hospital work, also, everything is done under the eye, and to a very large degree under the immediate direction, of the physician. The work in a public hospital is necessarily simplified as far as possible, in consequence of the large number of cases which must be cared for by each individual nurse; and the facilities of public hospitals do not always afford so great a variety of remedial agencies, especially those of a hygienic or non-medical character, as might be provided if the business managers were at liberty to draw upon an unlimited fund for the support of their work. The facilities of dietetic, electro-therapeutic, hydropathic, kinesipathic, and other hygienic measures of treatment furnished by ordinary public hospitals are, to say the least, very meager;

and consequently nurses trained in such hospitals do not always have an opportunity for acquiring thorough familiarity with these remedial means. This deficiency is certainly very largely compensated for by the superior opportunities offered by the experience and training in the treatment of emergency cases of various sorts.

Notwithstanding, the hospital trained nurse, when she leaves the supervision of her instructors and starts out upon an independent career as a trained nurse, often finds herself longing for a more thoroughly furnished armamentarium in her battle with disease and suffering in district and private nursing. A well-equipped sanitarium, provided with ample facilities for the administration of every form of hydropathic measures; for the use of electricity in every form; for the utilization of massage, Swedish movements, Swedish gymnastics, and the various forms of physical culture; mechanical appliances for active and passive exercise; diet kitchens and surgical wards with every facility for aseptic surgery, and for the application of all rational hygienic, as well as medicinal and mechanical agencies in the treatment of medical and surgical cases, is certainly an ideal place for the training of the nurse for working in the private home, in district nursing, and, in fact, wherever her lot may be cast. The course of training in such a school necessarily includes not only the subjects usually taught in hospital training schools, but theoretical and practical instruction in the therapeutics of water, electricity, massage, manual and mechanical Swedish movements, medical dietetics, scientific cookery, and a thorough course in exercise and physical culture. My experience has been that nurses appreciate the last-named feature as much as any other portion of such a course of training. The personal advantages which the nurse derives from the possession of strength, enduring muscles, perfect digestion, capacious lungs, a strong waist, a back that never aches, an elastic step, a dignified, graceful, and energetic bearing, are beyond estimate.

The training in physical culture, massage, and Swedish movements gives the nurse full command of all the advantages to be derived from measures of treatment which operate through the muscular system in the treatment and cure of disease, and enables her to accomplish in many cases for her patient what cannot be accomplished by drugs or by any other means.

The resources afforded by electricity, especially the galvanic and faradic currents, are not at the full command of a nurse unless she has had months of daily experience in its use, and has learned well its potency and modes of application to the great variety of morbid conditions to which it is adapted. She must know more than this; she must have learned so well the secret of the battery by which the current is produced, whether faradic or galvanic, that in case the instrument fails to work (which it is quite likely to do when it is needed most), she can give it the magical touch which will unlock its potent forces; or, if need be, she may construct out of the raw material a battery capable of accomplishing useful results.

Sanitariums afford a specially favorable field for the study and application of medical dietetics. The absence of a regulation diet makes it possible to adapt the bill of fare to the needs of each individual patient with a degree of accuracy which cannot be attempted under less favorable conditions. Facilities for analysis of stomach fluids and other secretions give a basis for the exact study of the dietetic needs of patients, which affords the nurse educational advantages of no small value.

But perhaps the most practical advantages of all derived by the nurse from training in a well-equipped and scientifically organized sanitarium, are derived from the daily and hourly experience in the use of hydropathic measures of every description. Water is a simple remedy which is universal, and is a most convenient means of utilizing those most potent of therapeutic measures, heat and cold, which act upon the central nervous system, and through it upon the whole body, in a manner little less than marvelous. The nurse who is able to take the result of such a course of training into the home, into her work as a district nurse, or to a foreign field as a missionary nurse, is equipped for work of the highest usefulness, and feels a confidence in meeting every form of human malady not to be derived from any less thoroughgoing system of training.

In the sanitarium, private hospital, and home, the nurse has the further advantage of an opportunity for the more exact treatment and study of her cases than in ordinary public hospital work, in consequence of the smaller number of patients usually placed under the care of each individual nurse. In well-organized private sanitariums, patients who require nursing usually receive the whole attention of a single nurse, and sometimes of two nurses, one for the day, the other for the night. The application of so large a variety of measures of treatment gives the nurse abundance of work to do, even in caring for a single patient, and one which might not be considered of the most critical class, as for example,

the case of a rest-cure patient, of which the following is a sample program: 7 A. M., light skin friction and toilet; 8 A. M., first breakfast; 9 A. M., gentle massage of the stomach for fifteen minutes (Then the patient is allowed to rest three quarters of an hour, while the nurse makes arrangements for morning treatment.); 10 A. M., hot applications to the spine, cool saline sponge bath, followed by vigorous massage or general faradization; 12 M., second breakfast; 1 to 3 P. M., rest in room, or in wheel chair, hammock, or cot on the porch or in the grove; 3 P. M., dinner; 4:30 P. M., light gymnastics or mechanical Swedish movements; 7 P. M., lunch; 9 P. M., sponging or rubbing of the spine and preparation for the night. The treatment is varied from day to day by the physician according to each individual case or to suit changing conditions.

In carrying out such a program, the nurse will certainly find no time for idleness; and besides the treatment enumerated, there is a vast number of little things to be done for the patient, such as reading, writing letters, keeping visitors away, doing little errands, and above all else, "making sunshine" for the patient.

(To be Concluded.)

A MEDICAL OBJECTION TO DANCING.

BY GEORGE L. BEARDSLEY, A. M., M. D.,

Birmington, Conn.

THESEUS, in "Midsummer Night's Dream," asks, "Is there no play to ease the anguish of a torturing hour?" His idea of mirth is akin to that of many who prate about "innocent amusements" to kill time or put an end to the megrims, either caring not for, or thinking not of, the after-effects of a revel. There is often a greater good done to the tired brain by a game than by medicine, but it is of vital concern to the person to be entertained, that the sport has not too much rigor. Is dancing a jollity of this kind? This is the suggestion of the article now submitted. From a physical standpoint or on the issue of health, it is susceptible of proof that the muscular fatigue and strain incident to this sort of fun is detrimental to the bodily vigor and endurance of woman.

Medical men, particularly specialists, often meet with patients who are nothing short of invalidism. They are walking valetudinarians who ought to be in a sanitarium, and would be, if they had money. A large percentage of the feeble, nervous, chlorotic girls and women who frequent a doctor's office are those who are obliged to eke out an existence with a body not put together to bear much of any burden, but who, because of a contracted purse, must all day operate a treadle or measure calico or tend a carding machine or teach school. The public knows almost nothing about the feeble energy of the majority of girls who work in our stores and factories for their bread and clothes, how small is their surplus of strength beyond what is necessary to a day's call on their nerves and muscles. The testimony of those who have particularly looked into the causes of woman's aches and invalidism agrees with the saying of Pope that she is "fair by defect and delicately weak." Is it a marvel, then, that when such structures are taxed by the wearying gymnastics of a ballroom, their savings-bank of health early becomes insolvent? Graceful dancing is no ordinary nor easy achievement; it requires more than a relish for light music or a lively company. There are few who are really artists in waltzing; and as in athletics, muscle and agility are *sine qua non*, so to lead a cotillon or to step a schottische time involves a quick adaptation of muscles that if weary or dull answer the motions of a light-tripping partner too slowly for grace. To dance becomingly and with ease, every joint ought to be supple, every nerve fresh, every muscle limber, the entire body in a state of exaltation, not from excitement, but physical bouyancy. And yet a great percentage of those who waltz or promenade at our public dances engage in the pastime at the conclusion of a day's toil without a moment for recuperation, and are not physically able to go through the steps.

A highly intelligent lady who is of delicate health and a close student remarked to me recently that she danced because she needed the exercise. There was no gainsaying her need of recreation; but just how three hours' waltzing, — and that is work emphatically — in a poorly ventilated, crowded parlor, could be a refreshing "exercise" to one who must ply her calling the next day is hard to understand. It would seem like giving one who had lost her sleep for a week a night's round as watcher in a sick room. The girl who is compelled to labor all and every day for her board-money has gone through all the strain her machinery can stand, and generally

more. It is time when night comes, to halt and give the engine a rest for the next day's action. A dance till midnight for the store-clerk, shop-girl, school-teacher, or dressmaker is like forcing a trotter after he has barely won one heat, to secure a second. The horse gets distanced and breaks down, simply because he has been driven beyond his limit.

If dancing is too expensive a sport for those who earn their bread by the sweat of their brow and have no strength to spare, are not the same objections tenable in the case of the wealthy society lady who has a retinue of servants, does no manual labor, has no responsibility to vex her, and can sleep the entire day after a night of gayety? If it only required massage, baths, nicely prepared repasts, and comfortable beds to insure a complete recovery from the enervating or depressing effects of hours of waltzing, those who belong to the Four Hundred ought to show no signs of dissipation. It does not follow, however, that because of so favorable surroundings, those who lead the fashionable levees and are distinguished at every cotillon, are not affected nor their health compromised by excesses or irregular hours. The experience of physicians is that insomnia, neurasthenia, dyspepsia, hypochondriasis, and nervous and organic infirmities generally, are very common among society women. It is a statistical truth that the "rest-cure" institutions and sanitariums thrive on material furnished from this class. Those of *le beau monde* play out earlier than one would imagine; they experience a reaction in consequence of a life artificial and exciting in the extreme, which is highly exhausting, and must keep up on a stimulus of the will until some piece of the machinery snaps under the high tension, and they don the habiliments of a chronic cripple. Those of the peerage are by no means exempt from the ills the populace suffer; and if one sitting in the lap of luxury, on whom even summer winds do not roughly blow, has n't a constitution that can brook the wear and tear of ball-room feats, what is to be said of the over-worked and under-fed, the heirs of toil, who are bound to follow the folly of their high-born sisters? The question that concerns the mother and daughter is, Does it pay to indulge in a sport just to be in the fashion, or to drive the blues or dull care away, when nature protests against it? That it does n't is evidenced by the fair-sized list of ailing maidens and mothers out of sorts that are nowaday acquaintances of us all. — *The Sanitarian.*

THE PUBLIC HEALTH.—Some of us admire, others wonder at, the courage and placidity with which England faces a threatened invasion of cholera. This is because she is ready to encounter it, not only with intelligent sanitation well under control all over the land, but because she meets it as a unit, and not as we are still forced to do, in haphazard fashion, as the resources and the sanitary intelligence of a single State may decree, or as the whim of an autocratic officer may dictate.

A great central Bureau of Health, in which administration, instruction, research, and record in matters concerning the public health should center, and to which in stress, local authorities could turn for help and counsel,—a department which, representing the sanitary and hygienic interest of this great nation, could make common cause with similar departments long since established in other lands against the ravages of disease,—such a Bureau of Health is urgently needed in the United States today, and should soon be established. Such a bureau might well be organized in the Treasury Department, and consist primarily of an executive board of trained sanitarians under a competent head, which, in co-operation with the Marine Hospital Service, and, if desirable, with the medical services of the army and navy, should perform all those far-reaching functions in the interest of the national health which the Federal government alone could safely and effectively assume. An advisory board composed of physicians and sanitarians of experience and established repute, from different sections of the country, selected by the president and confirmed by the Senate, should be called in council by the executive force of the bureau, in deciding upon the general scope and nature of the work to be done at all times, and be ready to advise and sustain them in times of special danger. No agency could so certainly avert panic and commercial disaster in the face of threatened pestilence, and none so surely stay its progress. The economic interests alone which are involved in a more wide-spread prevention of disease, and in the prolongation of the average term of life, should effectively commend the establishment of such a Bureau of Health at the nation's capital.

It is surely thus, and thus only, that this country can justify its claim to stand among the nations of the earth which are foremost in advancing the welfare of mankind. So, and so only, can it fulfill its mission, long since declared, to secure for its citizens, one and all, "life, liberty, and the pursuit of happiness."— *The Century.*

MEN WANTED. — The following lines from the pen of that versatile physician, Oliver Wendell Holmes, expresses one of the greatest wants of the time : —

> " God give us men ! A time like this demands
> Great hearts, strong minds, true faith, and willing hands ;
> Men whom the lust of office does not kill ;
> Men whom the spoils of office cannot buy ;
> Men who possess opinions and a will ;
> Men who have honor, men who will not lie ;
> For while the rabble, with their thumb-worn creeds,
> Their large professions and little deeds,
> Wraggle in selfish strife — lo ! Freedom weeps,
> Wrong rules the land and waiting justice sleeps."

HINDOO VEGETARIANS. — Mozoomdar, the famous Hindoo lecturer, describes the Hindoo meal as a very simple affair. According to him, every high caste Hindoo is a vegetarian. He criticises some American vegetarians, who, he claims, are not vegetarians at all, since they eat eggs, sometimes fish, grease, lard, and soups and broths of doubtful composition. Evidently he has met poor representations of American vegetarians. A genuine vegetarian abhors lard, fish, and " broths of doubtful composition " as much as the high caste Hindoo, though he does not entirely object to eggs. The Hindoo vegetarian, according to Mozoomdar, excludes from his dietary all substances except butter, milk, sugar, flour, rice, pulse, and herbs. We are not able to recognize the consistency in condemning eggs and allowing the use of milk and butter, since milk and butter are of animal origin as well as eggs, and the use of eggs need not necessarily involve the taking of life, even in a remote sense, since a large portion of eggs are infertile, and hence have no prospect ahead of them for taking part in the activity of the world, unless they are so fortunate as to be incorporated into the structure of some human body. But there really seems little occasion for the use of eggs, certainly none for the use of either flesh food or " broth of doubtful composition," when one is supplied with so liberal a bill of fare as that of the vegetarian Hindoo. When one considers the many varieties of grains, the numerous and exceedingly nourishing varieties of pulse, and the great number of toothsome and succulent herbs which nature affords, to say nothing about the almost endless variety of luscious fruits, there seems to be no excuse whatever for the taking of animal life.

Mr. Mozoomdar tells us, however, that the list of foods enumerated as constituting the dietary of the Hindoo vegetarian, is much greater than is used by the ordinary people, as few are sufficiently well-to-do to afford so varied a diet. The food of the common people consists almost exclusively of unleavened bread, stewed peas, beans or lentils, or rice with vegetables. The Hindoos of Bombay and Madras are exceedingly strict, not only in regard to abstinence from meat in every form, but in the observance of all their religious ceremonies. The native rises at four o'clock in the morning and goes to bed at from nine to ten o'clock, thus giving himself only six or seven hours for sleep. Notwithstanding his little rest and his simple vegetarian diet, he is enabled to work all the time when he is awake, week in and week out, as he observes no rest-day. His only relief from incesssant toil is an hour's rest in the middle of the day during the hot season.

THE *gourmand* " lives to eat," with no regard for anything but quantity ; the *gourmet* " eats to live," with a chief regard for the quality of the viand, and the excellence of its preparation for the table. — *N. Y. Tribune.*

THE DARKENED ROOM. — Dr. B. W. Richardson says that the first words of most physicians when they enter sick rooms in private houses should be Goethe's dying exclamation : " More light ! more light ! " It certainly is true that generally, before the doctor can get a good look at the patient, he has to ask that the curtains be raised, in order that the rays of a much greater healer than the ablest physician may ever hope to be, may be admitted. If the patient's eyes are so affected that they cannot bear the light, a little ingenuity will suffice to screen them, and at the same time allow the cheerful light to enter. A dark sick room must be an uncheerful one, and now that it is known that light is one of the most potent microbe-killers, let us have it in abundance. Why should people behave as if they were quite sure the patient were about to die ? In the matter of abundant light, hospital wards are more salubrious than most private sick rooms, for light not only slays bacteria, but cheers the mind. To account for " the darkened room " that is such an ordinary accompaniment of illness that it may be said to be firmly built into English literature, we must go back hundreds of years, when a patient who was sick, say on a " four-poster " bedstead, was tightly inclosed with red curtains — that color, through some unaccountable superstition, being thought to have an occult potency over disease. Old superstitions die hard, and it will yet require years of education, and the united efforts of doctor and nurse, to let in God's first-created gift to man to the rooms that it will warm and brighten and purify as nothing else can. — *New York Independent.*

EXERCISE AND SYMMETRY.

BY J. H. KELLOGG, M. D.

EXERCISE brings into active play the muscles which control the chest. Every time we breathe we move the ribs; and at the same time the cartilages by which the ribs are attached to the spine behind and to the sternum in front are also stretched and bent. Now if these movements are neglected, and we depend entirely for breath upon the movements of the diaphragm,— and there are a great many persons who do depend entirely upon the diaphragm,— we are never able fully to distend the chest, because, as the result of the neglect of movement, the cartilages have become hardened, and the joints are no longer flexible — they have lost their power to bend and stretch ; the chest has become rigid.

Such a person cannot increase the size of his chest to any great degree. It is only by stretching the diaphragm down as far as possible that he is able to increase the capacity of his chest at all. His breathing capacity is thus limited, and he easily gets out of breath. This is one reason why an old person cannot run well.

Another point worthy of consideration is the effect of exercise upon the joints of the spine. As already stated, each joint of the vertebral column contains a fibro-cartilaginous body between the bodies of the vertebræ, the purpose of which is to render the vertebral column flexible. By means of these ingeniously constructed joints we can bend the body in every direction. Now suppose we do not bend the trunk in every possible direction many times a day, or often enough to keep these joints flexible, what will be the result?— These cartilages which lie between the vertebræ, and which form about one fourth of the entire vertebral column, will become, in time, inflexible and rigid. The ligaments also which bind the vertebræ together will lose their flexibility, and thus the ability to bend the spine will be lost. Further than this, the muscles which support the spine, being attached to the ribs and to the spines of the vertebræ, become rigid and shortened when they are not stretched by frequent backward-bendings, side-bendings, forward-bendings, etc. This is the reason why we find most old people unable to bend the trunk freely. How many persons even among those of middle age, are able to bend forward and touch the floor without bending the knees? You ask an old gentleman to touch the floor, bending only at the hips; and if he succeeds in getting over far enough to reach the floor, he does wonderfully well. Why is this?— It is because of the consolidation of the spinal column. If this same old gentleman had begun thirty or forty years ago to take regular exercise of this kind, he would not have lost his ability to bend the spine. At the age of fifty or sixty, or even at forty-five, a person whose spine has become rigid from lack of exercise, will not be likely to improve in this direction so as to be able to touch the floor without bending the knees, unless unusually well preserved.

But you say, "What harm if a man cannot touch the floor without bending his knees? Isn't he just as well off physically as the man who can do so?" By no means. This stiffness of the spine, especially in the lower regions, always involves a corresponding weakness of the abdominal muscles. When the spine is as rigid as a jury mast, the body is held erect

with little muscular effort. It is thus not necessary for the muscles to be in constant play to keep the body balanced. This is a great disadvantage, since the muscles which hold the body erect, balancing the chest and shoulders upon the pelvis, by the same effort and at the same time perform a most useful office in holding the liver, spleen, stomach, bowels, and other important internal organs in position. Thus when these muscles become weakened through disuse, we have, as the result, a relaxation of the abdominal walls and a prolapse of the abdominal contents, — the spleen, pancreas, liver, stomach, etc. It is thus apparent that there is a great significance in this rigidity of the back — it always means a weak, relaxed condition of the abdominal muscles; and this means weakness, disease, nervousness, in fact an endless multitude of maladies.

Thus we see that it is of vast importance that the elasticity of the joints and cartilages of the spine should be maintained. This can only be done by proper exercise begun in childhood and continued through life.

It is important that the youthful flexibility of all the joints and muscles should be preserved; and this may be done by constant exercise. The marvelous performances of acrobats have given rise to the idea that these men are double-jointed. This is, of course, not true. They have simply preserved the flexibility of their joints by constant training. The acrobat is put in training when he is a small boy. Professional acrobats usually have one or two small boys with them who participate in some of their performances. These small boys are the apprentices of the acrobats. The acrobat begins his professional work at the age of eight or ten; it is too late if he waits till he is twenty-five or thirty years old. The story is told of Pompey, the famous Roman general, that he had so maintained the elasticity and strength of his muscles by continuous exercise that he could run, leap, and carry heavy burdens equal to the most robust of his soldiers. Hufeland tells of a remarkable dancer, Galeria Copiola, an Italian woman, who made her first appearance on the stage as a professional dancer at the age of ninety, and who appeared before Augustus in that capacity some years later. Just think of a *danseuse* one hundred years old!

Another advantage of exercise, — general, regular, systematic exercise, — is found in the fact that it counteracts the deforming tendency of occupations and bad positions. As the result of the bad position usually assumed in sitting, especially in a rocking-chair, the chest falls in, and posterior curvature of the spine is produced. Half an hour's daily work in a gymnasium will bring back the shoulders, restore the natural curve to the spine, and bring the chest forward and the hips back into a normal, symmetrical position. The daily use of such exercises will largely counteract the effects of bad positions. A person whose occupation causes a certain set of muscles to be constantly employed should take general, systematic gymnastics, to counteract the deforming tendency of his occupation. Every occupation, no matter what it is, and though it may supply an ample opportunity for muscular work, if it requires the long-continued use of particular sets of muscles, has a tendency to develop deformity, because the muscles which have been in constant use have become too strong for the rest of the body, and so pull the skeleton into some misshapen position. We must counteract this tendency by the development of those muscles which are not used in the daily occupation. Spinal curvatures and posterior and lateral curvatures, coming from bad positions, are all curable by proper exercise if begun in time.

SCHOOL ATHLETICS IN RELATION TO MENTAL TRAINING.

THE mere circumstance that discussion has long been and still is active in seeking to define the true position of physical exercise in relation to mental training should suffice to prove the essential nature of the connection which binds together these diverse methods of education. Each is in its own place indispensable, and this fact happily is in a greater or less degree recognized in every school curriculum, even the most humble. The reason is not difficult to find when we consider how closely and inseparably associated is the health of the mind with that of the body. It is not in the nature of things that we should be capable of sustained and vigorous mental activity unless due provision be made for the purification and nutrition of tissue, including that of the brain, by means of an active blood circulation. The relation between the latter and the muscular energy, requires no explanation. It is true that bodily activity does not confer mental power, or even encourage mental exertion. It is also true that exceptional powers of mind have displayed themselves in persons physically weak; but neither of these admissions affects our present argument, which maintains the certain advantage resulting to all mental processes,

ordinary or exceptional, from that which promotes the health of their nidus in the brain. A further benefit conferred by physical training is its influence upon character. A host of mushroom frailties, vices, and foibles break down in the presence of such vigorous growths as the resolution, the endurance, and the manly self-reliance engendered by a habit of orderly and energetic action. Justice, fairness, and fellow-feeling are developed by the same wholesome training, and thus many a boy at school acquires almost unconsciously that living force of character without which intellect is but a brittle gem. For obvious reasons our public schools have taken a leading part in promoting physical education in this country. The pupils trained in them are, in very many cases, non-resident, and the consequent responsibility for their bodily health imposed upon teachers who act in *loco parentis* has no doubt had to do with the formation of a compulsory system of exercise. Administered with due regard to the individual fitness or unfitness, we regard this arrangement as beneficial, and we welcome the development of a similar, though naturally somewhat less stringent, method in the management of day schools throughout the country. Into the comparative merits of the particular means employed, we cannot now enter. It is enough that the principle which they express is generally admitted, and that those who now administer education are for the most part firmly convinced of its importance as a power to be regulated and employed for the mental as well as the physical well-being of students.— *The Lancet.*

Bicycle Riding for Health.— Robert J. Roberts, the famous Boston gymnast, makes the following very sensible remarks (*Young Men's Magazine*) upon the best way of using the bicycle as a mode of exercise for health : —

"Bicycling is one of the pleasantest and most beneficial of exercises, if it be practiced with discretion. There is no need of trying to ride enough for a half century every day, or even like a streak every time you go out for a constitutional. Why will so many of you sit on your seats like monkeys on a stick, and try to grind your noses off on your front wheel? All this is wrong, and will only bring discredit on the sport that we love so much. There could no occasion arise that would necessitate your sitting on your seat with your back humped up like a camel. If the wind is blowing strong, and you must ride faster for a time, you should bend your body forward at the waist, carry your head well forward and down, yet keep your back straight, and chest out. In this way you will not cut such a ridiculous figure, and deep breathing will not be interfered with. But to be on the safe side, I would advise all who ride a wheel to sit up straight at all times.

"A short time ago, when Sanger won his race in such fast time, he was as erect as a pine when he was riding at his fastest speed. Any one exercise carried to excess or even one unvarying routine of daily labor has a strong tendency to pull the body out of shape, to overcome which, and preserve good form, corrective exercises should be taken. This is one important reason why every one needs some kind of body-building work, no matter how hard his work may be. *A few health hints to bicycle riders who wish to gain the most good from riding : —*

"Eleven do n'ts to remember.

"Do n't sit like a monkey on a stick.

"Do n't keep your hands close together.

"Do n't ride at all times like a streak.

"Do n't ride fifty miles every day.

"Do n't ride until you feel tired.

"Do n't forget to practice corrective work daily.

"Do n't forget that back-neck work keeps the head erect.

"Do n't ride with low or narrow handle-bars.

"Do n't forget to practice the out- and in-door breathing exercises.

"Do n't forget that the dry land swim will keep the shoulders back and expand the chest.

"Do n't fail to practice the posterior chest weight drill daily, either with the hands, weights, bells, or clubs."

Swimming.— During the summer season in the temperate zones, and at all seasons in the tropical regions, where a body of clear water is accessible, swimming may be usefully employed as one of the most healthful and advantageous forms of exercise. Swimming brings into activity all the muscles of the body as thoroughly as can any gymnastic movement. It encourages lung development, and the circumstances under which the exercise is taken insure perfect freedom of activity for every organ.

Swimming is to be commended, especially for young women, as a means by which they may antagonize the evil consequences of the wearing of

stays and tight skirt bands by their mothers and grandmothers. Any young woman who is a good swimmer and practices the art, will soon find the restrictions of the corset and tight bands utterly unbearable, and will break away from the fetters of fashionable dress, regardless of consequences, which, however, need be no other than improvement in good looks, in grace of carriage, dignity of bearing, and general good health.

Although swimming is little practiced by women in this country, it is by no means a novel exercise with the women of many other lands. The women of the Sandwich Islands are as much at home in the water as are their sons and husbands,—in fact seem to be almost as much at ease in the water as on land. The same is true with women of nearly all savage tribes who live adjacent to bodies of water. And plenty of good swimmers may be found among the women of some civilized lands, and even among the most aristocratic circles; for example, according to *The Princess:* "Numerous lady members of European royal families are good swimmers. The ladies of the Austrian royal house are all fond of aquatic pursuits. The Empress of Austria used to be a fine swimmer. The Queen of Spain is equally fond of the water. She bathes every morning, and is a swimmer of much skill and courage,—greatly to the astonishment of the Spanish ladies. The habits of the Queen of Spain are very simple and regular. Years ago it was customary for her to rise at seven in the summer and eight in the winter; now she generally stays in bed until nine, having cocoa and toast before getting up. Breakfast proper is not quite punctual now, but in summer it is still often partaken of out of doors. This meal, as a rule, as far as the queen is concerned, consists of eggs, thin bread and butter, and tea; but occasionally porridge is substituted. One Indian attendant and one servant wait at the table. During breakfast the arrangements for the day are made."

Wheeler.—"Doctor, I wish you'd make out my bill."

Doctor.—"I thought you were n't ready to pay it now."

Wheeler.—"I 'm not; but a fellow just asked me what my new bicycle cost me, and I can't tell him until I get your bill."—*Truth.*

A Simple Gymnasium.—The idea that elaborate apparatus is required for the proper development of the body was long ago shown to be incorrect by Ling, who demonstrated very clearly that the most perfect system of gymnastics is one in which the human body itself affords all needed apparatus, constituting itself at one and the same time both the weight to be lifted and the levers, ropes, and pulleys for lifting. A modern demonstration of the same idea is afforded by Sandow, who claims to have employed in the development of his magnificent physique nothing more than a simple pair of five-pound dumb bells which he uses in the morning.

Dr. Lydston states Sandow's measurements to be: Chest, 46 inches; waist, 29 inches; upper arm, 19½ inches; thigh, 27 inches; forearm, 19 inches; calf, 17½ inches; chest expansion, 14 inches.

The average walking pace of a healthy man or woman is said to be seventy-five steps a minute.

Stomach and Cardiac Trouble Produced by the Habitual Posture of School Children.—Doctor Motais, of Angiers, points out that the habitual posture of school children is an important cause of myopia and of spinal curvature; it is also a cause of dyspepsia, because the bending forward causes constriction of the stomach. The faulty position impairs the current of blood through the vessels of the neck, and the result is cardiac palpitation. Most cardiac and stomach troubles in students and clerks can be made to disappear by correcting the faulty posture.—*Medical Age.*

A Plea for the Speaking Voice.—Perhaps because speaking is so easy, explains why we fail in it. So little effort is required that we seem to do very little, and yet how much lies hidden in that word fitly spoken! The tones of some voices stay with us always. They seem to weave a spell about us, from whose thralldom we would not escape. Summon aid from your retinue of vocal workmen when you speak; use only the necessary parts of the vocal apparatus, and not every muscle of the throat, and so save yourself from becoming a victim of that dread complaint, "clergyman's sore-throat," which is the natural result of over-strained throat muscles. All these ills can be avoided by opening the way from the diaphragm to the lips, keeping it free from obstacles and hindrances. A little wholesome thought, and the matter of plain and pleasant talking is a solved problem.—*Margaret Blanche Best, in the Chautauquan.*

Exercise in the open air all you can, and do n't forget to breathe deeply; it will be your physical salvation.

THE EDUCATION OF ENVIRONMENT.

BY MRS. E. E. KELLOGG.

WITHIN the little babe, as the giant oak within the tiny acorn, lie enfolded all the possibilities of the future man or woman. No new faculties are added after birth. Aside from the influence of inherited tendencies, what the future man or woman shall be must be determined by the development and education of the faculties with which he was endowed at birth; even inherited tendencies may be more or less modified by training.

Environment, —the conditions which surround the child and under which he develops,— exerts a most powerful influence over the direction of his natural tendencies. The physical, mental, moral, and spiritual atmosphere which surrounds the child constitutes one of the strongest factors of his education. Favorable environment promotes refinement, self-respect, and a general upward tendency even in adult life; how much more susceptible to its surroundings must be the impressionable babe?

To develop the child to the utmost of its possibilities in a right direction it is necessary to be able to rightly control and regulate all surroundings which may affect his physical, mental, and spiritual welfare. Proper sanitary and hygienic conditions are of weighty import in this connection.

Sir Edwin Chadwick, writing of the causes of drunkenness in London, says: "I have found that to a large extent the habits of drunkenness among the London poor are due to the conditions of filth by which they are surrounded, in default of the public service." Says another writer: "Place even the highest minded philosopher in the midst of unwholesome surroundings, immorality, and vileness, and he will insensibily gravitate toward brutality."

It is the duty of parents in selecting a home for their children to guard against a choice of location where the influence of their surroundings will have a deteriorating effect either upon the physical or moral welfare of their children. It is exceedingly desirable that the home of the young child offer some advantages for freedom with nature; that trees and flowers and green grass surround his home. It is a remarkable fact that most of the notable characters of the Bible spent their childhood in the country, where they could commune with nature and look from "nature up to nature's God."

Another essential condition for the proper development of the child is his food and raiment, both of which should be simple in character and healthful, catering neither to a love of taste nor to vanity. All these environments give shape to his moral, mental, and physical nature.

The environments, also, as to nurse, visitors, teachers, and others of the household with whom he comes in contact, should be most carefully looked to. Bad persons exert a far worse influence over a child than do bad books. A child will unconsciously grow to be like the character that associates with him. Then of what can a mother be thinking who delegates to an almost unknown hireling the care of her little child, for whom every look, every hand touch, every act, every word, every motive is formative work? Says a recent writer, "Children are forced to bear the company of a nurse girl day in and day out, and really find their lives made by her, —their eating, sleeping, and walking all done in her company. Their fathers and mothers could not bear such companionship for an hour. She may be vinegar to the teeth or smoke to the eyes, but the victims are helpless. They cannot tell whence their vague misery comes. They relieve it as children may; they become habituated to it; all the same they are stunted by it. They have not their own proper social atmosphere; and there are children in

luxurious homes mentally and morally asphyxiated for want of that atmosphere, just as the poor little ones in tenement houses suffer for want of good air to breathe. The result is to make them sickly in mind and body in the first case, as well as in the last."

It would be folly to expect a child to be orderly in an atmosphere of disorder, or to love neatness and tidiness in a home where cleanliness is almost unknown. If parents hope to ingraft into the characters of their children, promptitude, orderliness, and similar desirable qualities, they must surround them with the requisite environments,— a place for everything, a time for every duty, and particularly the example of promptness, punctuality, and orderliness, in those of the household with whom they associate.

Most of us are apt to acknowledge the education of environment for the child of older growth; but for the tiny babe, what its eyes dwell upon, what its ears hear, is too often accounted a matter of very small import. But this is not so. Before the child is a half-year old, the things that are happening around him, the things that his eyes see, the sounds that come to his ears, the cheeriness and harmony of his nursery environments, the soft lullaby his mother sings,— are all making lasting impressions upon him. He is passively learning from his surroundings. The baby of the household should, above all other members, be surrounded with things lovely and pleasant. Quiet and order should reign in his nursery, which in location may best be the brightest, cheeriest, sunniest room of the entire house. Let the whole atmosphere of the nursery be one of gentleness and love. The atmosphere of the child's home life is a strong molding and educating influence. Dr. O.W. Holmes says he imbibed his love of literature from the atmosphere of books within his childhood's home. Many parents desiring an early religious experience for their children confuse and bewilder their minds by endeavoring to impart to them a knowledge of dogmas and creeds too weighty for their immature minds. Children are not likely to be made pious by repeating texts of Scripture, or by committing to memory catechisms and Sabbath-school lessons. Seek rather to surround the little ones with an atmosphere of religion and genuine piety. Let them absorb religious ideas and feelings from the spiritual atmosphere of their every-day home life, just as they absorb the life-giving oxygen from the air they breathe; and the germs of spiritual life which are within them may be quickened into life as the seed within the ground is developed and begins to grow when the right conditions of warmth and moisture are supplied.

Parents must study their children. The early months and years are the most critical period of existence. The plastic mind in this period readily receives the mold of environment. The little germs of character which are within the child, ready for development, are like tiny plantlets just peeping their heads above the earth, and are as easily destroyed or dwarfed by unfavorable conditions.

WHERE ARE THE CHILDREN?

A LADY who was recently visiting some friends in a certain large town was surprised at the way in which the children of the family were treated. They were bright and interesting children, a boy of thirteen and a girl of eleven, and, naturally, very dear to their father and mother. The former was a professional man with large interests; the latter was an intelligent woman, not wholly given to society, though fond of it, and a good judge of literature and art. A day or two after the lady's arrival, she observed that, though the children were usually present at meals, they were conspicuously absent between them.

"Where are the children?" she asked of the mother.

"I'm sure I don't know," answered that individual brightly. "Aren't they about somewhere?"

"I have n't seen them since I have been here, excepting at meals," returned her friend. "They were at breakfast this morning, but it is now after eleven; and if they are in the house, they are keeping very still."

"O, I've no idea that they are in the house," returned the mother, laughing. "You would know it soon enough if they were, I can assure you. They are probably off visiting among their schoolfellows. Mollie spends a great deal of time with a little friend in the next street. Perhaps she has gone to the park with her doll, it is so pleasant. She is safe, and will be back to luncheon, never fear!"

"But are n't you afraid they will get into mischief, wandering off in this irresponsible way?"

"My dear!" the mother responded with some spirit, "do you imagine that children brought up among such associations as mine have been, could stray away from what is right? I *trust* my children."

"Excuse me, but they are so very young," murmured the friend; and the subject was dropped.

Another mother, this one with five children to look after, and living miles away from the one who has just been described, remarked when she was asked a series of questions similar to those which have been quoted, "I 'm so thankful to have them out of the way that I do n't trouble myself to find out where they are, so long as they come in for their meals at the proper hours, and in time to go to bed at night." This woman kept two servants, and was connected, as was also her husband, with a prominent church, living in one of the best houses of a small town, and was in every way highly connected.

Considerable inquiry has developed the fact that a dangerously large proportion of well-to-do and respectable mothers share the feelings of the two who have been described. So long as a child of eight or ten or over will keep out of the way and not "make any bother," it is all right. This is certainly laying a confidence in chance circumstances which would hardly be entertained even by an imbecile, regarding any other kind of property than children, if, for the purpose of comparison, they may be termed "property." So valuable, so easily soiled, so impossible to replace when ruined, and so difficult of repair! One shudders to think of the risks which such mothers, thoughtless and careless to the verge of insanity, are daily taking.

Know just where your children are, what they are doing, and what kind of companions are with them every hour of every day. It is the only way in which you can possibly discharge aright the sacred obligations of motherhood.—*Kate Upson Clark.*

SUMMER DRESS FOR A CHILD.

Of all the good and comfortable garments which have been evolved through the Battle Creek Sanitarium Dress System, certainly there is no one which will so commend itself to mothers and all having the care of young children as the one illustrated on this page,—the child's *négligé* dress. This dress is made on the plan of the *négligé*, or bishop's gown. It is one continuous piece of cloth, with shoulders and arm's eye fitted to the child, and a draw-string or rubber so arranged as to finish neck and sleeves with a frill. This makes a beautiful little dress, easily made and laundered, as the draw-strings can be let out, when there remains only a plain surface to iron. There are no buttons or button holes. Children from two years old and upward can wear these dresses for home gowns, and look as dainty as pictures.

CHILD'S NEGLIGE.

As may perhaps be seen, the possibilities of this little dress are many and various. In the matter of work alone, it is so simply made that it is a positive boon to the mother whose workbasket is nearly always "running over full" with children's garments which *seem* to be necessities. But surely economy in labor is on a par with economy in means, albeit much is said about the latter nowadays and but little in regard to the former.

Mothers in general may possibly not be able quite to agree with a late writer who advocates the keeping of a young child literally "in its figure" during the heated term, yet all, either through the affections or through the humanities, must be interested in some degree in the question of comfort for children. A muslin gown made in this way will take the place of all other outside clothing, and leave the child free and comparatively cool these sweltering days. The fabric may be as thin as desired. How many times I have longed to strip off some of the extra garments and folds of flannel under which I have

seen little children sweating and smothering in hot summer weather, meanwhile feeling profoundly grateful that I was not somebody's baby,— a poor, little, helpless human dummy at the mercy of some ignorant mother's caprice or prejudice!

Instructions how to cut and make this desirable little dress may be obtained by application to the Sanitarium Supply Co., Battle Creek, Mich.

E. L. S.

A MOTHER'S WAGES.

It was an uncouth bird's nest of rushes in which Jochebed moored her birdling "in the flags by the rivet's brink." Little did she know what precious freight she was intrusting to that basket-cradle. And little did Pharaoh's daughter know — when she took the little foundling out of the floating basket — what manner of child he yet would be. As she hands back the handsome boy into the very bosom that first gave him life, she says to Jochebed, "Take this child away, and nurse it for me, and I will give thee thy wages."

"I will give thee thy wages," says the Egyptian princess to the Hebrew nurse. She got her wages in better coin than silver or gold. She got them in the joys that a mother feels when she yields up a part of herself to sustain her darling child; she got them in the love of the babe she nursed, she got them in the glorious service that her child wrought for Israel in after years. She was paid in the heavenly coin with which God pays good mothers. For all her anxieties and all her efforts to preserve the life of her "goodly child" she was abundantly rewarded.

When God lays a new-born babe in the arms of a wedded pair, he says to them, "Take this child and nurse it for me, and I will give thee thy wages." And the answer of Christian gratitude and faith should be: "O Lord, thou hast put thy noblest work into our hands. We accept the precious trust. We will try to stamp on this soft, plastic heart the impress of a godly example. We will shelter this young life under thy mercy-seat. We will bear with it as thou bearest with us. We will be truthful, that it may never learn falsehood. We will nurse this soul in its infancy with the 'sincere milk' of love, that in after years it may bear 'strong meat' for strong service of God and righteousness. O God, make our lives in harmony with thee, that this young life may reflect thine image in reflecting ours!"

To such pious fidelity God offers the only wages that can satisfy the claims of love. He pays the heart's claim in the heart's own coin. What wages could repay Hannah's prayerful care like the sight of Samuel's after-career as Israel's upright judge? Moses standing on the mount was the "wages" of the poor Hebrew mother who cradled him in her basket of rushes. St. Augustine's mighty service for the gospel was the best reward that God could give to Monica. John Wesley's mother was repaid for all her patient discipline when her son built the world-wide tabernacle for Methodism to worship in. George Washington was God's reward to Washington's good mother; as Archibald Alexander, and Brown of Haddington, and Lyman Beecher found their "wages" in the noble sons who took the gospel banner from their aged hands.

Alas! I have seen other "wages," too, the sad outcome of parental impiety or neglect of duty. Eli's sin was repaid in Eli's sorrow. I have seen a frivolous, prayerless mother paid in the wages of a broken heart. And when to many a father's door a drunken son has been brought home from a Sabbath-breaking debauch, it was only the wages of that father's sin which a just God was paying. The "wages of sin is death," and of no sin more surely than parental. It is death to peace of mind — death to domestic happiness — death to the neglected or misguided souls of evil offspring.

"Take this child and nurse it for me, and I will give thee thy wages," is the inscription which God's hand writes on every cradle. "When I dress my child each morning, I pray that Jesus will clothe it with purity," said a good mother to one who inquired her secret of right training. "When I wash it, I pray that His blood may cleanse its young soul from evil; when I feed it, I pray that its heart may be nourished with truth, and may grow into likeness with the youthful Jesus of Nazareth."

Here was religious training from the cradle. It began with the dawn, and its course was like the sun, growing more full-orbed in beauty until the "perfect day." That mother received her golden wages in the early conversion, usefulness, and honor of all her children. What a blessed recompense! "Go and do thou likewise."— *Theodore L. Cuyler, D. D.*

A Boy's Ideal Man.— While a guest at the Battle Creek Sanitarium, Dr. A. N. Tracy, a temperance evangelist from Chicago, said in the course of a short address in the parlors one day: "There is no one present but is fashioning the future of some boy, and you are, to a degree, responsible for the future of that child. You may be inclined to disbelieve this; but I ask you to recall your own boyhood days, and see if you did not pick out some one as your ideal man, and if that man had not more influence over your life than any other. Suppose a boy hears his ideal man say that 'the man who cannot take a drink of liquor or let it alone, is no man.' He begins to think that it is manly to drink; he cherishes the thought, and it grows with his growth; and the chances are that by the time he is able to 'chin a counter,' he is ready to take his first drink at a bar. There is no more specious sentiment than this, nor one which has directly made more drunkards."

Here are some points for mothers in the management of their children, which if carefully studied and followed out, would solve very nearly all the puzzling problems with which mothers so often find themselves perplexed: Study 1. to *understand* your children; 2. to *feel* with them; 3. to *bear* with them; 4. to make them happy and useful; 5. to lead them by love; 6. to punish as rarely as possible, and when it must be done, to think a long time how best to do it.

Untruthful Children.— Some one asked Miss Harrison, the superintendent of the Kindergarten College in Chicago, what she would do with a child who told lies. She said: "It would depend entirely upon the sort of lie it was." Her advice in substance was like this:—

Lying is too often treated locally, when it should be constitutionally treated. There are almost as many different sorts of lies as there are different sorts of fevers.

For example, exaggeration which comes from excess of imagination is to be cured by teaching accuracy of observation. Make the child count all the objects in the room. Make him hold steadily to proven facts in everything.

Then there is the lie of egotism, which is always claiming everything for itself. Ignore the story. Make it seem not worth his while.

The lie which denies is the fault of other people. Punishment has been given arbitrarily. That is to be corrected in the guardian.

The hardest fault to correct in a child, or in any one else, is the deep lie of jealousy, the malicious lie. It always comes from jealousy, and there seems to be only one possible remedy. Get the jealous child to do some service for the other. Make him participate in the other's life,— in some way become a partner,— as it were, and the jealousy ceases.— *Ex.*

Guard Well Your Boys.— "You can't keep boys quite straight, you know. They must have a chance to sow their wild oats." Must? A word from Satan's vocabulary! Look ahead a few years. There he goes— a young boy! swearing, swaggering, coarse, obscene! You hope he will marry and settle down? Yes, if some pure girl will pour the fullness of her sweet life into the turbid stream of his, there is a bare chance that he may be saved. How much better to have trained him to the right when you had him under your hands! In the outset he was not unlike his sister in morals. You hold her to the proprieties and decencies, while you let him run at his own will in paths of evil. Now in purity of life they are leagues apart. There are as many boys as there are girls in infant classes in our Sabbath-schools; but one-half as many boys as girls in the Bible classes. Women outnumber men in the church, two to one. In the State prison, men outnumber women fifty to one. This tells its own story! — *Sel.*

A Thoughtful Provision.— To the German emperor is ascribed a thoughtful provision for servant girls, which was put in force two years ago. Every maid servant, it seems, is provided with a stamp book. In this book every week a three-cent stamp bought from the government is pasted by her mistress. This is, on her part, the tax which she pays the government presumably as her license to keep a servant. The benefit accrues to the girl; for, should she be ill, the stamps will be redeemed by the government for her support; otherwise the stamps are kept, and become a fund for her in old age.

What a young man earns in the daytime goes into his pocket, but what he spends in the evening goes into his character.— *Sel.*

Child— "Grandpa, how old are you?"

Grandpa— "I am eighty-seven years old, my little dear."

Child— "Then you were born eighty years before I was?"

Grandpa— "Yes, my dear little girl."

Child— "What a long, long time you had alone, waiting for me."

SOME QUICKLY PREPARED PIES.

SOME one has estimated that in the average home where pie is considered an essential of everyday diet, no more to be dispensed with than the meal itself, the housewife spends at least one-third of her working hours in its preparation. And the result of this labor, while requiring such an outlay of time and strength, is far too apt to be of a character neither conducive to good health nor wholesome living. We believe it possible to live well and leave pie entirely off the daily bill of fare; but if from long custom it is sometimes considered desirable, we would suggest the use, in place of the ordinary article, of one of the following quickly prepared and simple pie recipes, which approach more nearly the hygienic standard than any others with which we are acquainted: —

Quickly Prepared Pie Crust. — For one pie take two-thirds of a cup of granola (manufactured by the Sanitarium Food Co.), moisten with an equal quantity of thin cream or rich milk, and let it stand a few minutes; place the moistened mass in the center of the pie tin, and with a spoon spread it evenly and thinly over the bottom and around the sides of the tin, leaving no holes. Fill with any one of the different prepared fillings given, and bake ten or fifteen minutes. To form the edge nicely, rest the length of the first finger of the left hand against the edge of the tin, and press the material against it. The shaping of the crust will require but a few moments, and should be done at once as soon as the granola is well moistened, as it absorbs the liquid and soon becomes dry again.

Prune Filling for Pie. — Cook sweet California prunes (which have been well washed and cleaned) in three parts water to one of prunes, slowly for several hours. When well done, rub through a colander to remove the skins and stones. If the pulp when thus prepared is too thin, place in a covered earthen dish and set on the stove to remain until the liquid has evaporated sufficiently to leave the pulp of about the consistency of thin marmalade. Fill the crust with the prune pulp, and bake. No sugar will be needed with the sweet prunes. Sour prunes sweetened may be used if preferred. A meringue may be added, if desired.

Dried Apple Filling. — Stew dried apples nicely; when done, rub through a colander, evaporate to the proper consistency, add sugar to taste, and use the same as the prune marmalade. Dried peaches may be utilized in the same manner, also fresh green apples.

Custard Filling. — Take one pint of milk, one well-beaten egg, a tablespoonful of cornstarch, one-third of a cup of sugar, and a little grated lemon rind for flavoring. Heat the milk to scalding, stir in the cornstarch, and cook until thickened; cool, and then add the egg well beaten. Turn into a granola crust and bake.

Lemon Filling. — Take four tablespoonfuls of lemon juice, the grated yellow portion only of the rind of half a lemon, and two-thirds of a cup of sugar. Beat the lemon juice and the sugar together. Braid a slightly heaping tablespoonful of cornstarch with as little water as possible and pour over it, stirring constantly, one-half pint of boiling water, to thicken the starch. Add the lemon and sugar to the starch, and let it cool; then stir in the yolks of two eggs and half the white of one well beaten together. Beat thoroughly, pour into the crust and bake.

Berry Filling. — Stew the fruit, sweeten, and thicken with a little cornstarch or flour; or the fresh fruit may be introduced into a cup or more of water in which has been cooked a rounding spoonful of sago or manica.

E. E. K.

IF you are compelled to keep flour in a barrel that must be moved whenever the floor is cleaned, make a small platform with a castor at each corner to stand it on. If you have no good cover for the barrel, take off the upper hoop, fasten it securely together, and put a cover of double unbleached muslin over the top and sew it around the hoop. — *Sel.*

MENDING TABLE LINEN. — Embroidery cotton is the best material for mending table linen. Select a number of the cotton which will correspond with the quality of the linen to be mended. Under the ragged edges of the tear, baste a piece of stiff paper, and make a network of fine stitches back and forth over its edges, carrying the stitches about an inch beyond the tear. Thin places and breaks in linen may be run with flax or embroidery floss, and towels should be mended in the same way.

ON fabrics that will not be injured by it, soft soap will take out paint stains much better than benzine, chloroform, and similar cleaners.

THE DOUCHE, SPRAY, AND SHOWER BATHS.

A DOUCHE is a volume of water thrown upon the body with more or less force, either from a height by atmospheric pressure or by a force pump. In a spray or a shower bath the volume of water is broken up into small streams by passing through a perforated diaphragm of metal, hard rubber, or like material. The douche combines the usual remedial effects of the tonic bath with the stimulation resulting from the force with which the water strikes the body. All who have experienced the old-fashioned discipline administered by the slipper will remember it as an excellent warming appliance. So the force of the water on the surface assists in bringing about a reaction. A greater volume of blood is thus called to the surface, and by this method a marked tonic effect is secured. Water of either a low or a very high temperature may be used. In either case the effect of the bath is more powerful if given intermittently and of different temperatures, as, for instance, changing from 65° or 70° to 110° or 112°, or even higher. When used locally, it has somewhat the effect of a massage, in exercising the skin and deeper tissue.

The appliances required for a douche are a reservoir for the water, placed at a suitable height, which is regulated by the amount of force desired. The force of the ordinary water faucet will usually be found sufficient, and may be utilized for this purpose by properly regulating the temperature of the water. Attach both the hot and cold water pipes to a single pipe, regulating the supply from each into the common pipe until the water running from the douche pipe is of the desired temperature. Or a large pail or tub may be filled with water and placed at a suitable height to give sufficient force to render the bath stimulating. In some cases a small force pump has been fitted into a tub, and the water projected against the body by this means. Attached to the vessel containing the water, must be a rubber hose. In the case of a full douche to the whole body, this will need to be from six to eight feet long and from one to one and a half inches in diameter; but for a local douche the ordinary half-or quarter-inch pipe will answer. To convert either into a spray, it is only necessary to screw a perforated funnel of metal or hard rubber into the end of the pipe. Or by placing the finger over the end of the tube, the operator may so regulate the action of the water as to produce a fine or coarse spray, as is desired.

The shower bath is not used as often now as formerly. It is an artificial rain produced by allowing water to fall from a perforated vessel placed above the body. A colander and a pitcher will make an efficient showering apparatus for family use; and a douching apparatus may be gotten up with six feet of half-inch rubber pipe and a twelve or sixteen quart tin pail, near the bottom of which is inserted a short spout as a place of attachment for the rubber tubing. If the spine is to be douched, the patient may sit in an ordinary full-bath tub or on a low wooden stool in a washtub. The end of the tube should be held near the spine, and water of suitable temperature allowed to play constantly up and down the spine. Thus a stream of water may be directed upon whatever portion of the body is to be treated. To give hot and cold alternating, two pails and two tubes will be required, containing water of widely contrasting temperature, as 60° or 70° for the cold and 110° or 115° for the hot.

The spray bath may be given in the same way. A spray as fine as mist may be given by lowering the can and allowing the water to pass through a very finely perforated funnel. By raising the vessel containing the water to a greater height, the force may be increased so as to give a tingling sensation, and thus produce the stinging effect of the needle bath, in

which water is projected in the form of a spray with such force as to disguise the sensation of cold by the active stimulation of the skin.

The uses of the douche and spray are many. They are a valuable measure for irrigating and cleansing all wounds, abscesses, burns, etc. The water may contain any disinfectant prescribed. When employed to arrest hemorrhage, it should be 120° to 130° in temperature, and may hold in solution alum, tannin, or other astringents. This treatment may be used to stimulate torpid internal organs, as the liver, stomach, and bowels. Alternate volumes of hot and cold water should be allowed to play for five or ten minutes daily over the organ to be treated. The treatment is also very useful in relieving chronic stiffness and soreness of the joints arising from rheumatism, sprains, and other injuries. In case of varicose veins, muscular weakness, and feeble circulation, it is a useful tonic measure, improving nutrition and increasing the blood supply, and thus assisting greatly in warming habitually cold extremities. The spine may often be greatly relieved by a cool douche or spray, and a swollen, inflamed joint may be reduced by heat used in the same way. A very fine hot spray given with a little force is very soothing in inflammation of the eyes. A coarser spray, given with greater force and medicated with soda, is useful in acne and other eruptive diseases of the face. The ordinary fountain syringe will answer in these cases by using the spray funnel which comes with the other apparatus. The treatment may be given on an oilcloth cot when the patient is too weak to sit or stand.

The douche or spray is very beneficial in reducing the temperature in all fevers, in relieving hypostatic congestion of the spine, in preventing bed sores, and in all cases where, from weakness, wasting, and long-continued pressure, the tissues over the bony projection of the spine are in danger of dying. The internal douche to relieve constipation, diarrhœa, pain, etc., and to cleanse and disinfect mucous surfaces, is a very important remedial appliance of modern times. The douche and spray are also useful for rinsing the the body after a soap and water shampoo, and also as a cooling bath after a pack, vapor, Turkish, Russian, or other hot bath, the cool water and force of the flow toning up the skin, and preventing the patient from taking cold or feeling exhausted afterward.

THE SICK ROOM.

In planning dwelling houses, the builder, the architect, and the householder plan for all kind of rooms, useful and ornamental. Thus we find kitchens, dining-rooms, bedrooms, living rooms and other useful rooms, as well as dark, unused parlors, spare bedrooms, conservatories, and other more unnecessary rooms. Yet even in costly homes no provision is made for the sickness sure sooner or later to visit every family. So when sickness does come, there is no place where the sufferer may find suitable rest, and separation from the necessary noise and bustle of the working part of the household, or if the disease be infectious, others in the house be protected from it. It must be the want of a precedent in house architecture that such a room is not planned for in every house of even moderate dimensions. To make a model sick room requires no extravagant outlay for costly furniture, carpets, or drapery. It needs no frescoing or expensive finish of either woodwork or walls, but simply a hard finished or painted wall and ceiling of some neutral tint, — light drab, brown, or stone color, — and painted or oil finished woodwork made as plain as possible, so as to furnish no place for dust to lodge.

The exposure is best either to the southeast or the west. The room should have two or three windows and an outside door, the latter being very important in case of contagious disease. A grate or an open stove is very useful as a means of ventilation, and also for destroying infected material. The site of every house is all important, and should be high and dry. The ventilation should be as perfect as possible. The ideal of perfection in this respect would be attained by having the air from the sick room, especially if the disease is contagious, made to pass through a hot air shaft or over heated cylinders of a temperature above 300°, so as to destroy all living organisms, thus completely sterilizing the air.

The furniture of the room should be as plain as possible, — an iron bedstead, single width, with woven wire springs and an air, hair, excelsior, or husk mattress, and other furniture free from upholstery. There should be two or three chairs, a woven wire cot, a table, a bedside stand, and a commode with drawers. The bedding should be blankets, those which have been worn, if they are not shrunk, and old sheets being better than new ones, as they are

softer and wash more easily. The Canton flannel blankets, made so successfully at present, will answer very well, and can be washed often. Comfortables and quilts are unsatisfactory sick-room bedding, as they are not easily cleansed, and absorb infectious matter.

This is an ideal of a sick room which many will feel beyond their reach ; yet even in a home where every room is in daily use, much may be done by a little wise forethought. Select for the sick room the one which can be most easily isolated from the others, and has an open stove or grate. The room may be shut off from others by pasting up communicating doors and using the outside door, which should open directly outside or into a hall which does not connect with other rooms of the house. Old sheets and blankets should be mended and kept on hand, also a clean bedtick, unfilled, and ready for the fresh straw usually so plenty in the country. A clean, thin cotton mattress to lay over the strawtick will make a very sanitary sick bed. The best bedstead for the room is a plain iron bed-frame, which may be bought for three or four dollars. It is well to have a good painted floor in a room intended at any time to be used as a sick room ; then in case of need the carpet may easily be exchanged for a few rugs. Never keep clothing, trunks, or other belongings of the patient or any one else in the sick room, or in any closet communicating with it. Clothing absorbs disease germs very readily, and retains them a long time unless sterilized by heat, which process very often injures clothing, besides causing much labor.

I know many will feel these preparations suggested for possible sickness will involve a great deal of trouble, time for which is not easily spared in a busy family life. But think how much work is done in a family of even moderate circumstances in getting ready for a birthday party or a Thanksgiving feast which is not especially conducive to any one's welfare. The old saw, "Where there 's a will there 's a way," is as true as ever ; and custom has much to do with the seeming possibility of any task. So the practice of shutting the well from the sick, thus protecting the well from infection and the sick from noise, odors, and other annoyances, must become habitual by repetition before it shall be a common custom for people to prepare while in health for future illnesses.

THE GERMS OF DISEASE WHICH TRAVEL UPWARD.

Disease germs are often given a free passage from under the floor, basement, or cellar, by a current of cold air which rushes in to fill the vacuum made by heating the air in the rooms above. This is especially true in cold weather, when doors and windows are closed and listed, and steam registers, steam coils, and base burners are heated to their utmost to create a summer temperature in the home. Sewers, gas pipes, decaying food, mold from damp cellars, and decaying wood, are all giving off gases, and perchance the home itself is built upon made-land, over a marsh which has for many years in the past been the dumping-ground for city refuse. The family, sitting contentedly around the gas jets or the electric lights in the evening, are unable to see, even by their brilliant flame, the tiny denisons which are floating upward from every open seam and through the doors of the basement.

Foul ground air is often the principal source of winter ventilation in the houses of those who are fairly well-to-do, and have all of life's necessities and most of its luxuries.

The winter is the time when many disease germs flourish, and swell the reports of mortality from smallpox, scarlet fever, diphtheria, bronchitis, and pneumonia, to say nothing of lesser catarrhal respiratory ailments, which, becoming chronic, are fastened on the patient for life.

Under all our large cities there are systems of tubes, sewer pipes, water pipes and gas pipes, which are liable to become leaky at any time, and only the water pipe proclaims itself faulty by visibly flooding the premises. All the others send out their deluge of microbe-filled gases, and give no sign until disease is fastened on some member of the family, and the physician's services, as well as those of the plumber, are required. The stationary washbowl, with its drainpipe out of order, or a defective trap, may be flooding the bedroom with the foul sewer air of the city main pipe, whence, with all kinds of organic matter poured daily into it from its various tributaries, come all forms of disease germs. The pipe from the private cesspool in the back yard of the suburban resident may be doing just as deadly work. If the foul contents of this vile receptacle were flowing into the house in visible streams, we would take means to shut them off ; but because they are invisible, they are only the more potent for evil.

The mother, as the nurse of the family and the one who suffers most when a member is ill, and whose

work is most increased, should know how to shut up these germ-admitting avenues, and cut off the connection with disease-breeding germs from under the house. A clean building site, a dry basement and cellar, perfect plumbing, and absence of pipe connection with the sewers in all the living and sleeping rooms, as well as the stopping of all cracks in the floor, are important measures which no housewife can afford to neglect.

Home nursing means providing the home with the necessary measures for maintaining the health of the inmates. It is a mistake to consider the physician and the nurse as only necessary evils, to be called in when sickness invades the family. They should be educators of the fathers and mothers, and instruct them in the best means of preventing disease. The ounce of prevention is what fathers and mothers should be able to apply; but without the knowledge of what it is and how it is to be used, the pound of cure will always need to be applied and always prove a failure and a broken reed, a delusion and a snare, to those who lean upon it for deliverance from the thraldom of disease and death.

DANGERS OF DARK PLACES.

THE psalmist describes the dark places of the earth as "full of the habitation of cruelty." In a more restricted sense the dark places of the modern home are as likely to be peopled with cruel inhabitants endangering the life and health of the family. Dark corners in the cellar, filled with decaying fruit and vegetables, damp, musty, and moldy, offer just the soil for the successful culture of disease germs. These cruel inhabitants, which torture our loved ones with pain, and burn out the lives of the innocent children with fever, swarm from these dark underground places in myriads of deadly disease germs, which do their destructive work before their presence is suspected.

Mothers who love your children and are anxious to protect your family from disease and save yourselves from the strain and wearing anxiety of sickness, look into those dark places. Disinfect them and keep them clean. Remember that the agents of disease and death, like all other criminals, lurk in dark places. Under the unused bed in the spare room, often hidden by an elegant valance, or covered by a costly coverlet of immaculate whiteness; in the dark closets, where soiled, partially worn garments are allowed to hang indefinitely, without either sunning or airing, which they require to keep them free from bad odors due to secretions of organic matter clinging to them; in the dark corners of the pantry shelves or the creamery; under the sink or commode; in every nook and corner, screened from the eyes of the household by doors and darkness,— there is danger in all these places. Dirt is especially dangerous in dark, damp, unused, unaired places, shut away from nature's great disinfecting agents,— sunlight and pure air.

As the mother is the home defender, and spends so much of her time within its walls, she should possess the knowledge and ability to successfully apply it in routing these inside foes of the family health. Soap and water to cleanse all the floors and woodwork, whitewash for the plastered walls, and above all, personal inspection and prompt removal of all forms of dirt, will keep these enemies off; and it will pay, even if the front rooms have to go uncarpeted and unpolished, and the spare-room furniture be of the plainest, cheapest make. The best cure-all for any disease is prevention.

CHEAP, COMFORTABLE SICK-ROBES. — Old nightdresses may be neatly mended, washed, and laid away for use in case of sickness. They are soft and easily washed, and much more comfortable to wear than new ones. When the shoulders and sleeves are too much worn to mend, cut them off, using two old long nightdresses to make one short one. The dress thus abbreviated is a much more comfortable garment, especially in fever cases and for helpless patients, every unneeded inch of cloth being in the way. I once knew an old lady, somewhat of an invalid, who begged all the old nightdresses and cast-off white garments of her lady friends, and converted them into bedgowns of all sizes. All the neighborhood knew where to go in case of illness for comfortable, clean garments. This grandma E's box was a blessing to him who was ready to perish. She was poor, but did what she could to make the world better while she lived. Others might well go and do likewise.

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

CHEESE.

NEXT to bread and meat, there is probably no single article of food which is more universally used among civilized people than cheese. This fact, however, cannot be regarded as a genuine passport to dietetic honors. That cheese has, from ancient times, been suspected of being more or less unwholesome, is, however, evident from many well-known facts. Job, in his sufferings, mournfully compares himself to cheese. Shakespeare makes Falstaff, when convinced by the merry wives of Windsor, of his asininity, admit that he would be but justly punished if choked to death with a piece of toasted cheese. An old distich runs, —

> "Cheese is a mighty elf,
> Digesting all things but itself."

Well knowing that cheese is, in itself, difficult of digestion, the poet hoped to find some excuse for its use in the idea that it might, somehow, aid in the digestion of other substances. But our poet was not a physiologist, and hence may perhaps be excused for falling into so egregious an error. Cheese is not only not easily digestible, but swarms with microbes of various sorts which easily set up various fermentative and decomposing processes in the contents of the stomach by which indigestion is induced, and various poisonous substances are developed, which, through absorption, become a source of contamination to both blood and tissues. The following description of making French Roquefort, which we quote from *Harper's Weekly*, makes it very clear why germs are present in cheese in such great numbers, and why this substance so easily gives rise to digestive disorders :—

"The making of French Roquefort cheese is quite interesting. It is made of sheep's or goat's milk, and after coagulation, by the use of rennet, the curd is carefully pressed into shape, bandaged with coarse cloth, and dried on shelves. When well dried the cheeses are carried to caves, where the bandages are removed, and they are carefully salted and left to ripen. In about twenty days they become covered with a white mold, which is scraped off with a knife. This process is repeated every fortnight for two months, the color of the mold changing from white to green and then to red, which ends the process."

"Ugh!" we imagine some of our readers to exclaim, after reading the above description, in remembrance of the delicate bits of Roquefort with which they have, at various times, regaled their depraved palates. We say depraved, for certainly no palate not depraved could possibly relish such a horrid mess.

Limberger, another variety of cheese which is famous, or rather infamous, for its malodorous properties, is not considered quite ripe until it is in the last state of putrefaction. Its manufacture was formerly confined to Belgium, but cheese-makers in New York, Ohio, Wisconsin, and Illinois are said to have discovered, within the last few years, the means for promoting decomposition to such a degree as to be able to produce a variety of Limberger which is considered by connoisseurs of things rank and rotten, as quite equal to the original article of Belgian manufacture.

Moreover, cheese contains other things besides germs and the poisonous products of these mischievous microbes. Decaying animal matter of all sorts is an especial attraction to flies of various species which deposit their eggs on the mass of decomposing matter so that the young flies or larvæ may find right at hand suitable food for their sustenance. This is nature's admirable arrangement by which decomposing matters may be quickly disposed of. Cheese, like other rotting substances, thus attracts a certain species of fly, which in the larvæ state, are known as skippers. Some of our readers, perhaps, are

familiar with the story of Charles Lamb, who visited a cheesemonger's late at night for the purpose of obtaining a supply of cheese for his maiden sister, who thought it impossible to go to bed without a bit of toasted cheese. He was asked by the merchant who was cutting off the cheese, "Shall I send it home, Mr. Lamb?" "No," said the wag, who had noticed the lively character of the cheese, "Lend me a string and I will lead it home."

In making out a market report not long ago, a newspaper reporter mentioned that cheese had "moved down a point or two," which he intimated was not surprising, as the stock had been sometime on hand. We recall also the remark of a guest at a hotel on one occasion, who, when asked by the waiter if he should remove the cheese, replied, "It is quite unnecessary sir, as it is evidently quite able to take itself away." An article which depends for its supposed savory properties upon the presence and activity of millions of putrefactive germs and other products, and which is not infrequently a wriggling mass of living animalculæ, certainly cannot be considered as a wholesome article of food by persons who hold their stomachs in due regard, and place a right estimate upon the value of a good digestion.

FRENCH COFFEE.— Those of our readers who contemplate visiting Paris, and are likely while there to indulge in that famous beverage, "French coffee," may be interested in the fact that a recent number of a Paris journal gives as the composition of French coffee, the following: "Roasted horse liver, roasted black walnut sawdust, and caramel, or burned sugar." The imported French coffee obtainable in this country doubtless has the same composition.

PASTEURIZED MILK.— When the fact was discovered that milk is frequently a means of communicating the infection of typhoid fever, cholera, and other germ diseases, the suggestion was soon made that as a means of preventing these infectious diseases, milk should invariably be sterilized by prolonged boiling. Later experiments, however, have shown that the prolonged boiling of milk to some degree modifies its constituents and lessens its value as a food. The fact that boiled milk has a tendency to produce inactivity of the bowels is one with which even the laity are quite familiar. Pasteur, by careful experimentation, discovered long ago that heating milk for ten or fifteen minutes to a temperature of 160° will destroy the disease producing microbes which it contains, and to such an extent destroy the microbes which set up decomposition in milk and allied substances, as to considerably increase its keeping qualities.

Doubtless most physicians are aware of this fact, and yet the frequency with which we hear boiled milk recommended as an article of food, especially for young infants, leads us to believe that the profession do not so generally utilize this important fact as it would be in the interest of their patients for them to do. It is rarely necessary to recommend boiled milk for a child, or indeed for a patient of any age. Instruction should be given that the milk be heated to a temperature of 160° for fifteen minutes. After heating, the milk should be cooled as quickly as possible, and kept cool until used; unless it is desired that it should be taken hot, when it may be heated just before being taken.

TUBERCULOUS MEAT.—There can be no doubt that the danger from the use of the flesh of tuberculous animals is increasing. This danger is also likely to continue to increase as our country becomes more thickly settled, and as the germs of tuberculosis become more widely dispersed. In old countries, like France, this danger is recognized more clearly than in this country. Stringent inspection laws require the inspection of all slaughtered cattle, both before and after killing, in France; but in this country only a very small proportion of the beef eaten has been subjected to anything like a careful inspection. Indeed, it is doubtful whether the inspection service in relation to the flesh of diseased animals is ever what it should be in this country, in which matters of this sort are treated with much less care than in most foreign countries.

Another evil which is justly complained of in France is the fact that only animals in which the tuberculous infection can be recognized as generally dispersed through the body are rejected. In cases in which the disease seems to be confined to one or two organs, inspectors simply condemn the infected organs, allowing the remainder to be sold for consumption as food.

According to statistics presented by Dr. Deshayes (*Revue d' Hygiene*, Dec. 20, 1893), many thousands of tuberculous cattle are eaten in France annually.

HOUSE HEREDITY.

NEARLY twenty years ago the writer was consulted by an elderly gentleman from Canada, who, in explaining his case, remarked: "Doctor, I do not know what your opinion is respecting my case, but my opinion is that I have inherited consumption from my wife. My wife died ten years ago from consumption and I have not been well since." Fortunately the poor man was not suffering from consumption, although he had a serious pulmonary disorder which gave occasion to a chronic and very troublesome cough. The fact that he was suffering from a disease of the lungs, which, to his unscientific observation, closely resembled the disease from which his wife had suffered and died, led him to think there must be some connection between his malady and that of his wife,—and there might have been, although the relation would be more scientifically expressed by the term "contagion" than that of heredity, although, considering the ordinary use of the term "inherit" the application was not such a bad one after all. The poor man's wife had died of a lung disease, and after her death he found himself suffering from what seemed to be a similar malady, so it was very natural for him to suppose that it had been bequeathed to him by his dead companion.

In a similar sense, houses may be said to inherit disorders of various sorts from their occupants. In this way houses become infected with tuberculosis. A case was recently reported in a French journal, in which several children died one after another, of a tubercular disease, without any apparent cause. An investigation showed that the house into which the family had recently moved had previously been occupied by a family, one member of which had died of consumption. The house had not been disinfected, and as the children spent most of their time in the room occupied by the invalid, there was every opportunity for the operation of contagion.

Another case recently reported illustrates the same principle. A man living in a boarding house of the lower class, in Paris, after a lingering illness died of consumption. The bed which he occupied was taken by another man, who after a few weeks also became affected by the same disease and subsequently died. Investigaton showed that, in this case, the bed was infested with bedbugs, which had, by subsisting upon the dried sputa of the first patient, become infected with the disease, and, by biting the second had inoculated him with the specific microbe of consumption, thus leading to the development of the disease in a general and acute form leading to a speedy death.

Many similar instances might be reported. Sometimes the morbid condition which exists in a house may be due, not immediately to the previous occupant, but to local conditions the existence of which may not be easily recognized, but would at once become apparent if one should take the trouble to investigate the pedigree or heredity of the house by inquiring after the health of its previous occupants.

A remarkable instance illustrating this occurred in the writer's experience a dozen or more years ago. A gentleman who had recently moved into a fine, large brick residence called our attention to the fact that when moving into the house he had found written in large letters upon the walls of nearly every room, the words, "This is the malaria house. Look out for malaria," and similar expressions. Within five months the gentleman himself was stricken with malarial fever in a pernicious form, and died within a few days. As soon as the writer learned of the circumstance referred to, which was not until after the beginning of the patient's illness, he insisted at once upon moving the patient to another and more salubrious locality, but it was too late, as the mischievous work of the disease had already proceeded so far as to produce irreparable damage to the brain.

In the case last mentioned, the house, a large

roomy one, was situated upon a hill in a very sightly place, but unfortunately within forty rods of a mill pond, the water of which at certain seasons of the year became low and stagnant, exposing many acres of slime-covered soil, a most effective breeding place for malaria. Under ordinary circumstances even this unfortunate condition gave rise to no inconvenience, as the pond was situated southeast of the house, while the prevailing wind was from the southwest. At the time when the fatal illness occurred, the southeast wind had been blowing steadily for two or three weeks, the water in the pond being at the time very low. This was unquestionably the cause of the gentleman's illness and death. The germs of typhoid fever not infrequently cling to a residence for many years, so that deaths occur in one family after another which successively occupy the house, each succeeding diseased family being often in ignorance of the previous fatalities. When a well once becomes infected with typhoid fever germs through the seepage from an adjacent privy vault, cleaning out the well amounts to nothing, as it would generally be necessary to clean out a space bounded at the surface by a circle with a diameter three times the depth of a well extending down into the earth to the bottom of the well, or at least below the water level. Such a mode of cleaning a well is of course impracticable. The only thing to be done with a well which has become infected with typhoid fever germs is to close it up. It is impossible to have a well upon such premises, or near by even, which will not be in danger of similar infection.

A very forcible illustration of the necessity of inquiring into the previous history of a house before taking possession of it was recently furnished by a Philadelphia physician: in making a careful study of the causes of death in the older and principal wards of the city he found that the deaths from consumption were largely confined to a certain number of houses. These houses were for the most part arranged in groups, showing that the disease had extended from one house to adjacent houses.

Apropos of this subject, the writer many years ago suggested that the health officer of every town should keep a register in which should be represented every house in the town or city, in connection with which there should be kept a complete sanitary history of the building, which should show every case of sickness from whatever cause, whether chronic or acute, and all cases of death, with the causes of death. A person desirous of purchasing or renting a dwelling, could, by consulting this register, learn the exact history of any house which might be under consideration, and might obtain information, the value of which, in the saving of sickness and life, could scarcely be estimated.

SELF-EXAMINATION FOR CATARACT.— A writer in *Knowledge*, of London, describes a method by which one may examine his own eyes with reference to the existence of cataract. The only instrument necessary is a piece of smooth cardboard in which a small hole has been pierced with a pin. Turning the eye toward the clear sky, cover it with the card in such a manner as to bring the pin hole close to the eye and opposite the pupil. When the card is in proper position, a wide, faintly illuminated field appears, on which the cataract will be projected, if present. This phenomenon is due to the fact that a shadow is produced by the small penciled light through the pin hole.

ANTISEPTIC GUM.—A German has at last found a real utility for gum. Modern researches have shown that the germs of consumption, diphtheria, pneumonia, and other maladies are almost constantly present in the mouths of fully half of all persons living in civilized communities. This fact emphasises the importance of mouth cleanliness. Cleansing the mouth very thoroughly several times daily with a brush and water to which some mild antiseptic has been added, such as essence of cinnamon, menthol, or thymol, is an excellent precaution against these contagious maladies. Nevertheless, the infrequency of the application must greatly lessen its efficiency to secure constant asepsis of the mouth. A German professor has proposed the use of gum containing a mild antiseptic. It is not, of course, to be supposed that the amount of any germicide which can be used in this way will be sufficient to actually destroy the dangerous microbes which may be found present in the mouth, but it has long been known that the presence of a certain amount of such antiseptics as cinnamon, and most other essential oils, but particularly cinnamon, is sufficient to prevent the growth and development of nearly all dangerous germs,— to paralyze the microbe. Thus, even although the microbes are not actually destroyed, their pernicious activity is controlled and their development prevented.

How to Prepare Malted Milk.— The discovery was made a few years since that the extract of malt contains, in addition to the well-known starch-digesting ferment which converts starch into maltose, a ferment capable of digesting albuminoid substances. The following is the method of preparation: To a pint of milk add one tablespoonful of malt. The milk may be heated to a temperature of 60°, being boiled for twenty or thirty minutes. This ferment, known as peptose, acts upon albuminoids very slowly at ordinary or lower temperatures. It is analogous to the ferment found in pineapple juice. It is destroyed at 175° F. After that, it should be brought to a boiling point. This will check the further action of the malt. Milk thus treated does not form large hard curds in the stomach, and agrees perfectly with many persons who cannot digest milk in its hard form. This method of peptonizing milk is much preferable to the old method, in which various preparations of pancreatin are employed.

These animal substances not infrequently gave to milk a very unpleasant flavor and odor, and sometimes imparted to it poisonous substances.

Chewing Liquid Foods.— The idea of *drinking* milk is unhygienic; milk should be eaten. It should be taken as food, and it needs to be carefully chewed. A calf always chews his milk. It is necessary that milk, as well as all other food, should be carefully chewed in order to be digested. It is just as necessary to mix saliva with milk, as with bread, in order to digest it. The idea that milk is a liquid, and hence it cannot be chewed is a mistaken one. Take small sips, with a little cracker or toast, and then chew it.

ANSWERS TO CORRESPONDENTS.

The "California Cold Process" of Fruit Canning.— Mrs. J. C. W. asks for information in regard to the above process, whether it is reliable, and also whether the "Extract of Salyx," sold by a certain company at the rate of $1 for a two-ounce package, is harmless.

Ans.— We are acquainted with no "cold process" for preserving food which does not depend upon some antiseptic substance. All so-called antiseptics, including salicylic acid, which is probably the basis of the so-called "Extract of Salyx," are more or less poisonous and injurious.

Eggs— Alabastine.— S. U. B. asks the following questions: "1. Which class of eggs contains the most nutrition, those having yolks of a rich yellow color, or those having yolks of a light cream color? 2. When plastering is cracked, will alabastine fill up and cover the cracks?"

Ans.—1. We are not aware of any analyses relating to this question. Probably there is no practical difference between the two kinds of eggs described.

2. Cracks in plastering should be filled with plaster of paris before the application of alabastine or any other form of plastering.

Painful Menstruation.—J. A. L. writes: "My wife suffers acutely at time of menstruation; is there anything you can recommend that would tide her over this time with less pain?"

Ans.—Rest in bed and a hot hip-pack taken at the time will often relieve menstrual pain. But the patient should place herself under the care of a skillful physician, as the pain is only a symptom, and doubtless indicates a diseased condition which requires close attention and skillful treatment.

Cure for Tobacco Using.— J. H. S. writes as follows: "In Good Health the assertion is made that you 'have found no difficulty in relieving the worst tobacco users of the habit in two weeks, where there was a genuine desire to reform.' I have that 'genuine desire'; and would be glad to have you outline the treatment best for me. I have chewed tobacco immoderately for eighteen years."

Ans.— It will be necessary for the patient to visit the Sanitarium and place himself under treatment. We have no panacea which we can recommend for use at home.

Peroxide of Hydrogen.— F. E. H. asks: "Do you recommend the use of peroxide of hydrogen for bronchitis, nasal catarrh, or catarrh of the stomach?"

Ans.— We have no experience in the use of this remedy in treating bronchitis or catarrh of the nose or stomach. There are other remedies in which we should have greater confidence.

Water Rising in the Mouth — Amount of Food, Etc.— S. A. B. wishes to know: "1. What is the cause of nausea, and water rising in the mouth a few hours after a meal? 2. What is then the condition of the stomach? 3. What is the proper quantity of food per day, in weight, for persons engaged in office work? 4. Is corn as nutritious and easily digested as wheat, oats, etc.? 5. Are 'roasting ears'; or green corn cut and stewed, safe food for catarrhal subjects, or those afflicted with bad livers?"

Ans.— 1. Indigestion.

2. There is a failure of the stomach to absorb its fluid contents.

3. Twenty to twenty-one ounces of water-free food.

4. Practically, yes.

5. Yes.

Soreness of the Stomach — Tenderness of the Flesh, Etc.— M. H. is troubled with a soreness of the stomach, and the entire flesh is tender to the touch. A part of the time the spine and kidneys are sore. He has worn an abdominal bandage, and it gives strength of body and also of will power. When he takes it off, he seems helpless in mind and body. He asks: "Is it right to wear this bandage constantly? If not, what would you advise?"

Ans.— The bandage can be worn a long time without injury, provided pains are taken to keep the skin in a healthy state. A good plan is to wear a moist bandage during the night, and a dry bandage during the day. The skin should be kept thoroughly clean by daily washing with soap and water. Bathing the skin with alcohol is also a good means of keeping it healthy.

TEMPERATURE FOR MORNING BATH — KEROSENE AS A LINIMENT, ETC.— Mrs. E. R. asks the following questions: "1. What temperature is best for a morning bath? 2. Would you recommend the use of soap at every bath? 3. If so, what kind of soap? 4. Will Glen Sulphur Soap cure skin diseases? 5. Is the use of kerosene as a liniment for rheumatism, etc., injurious? 6. Is the use of tamarack, balsam of fir, and such gums in kidney difficulty beneficial or otherwise? 7. Can catarrh be cured by the use of the nasal douche? 8. Does a cancer upon the face, in its first stages, resemble a scab which is sore to the touch?"

Ans.— 1. Seventy to eighty degrees, or cooler if reaction is strong. Our custom is to take the water just as it comes from the surface pipe. The cooler the water, the more vigorous is the tonic effect.

2. No.

3. When soap is used, the best castile soap is as good as any.

4. This soap is doubtless to some degree antiseptic, and as some skin diseases are due to germs, it is to that extent beneficial.

5. No.

6. Not to be recommended.

7. There are other means more valuable than the nasal douche. We recommend the Sanitarium Volatilizer. Address Sanitarium Supply Company.

8. Sometimes.

THE USE OF MEATS AND CONDIMENTS.— W. W. C. asks concerning the attitude of the Sanitarium toward meats and condiments?

Ans.— The attitude of the Sanitarium toward meats and condiments is uncompromisingly hostile.

CRANBERRIES.— R. B. H. asks: "What do you think of cranberries as an article of diet? Should they be strained so as to remove all the skins?"

Ans.— When well cooked, cranberries are digestible. They are, however, so extremely acid as to require so large an amount of sugar that their use must be avoided by persons with sour or dilated stomachs.

CATARRH OF THE LARYNX — GOITER.— Mrs. H. wishes to know: "1. Is a constant accumulation of phlegm in the throat an indication of catarrh of the larnyx? 2. If so, please give advice as to treatment? 3. What is the best home treatment for goiter?"

Ans. 1. Yes.

2. We recommend the use of the Sanitarium Volatilizer and the application of a cold pack at night.

3. The cold pack is good for goiter. Hot and cold applications are beneficial. Galvanism is a valuable remedy. Sometimes an operation is required. These cases cannot always be successfully treated at home.

KENNEDY'S MEDICAL DISCOVERY.— M. B. desires information regarding the composition of the above preparation, and also regarding its efficacy.

Ans.— We quote the following statement concerning the composition of Kennedy's Medical Discovery from the "Household Monitor of Health," which gives the ingredients of a great number of patent nostrums: —

"According to King's American Dispensatory, this much advertised remedy consists of sneezewort 1 oz., bitter-root 4 dr., boiling water 8 oz., proof spirits 10 oz., licorice root 4 dr., white sugar 4 oz., tinct. wintergreen 1 oz."

HURTFULNESS OF BRAN AS A FOOD.—J. E. H. writes as follows: "It is claimed by some persons that the bran from wheat is valueless as a food, and that it is even injurious, acting as an irritant to the stomach and bowels, producing congestion and perhaps inflammation. Also, that its continued use overstimulates and tires out the bowels, and so produces constipation. Is there any truth in the above statements?"

Ans. —Bran is not nutritious, but is valuable to give bulk to food which is necessary for the maintenance of health. Bran is not injurious, except in cases of chronic inflammation or catarrh of the bowels, or an irritable stomach.

MOUTH BREATHING.—Mrs. E. G. writes that her child, six years of age, has the habit of breathing with the mouth open when asleep, and asks: "What would you advise me to do for the purpose of correcting this habit?"

Ans. —Send 75 cents to the Sanitary Supply Company for a simple means by which mouth breathing may be prevented. In case a child cannot breathe through its nose, it should have treatment for nasal obstruction.

BURNING OF THE FEET.—H. A. B. wishes to know if there is any remedy for burning of the feet.

Ans.—The alternate hot and cold footbath is a good remedy for burning of the feet. A bottle filled with cold water is a convenient means for relief when the burning is particularly troublesome at night.

GRAPE SEEDS.— W. C. C. asks if the stones and skins of raisins and grapes are injurious, if well ground with the teeth before swallowing?

Ans.— No.

THE STRENGTHENING OF NERVES AND MUSCLES, ETC.— E. E. D. inquires: "1. If nerves heal or strengthen by rest, and muscles grow or strengthen by exercise, how can each be treated without conflicting one with the other? 2. Is it beneficial for a weak person to give himself rubbings and kneadings, or should a stronger person give them?"

Ans.— 1. Exhausted muscles, as well as exhausted nerves, require rest, but exhausted nerves as well as muscles require exercise to give them strength; so in both cases we must have, for a complete cure, first rest, then work.

2. Yes; but more benefit is derived when the rubbing and kneading is applied by another person, not because of any personal magnetism or influence communicated, but because it can be given more efficiently.

ORIFICIAL SURGERY.—E. T., Penn., asks our opinion of orificial surgery as a cure for constipation.

Ans.— Orificial surgery is a fad. The average orificial surgeon finds a patient in every person who consults him. Some of the most obstinate cases of constipation we have been called upon to treat have been previously victims of so-called orificial surgeons. Hemorrhoids and other real maladies affecting the lower portion of the alimentary canal require suitable treatment, but it is the height of absurdity to treat the rectum for headache, neuralgia, insanity, consumption, and every ill that flesh is heir to. Constipation is much more frequently due to some disorder with which the rectum has nothing whatever to do, than to any ailment of this portion of the body.

RELIEF DEPARTMENT.

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

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

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

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

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

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

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

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

No. 217 is a nine-year-old boy living in Indiana. He has dark blue eyes and dark hair, is said to be obedient, and has had good care. Last winter his father died, leaving his mother with no means of support, and he has no friends who are able to care for him. Will some family receive him as their own, and still direct his feet in the right way?

No. 218 is a healthy Swedish boy only four years old, living in Minnesota, who has no one to care for him. At the present time he has a temporary home, but he cannot remain in this place long. He has brown hair and eyes, and is said to be an intelligent little fellow. He would surely cheer some home, should a kind mother bestow upon him her love and care.

No. 231 is another Michigan boy. He is but nine years old, and is left in the world with no one to care for him but the county authorities, as his mother is dead and his father has deserted him. He has dark blue eyes and brown hair, and is said to be kind, easily governed, and to have fine sensibilities. Who will offer a home to him who is worse than an orphan?

WORD has come from Colorado telling us of a thirteen-year-old boy (No. 232) whose father is dead. His mother desires to place him in some home, but does not wish to give up full control. He has brown eyes and hair, and has not been allowed to run the streets. Will some one offer this boy a home for a few years?

Is there not some good home in the Southern States where a twelve-year-old boy (No. 233) can find parents? This boy's father and mother are both dead, and just at this age he surely needs to be surrounded with good influences and to receive kind advice and encouragement, so that he may grow to be a useful man. He has black eyes, and is said to be intelligent and in good health.

NOS. 235, 236, AND 237.— The father of two girls and one boy, ages respectively 12, 11, and 9 years, now living in Massachusetts, is anxious that his children may have the care and training such as only some kind mother could give. He desires that homes be provided for them in the New England States. The children all have dark eyes and hair, are industrious, and have not been neglected.

THREE more children have been placed in homes during the month. No doubt our readers have noticed that among the cases advertised, boys who are in need of homes are in the majority. Many persons would gladly take a quiet and amiable little girl into their home, but few wish to be annoyed with the noise of an active boy. Here is one mother who offered to furnish a home for two boys to fill the vacancy caused by the death of three of her own children. As we had learned of some children whose mother was dead and their only home a boarding place, we at once wrote to this friend who was anxious to bestow her love upon some motherless boys. The following word has just been received from her: —

"We have obtained the little boy, also his brother. They are real smart, and we have learned to love them already. Their ages are eight and fourteen years. My love for the work does not lessen because we have these boys; but if anything, it increases. We only wish we could do more when we see so many poor, homeless children all around us."

SEVERAL weeks ago application was made for a certain little girl who was advertised in the Relief Department. As other applications had already been received for the child, arrangements had been made for her to go elsewhere. Another little girl

was found whom we considered might suit this applicant, and the child was finally received into her home. The lady writes as follows in regard to her: —

"When I took her, some five weeks ago, it was on trial; and when I showed her to her room, I told her that I had prepared it for a little girl whom I had failed to get, and was now looking for another. Before the third day was ended, she begged earnestly to be allowed to be that 'other little girl.' I had by that time made up my mind that she was the Lord's choice for me, so I gave consent. For a while she was very happy, but by and by her joy seemed clouded and she asked sadly, 'Mamma, could n't you take *two* little girls? What will become of the little girl whom you would have taken if you had n't given the home to me?' Nothing I could say pacified her; she evidently had a heartache for the unknown homeless child. Finally I proposed that we ask God to give that child a good home and a kind mother. Since then she has not even spoken of her. She cast the burden on the Lord.

"She knew the Lord's Prayer but nothing about personal petitions when she came to me. So as she knelt at my knee that first night, I told her she might ask the Lord for anything she really wanted for Jesus' sake, and that if it was best, she would surely get it; but I gave no further bias to her prayer. It touches me to hear her never fail to pray for 'mother,' that God may 'keep her well and not let her get so tired, and help me to be a comfort to her,'— all her own ideas and her own wording.

"I am so thankful that I have her and not the child of my first choice. This little one fits into my home so well; she is the right one, faults nothwithstanding and nevertheless.

"I never tell a child that I do not love her because she is naughty, but that I love her just as much, only that it is with a sad sorry love when she is bad, and with a glad, proud love when she is good. This M—— thoroughly understands. I think it is the secret of her steadily increasing love for me. She came to me yesterday and whispered, 'I love my mamma, for I just know I have the best mamma in all the world.' Someone asked her if she was happy here. 'Why, I am so happy here that I have to keep smiling all the time,' was her reply. I thank God for giving me just this child."

WE have just received a letter from a little girl who has been in her new home about six months, stating that she has a lovely home and has not been homesick; also that her mother teaches her to be a good girl.

IN our Relief Department each month are offered opportunities for persons to accept the privilege of training some child for a life of usefulness. Many lives might be made happy by working for some unfortunate child. If circumstances are such that a child cannot be taken into one's own home, perhaps someone may be found near by who is longing to give kind, motherly attention to some orphan child.

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

VISITING DAYS AT THE HASKELL HOME.

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

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 Medical Mission should be sent to 40 Custom House Place, Chicago, Ill.

LITERARY NOTICES.

LAST year The Bancroft Company established themselves in the Auditorium building, Chicago, for the express purpose of producing in print and pictures, the best work on the great Columbian Exposition. They sent East and to Europe for the best artists, and set up an entire plant for drawing, photographing, and engraving. Being in the field long before the Exposition opened, they prepared in every way to paint this wonderful panorama true to life. In many respects THE BOOK OF THE FAIR, by Hubert Howe Bancroft, has no competitor, and can have none.

To enter into details regarding its plan is obviously impossible. Not only have the buildings and the exhibits of the Exposition departments their special curios and educational attractions, but the commonwealths of the United States and the foreign countries present miniature worlds in themselves. All are reproduced true to life. There are also scores of unclassified features, such as those grouped and massed along the Midway Plaisance. Then again, are presented the intellectual and religious traits of all nations, such as center around the World's Congress Auxiliary. To clearly place this vast panorama before the public is a work worthy of the highest ambition; but the Bancroft Company is accustomed to great enterprises and to carrying them to a suceessful issue.

"ITALIAN GARDENS."— By Charles A. Platt. With a colored frontispiece (printed in Paris) and many illustrations. 4to, cloth, ornamental, uncut edges, and gilt top, $5. (*In a box.*) Harper and Brothers, New York.

Mr. Platt's book is the result of a careful study of some of the most perfect examples of landscape-gardening in Southern Europe, and it is illustrated with numerous beautiful views of famous gardens in the neighborhood of Rome and Florence, including a colored frontispiece. The volume will be much sought after, both on account of its artistic beauty and for its variety of practical suggestions.

ONE woman's most unique experience of life for a year in a Michigan lumber camp is most charmingly told in an exceedingly interesting article, "In and about a Lumber Camp," published in the August number of *Demorest's Family Magazine;* and after reading her vivid description of the life of the lumbermen and the *modus operandi* of "logging," illustrated with superb half-tone pictures, one feels thoroughly posted about this picturesque though laborious industry. But not every lumber camp is blessed with the ministrations of a trained nurse. Under the apt title "Golden Silence" a pathetic story of a deaf mute is told, and incidentally one may learn the method by which these unfortunates communicate with their fellow beings. "How to Read and Write in Cipher" will furnish entertainment for many a summer or winter evening. "The Flower Garden in August" furnishes many excellent suggestions for the care of flowers in midsummer; and an especially timely paper entitled "Visiting the Sick" should be read by every one.

THE complete novel in the August number of *Lippincott's* is "Sweetheart Manette," by Maurice Thompson. Louise Stockton's tale, "A Mess of Pottage," is concluded. Other short stories are "At the Rough-and-Tumble Landing," by Prof. Charles G. D. Roberts; "A Military Manœuvre," by Kate Lee Ashley; "The Everlastin' Buzzards' Sit," by Charles Mc Ilvaine; and "An In Memoriam of the Keys," by Johanna Staats. Thomas Stinson Jarvis contributes an acute and suggestive essay on "Feminine Phases," and Charles Henry Webb discusses "Uncared-for Cats" in a humanely humorous vein. Mrs. M. E. W. Sherwood supplies interesting reminiscences of "Washington Before the War." Mary Elisabeth Blake writes on "Muscles and Morals," George Grantham Bain on "Newspaper 'Faking,'" and Will Clemens on "Chinese Shops" and their peculiar signs. The poetry of the number is by Margaret Gilman George, Dora Read Goodale, Fannie Bent Dillingham, and Professor John B. Tabb.

Scribner's Magazine for August is a fiction number, as has been the custom for seven years. It contains six complete short stories, all of which are distinguished by an individuality and a delicate fancy that make them of unusual quality, even for the high standard of short fiction in American magazines. A literary feature of great interest is a batch of letters from James Russell Lowell to Edgar A. Poe, written when the former was about twenty-five years of age, and was editing the *Pioneer*. These letters were orignally in the possession of Dr. R. W. Griswold, and recently came, through his executor, into the hands of his son, W. M. Griswold, of Cambridge, Mass. Prof. George E. Woodberry, the biographer of Poe, furnishes an introduction and notes. The number contains only one poem, a ballad by C. G. D. Roberts, with four very graceful illustrations by Kaemmerer.

PUBLISHERS' DEPARTMENT.

AMONG the many pleasant and distinguished guests of the Sanitarium the present season are to be found Col. Haldeman, of Kentucky, proprietor of the Louisville *Courier-Journal*, with his wife and daughter, and other members of his family, the editor and publisher of the *Inter-Ocean*, with his wife and sons and daughters, and Judge Armstrong, of Lexington, Ky. It is seldom that we find at the Sanitarium a more intelligent, agreeable, and contented family of guests than at the present time.

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THE Sanitarium medical corps has recently been strongly reinforced by the arrival of a number of physicians who, after having spent several years under Sanitarium training and study, have recently graduated at medical colleges. Ten or more of these new physicians are now taking post-graduate studies at the Sanitarium, at the same time assisting in the various branches of medical work, so that the present medical corps reaches nearly twenty graduated physicians, besides more than a dozen medical students and over two hundred nurses. There is probably no place in the world where a sick person requiring careful attention can receive so much thoughtful and intelligent care as at this institution.

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SMALLPOX AND MEASLES IN OHIO, PROBABLY CONTRACTED AT MERCHANT'S HOTEL, DETROIT.— It will be remembered that Miss Leonard died at the Merchant's Hotel, Detroit, June 6, 1894. Dr. Cleland had reported the case as measles, but the fact developed that she died of smallpox.

The Secretary of the Michigan State Board of Health is informed that Henry Mc Gale left Lenawee Junction, in Palmyra township, Lenawee county, Michigan, about June 5, 1894, and stopped that night and the following night at the Merchant's Hotel, in Detroit. He reached Luckey, Ohio, June 7, and developed smallpox June 22 or 23. The Secretary of the Ohio State Board of Health, in speaking of Mc Gale, says: "This patient had measles within a week after coming to Luckey, and within another week was taken with smallpox. There were three children in the family in which he was staying, and I saw them when two of them had a well-marked case of measles, while the third had both measles and the eruption of smallpox at one and the same time. This child had a well-marked case of smallpox, and his two brothers have within the last day or two contracted smallpox from him."

From the foregoing, it may be inferred that Mc Gale contracted both diseases, measles and small-pox, at the same place, — the Merchant's Hotel, Detroit. The period of incubation appears to have been slightly less in the cases of measles than in the cases of smallpox. Probably the reason why Dr. Cleland overlooked the smallpox was because it supervened upon a well-marked case of measles.

HENRY B. BAKER.

Office of the Secretary of the Michigan State Board of Health,
Lansing, Michigan, July 30, 1894.

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THE new dress catalogue, issued by the Sanitarium Electrical Supply Co., marks a great step in advance in solving the problem of healthful dress for women. The numerous cuts with which the pamphlet is illustrated present the subject of healthful dress in a manner calculated to arrest the attention of the most indifferent, and demonstrate the fact that a dress may be at the same time in perfect accord with the highest requirements of art and with the strictest principles of hygiene. Those who are interested in the question of healthful dress for women should send a postage stamp to the Sanitarium Electrical Supply Co., Battle Creek, Mich., for a copy of the new catalogue above referred to.

As we are apprised by special communication, the business inaugurated by Mr. Graham, at 744 Broadway, New York City, will still be continued under the old firm name of Andrew J. Graham and Co., Mr Graham's interest remaining. The June number of the *Student's Journal*, Mr. Graham's own magazine, devoted to Graham's Standard Phonography, was a memorial number, with a fine photo-engraving of its founder as a frontispiece.

* * *

THE MICHIGAN CENTRAL, "The Niagara Falls Route" for the season of 1894, has placed on sale Summer Tourist's tickets to all the principal Summer resorts of Michigan, Canada, and the New England Coast resorts, including the Thousand Islands, St. Lawrence River, Berkshire Hills, White Mountains, Adirondack Mountains, and Vermont resorts. The magnificent train service of the Michigan Central is unsurpassed in beauty, elegance, completeness, and comfort of its equipment, and its famous through trains carry Wagner palace sleeping and parlor cars, and serve meals in their own dining cars. Write or call upon any Michigan Central agent for a copy of their Summer Tourist book and latest folders.

* * *

"WHERE FARMING PAYS."— Is it in the Northwest, with wheat at less than 50 cents a bushel, with zero weather, and blizzards in winter and cyclones in summer? — No! Go to Virginia; land is cheap, climate perfect all the year round. Ask any one who knows, and he will tell you that in the tidewater section one acre of land has produced as high as $2000 in one season.

It is worth looking into. Apply to C. H. Bovee, Gen'l Land and Excursion Agent, Coldwater, Mich., for pamphlet, "Facts for Farmers," free. No statements are made that are not corroborated by practical farmers who have grown rich on their Virginia farms.

* * *

WEATHER IN MICHIGAN.— While the States of Iowa, Illinois, Kansas, Nebraska, the South, and in fact the great part of the United States have been during the last week blistering under a scorching sun and withered by veritable simoons, Michigan has been fanned by cool breezes from the surrounding lakes, and has not experienced a rise of temperature sufficiently great to produce serious discomfort. Michigan is, in fact, an inland island, in which respect it is unique, as there is perhaps no other body of land in the world, of the same size, so peculiarly located. The lakes moderate both the summer's heat and the winter's cold, so that Michigan enjoys the cool, breezy summers of the extreme northwest and the winter temperature of southern Ohio. This peculiarity of this climate which, within the last few years has become more and more extensively known, is doubtless the secret of the growing popularity of Michigan as a health resort. The whole State is, in fact, one great health resort. The hundreds of little lakes which dot its surface, are, at the present season, surrounded with camping parties who find a delightful alternation of rest and exercise in skimming in safety over the glassy surface of the lakes in row or sailboats, or lying beneath the trees upon the breezy grass-covered slopes of the shore.

* * *

ONE of the leading summer attractions of the Battle Creek Sanitarium is the beautiful lake connected with it, at a distance of only a couple of miles, in sight from the upper stories of the building, and reached at any time by easy conveyance. A large cottage with a dining pavilion large enough to accommodate two or three hundred guests at once furnishes delightful headquarters at the lake, the high banks of which command charming vistas in various directions. Steamers, row and sailboats are constantly plying up and down the lake by the landing at the Sanitarium grounds. Patients and guests of the institution are supplied with rowboats free of cost. There is probably no institution in the country which offers so many country attractions as does the Sanitarium, aside from its superior advantages as a scientific medical institution and as the leading health institution of the country.

* * *

THE guests of the Sanitarium and the citizens of Battle Creek have been greatly instructed, and entertained from a two days' visit from Bishop Thoburn, the world-famous missionary of India. Bishop Thoburn's great work in India has become known throughout the whole world as the most notable work in christianizing the heathen which has been witnessed since the days of the apostles. For the last two years a steady ingathering at the rate of fifty a day has added nearly 50,000 converts to the communicants of the Methodist Church in India under Bishop Thoburn's management. The Bishop's mission in this country is to gather funds for the carrying forward of this special evangelizing effort and for the support of his numerous schools into which 2000 pupils have been already gathered within the last two years. In these schools such great economy is practiced, and such careful management prevails that ten boys or girls can be clothed, fed, taught, and cared for for the small sum of $100 a year. Here is a grand opportunity for persons who are philanthropically inclined to do a vast deal of good with very little money. The editor of this journal would be glad to hear from any one who is interested in this work, and will cheerfully give such further information as may be required by those who wish to be put in communication with the conductors of this vast humanitarian enterprise.

* * *

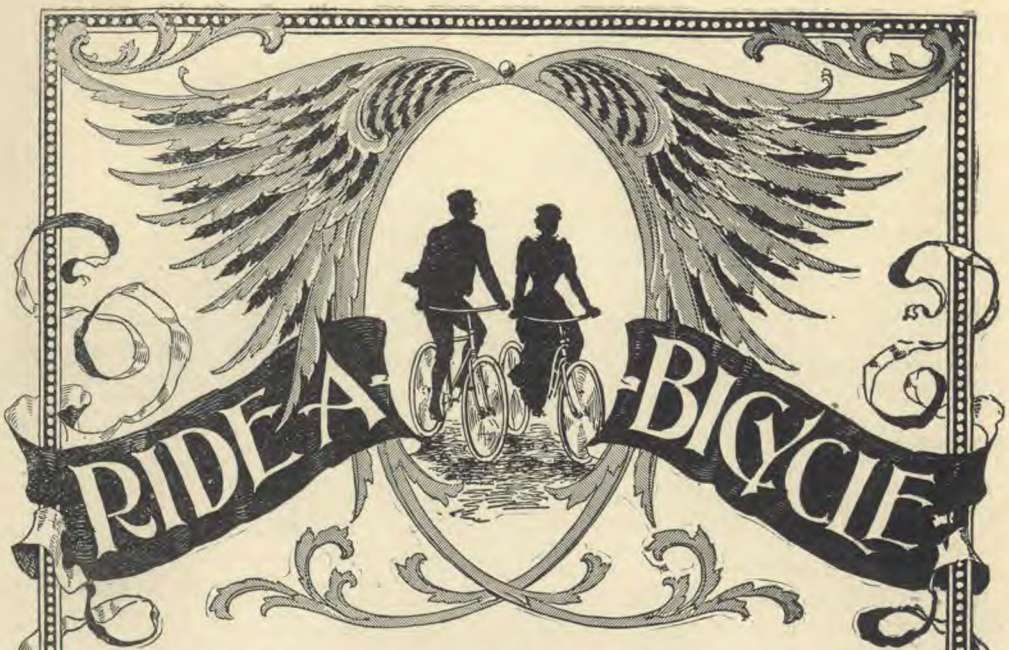
THE BEAUTY OF NIAGARA

can never be described, and it has never been pictured so adequately and satisfactorily as in the splendid portfolio just issued by the Michigan Central, "The Niagara Falls Route." It contains fifteen large plates from the very best instantaneous photographs, which cannot be bought for as many dollars. All these can be bought for ten cents at the Michigan Central Ticket Office.

* * *

WHERE TO LOCATE NEW FACTORIES.

THIS is the title of a 150-page pamphlet recently published by the Passenger Department of the Illinois Central Railroad, and should be read by every mechanic, capitalist, and manufacturer. It describes in detail the manufacturing advantages of the principal cities and towns on the line of the Southern Division of the Illinois Central, and the Louisville, New Orleans, and Texas Railroads, and indicates the character and amount of substantial aid each city or town is willing to contribute. It furnishes conclusive proof that the South possesses advantages for the establishment of every kind of factory working wool, cotton, wood, or clay. For a free copy of this illustrated pamphlet, address C. C. Power, Foreign Representative, 58 Michigan Ave., Chicago, Ill.



RIDE A BICYCLE

IT will not only open up a new source of enjoyment to you, but will increase your capacity to enjoy. It is the best of outdoor exercise, broadening the mind, strengthening the powers, and stimulating the activities.

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It is a beautiful machine of the highest grade and most perfect construction. Always a source of pride and gratification to its owner and an object of admiration to all wheelmen, it is indisputably the standard bicycle of the world—unequalled, unapproached.

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BOSTON · CHICAGO
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THE SANITARIAN

1873.—Twenty-Second Year.—1894.

THE SANITARIAN is a monthly magazine devoted to the promotion of the art and science of sanitation, mentally and physically, in all their relations; by the investigation, presentation, and discussion of all subjects in this large domain, as related to personal and household hygiene, domicile, soil and climate, food and drink, mental and physical culture, habit and exercise, occupation, vital statistics, sanitary organizations and laws,—in short, everything promotive of, or in conflict with, health, with the purpose of rendering sanitation a popular theme of study and universally practical.

THE SANITARIAN is filled with articles of scientific interest and practical value. It would be difficult to plan a better professional magazine than this, which is to the medical world what the *Scientific American* is to the artisan world. It deserves a greatly increased circulation. —*Baltimore Methodist.*

THE SANITARIAN is not only an interesting magazine to the specialist and the medical man, but it is of high value to thickly settled communities, to homes, to general readers, to city authorities—indeed, we would place the journal, for public good, in the hands of every adult, believing that misery and suffering would thereby be lessened and human happiness augmented by the knowledge the journal disseminates. —*Sacramento Record-Union.*

TERMS:

$4.00 a year, in advance; 35 cents a number; sample copies, 20 cents—ten two-cent postage stamps.

The SANITARIAN is published as hitherto, in New York. **THE AMERICAN NEWS COMPANY, General Agents.** Newsdealers will get their supplies from them.

☞ All correspondence and exchanges with the SANITARIAN, and all publications for review, should be addressed to the editor,—

Dr. A. N. BELL, Brooklyn, N. Y.

CHICAGO & GRAND TRUNK R. R.

Time Table, in Effect June 3, 1894.

GOING EAST. Read Down.						STATIONS.	GOING WEST. Read up.						
10 Mail Ex.	8 Erie Lim.	4 L't'd Ex.	6 Atl. Ex.	42 Mixd Tr'n.	2 Pt. H Pass		11 Mail Ex.	1 Day Ex.	3 R'd L't'd	23 B. C. Pass.	7 Erie L't'd	9 P'fic Ex.
a m	a m	p m	p m				p m	p m	pm		p m	p m
8.40	11.25	3.10	8.15	a m	.....	D.Chicago A..	7.28	4.50	9.10	.....	10.30	8.00
11.10	1.20	5.05	10.30	6.00	.....	...Valparaiso...	5.05	2.45	7.10	.....	8.30	5.45
p m												
12.40	2.35	6.30	12.00	10.05	.....	..South Bend..	3.10	1.20	5.44	.....	7.10	4.10
1.29	3.07	7.12	1.45	12.40	.....	...Cassopolis ..	2.15	12.40	5.13	.....	6.30	3.28
2.21	.....	.....	†1.33	3.42	.....	...Schoolcraft..	1.20	12.02	.....	.....	.....	.....
2.33	.....	7.55	1.48	4.10	a m	...Vicksburg...	1.10	11.53	.....	p m	.....	2.37
3.40	4.30	8.36	2.40	6.20	7.00	..Battle Creek.	12.25	11.15	3.55	9.35	5.18	1.50
4.33	5.11	9.26	3.25	.....	7.47	....Charlotte...	11.14	10.29	3.07	8.40	4.33	12.53
5.10	5.40	9.55	4.00	.....	8.20	.....Lansing....	10.40	10.02	2.40	8.00	4.03	12.20
6.30	6.30	10.45	5.03	.....	9.50	.....Durand....	9.35	9.05	1.55	6.50	3.20	11.28
7.30	7.05	11.17	5.40	.....	10.05	.....Flint.....	8.35	8.35	1.28	5.47	2.53	10.35
8.15	7.35	11.50	6.15	.....	10.43	.... Lapeer.....	7.49	8.02	1.00	5.10	2.25	10.01
8.42	.....	a m	6.35	.....	11.05	...Imlay City...	7.28	.....	.....	4.48	.....	.....
9.50	8.45	1.00	7.30	.....	12.05	Pt. H'n Tunnel	6.25	6.50	11.55	3.50	1.20	8.45
	p m	p m					a m	a m	a m	p m	p m	p m
9.25	9.25	.....	.....	.....	.....	.... Detroit.....	.....	6.40	10.40	¶4.05	.....	8.45
	a m	a m	p m					p m			a m	p m
.....	8.40	8.30	5.25	.....	.....	.... Toronto....	.....	10.10	.....	.....	7.20	1.00
	p m	p m	a m					a m			p m	
.....	8.05	7.50	7.25	.....	.....	... Montreal ...	.....	6.00	.....	.....	10.15	.....
	a m	a m	p m					p m			a m	
.....	8 12	8.12	7.15	.....	.....	.....Boston.....	.....	7.30	.....	.....	11.30	.....
	a m	a m	p m					a m	a m		a m	p m
.....	3.05	7.55	4.25	.....	.....	.Susp'n Bridge.	.....	1.20	7.05	.....	8.40	2.25
	a m	a m	p m					a m			a m	p m
.....	4.15	8.30	5.40	.....	.....	.....Buffalo.....	.....	12.00	.....	.....	6.15	1.00
	p m	p m	a m					a m	p m		p m	p m
.....	4.52	9.23	8.03	.....	.....	....New York...	.....	8.20	6.10	.....	5.00	8.00
		a m	a m								p m	p m
.....	.....	8.12	10.20	.....	.....	.....Boston.....	.....	.....	.....	.....	3.00	7.00

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

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

Valparaiso Accommodation daily except Sunday.

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

† Stop only on signal.

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

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

MICHIGAN CENTRAL

"The Niagara Falls Route."

Corrected June 10, 1894.

EAST.	*Night Express.	†Detroit Accom.	†Mail & Express.	*N. Y. & Bos. Spl.	*Eastern Express.	*N. Shore Limited.	*Atl'ntic Express.
STATIONS.							
Chicago.....	pm 9.35		am 6.50	am 10.30	pm 3.30	am 9.05	pm 11.30
Michigan City.	11.35		8.50	pm 12.20	5.20	10.46	am 1.19
Niles.....	am 12.45		10.05	1.20	6.25	11.43	2.45
Kalamazoo.....	2.15	am 7.20	11.47	2.40	7.40	pm 12.55	4.35
Battle Creek...	3.00	8.10	pm 12.50	3.13	8.18	1.28	5.22
Jackson.....	4.30	10.00	2.55	4.23	9.35	2.40	6.50
Ann Arbor.....	5.40	11.05	4.05	5.10	10.25	3.30	7.47
Detroit.....	7.10	pm 12.20	5.30	6.10	11.25	4.30	9.20
Buffalo.....				am 12.40	am 6.45	11.10	pm 5.20
Rochester.....				3.30	9.55	am 1.57	9.00
Syracuse.....				5.35	pm 12.15	3.55	10.45
New York.....				pm 1.45	8.45	11.00	am 7.00
Boston.....				4.15	11.45		10.50
WEST.	*Night Express.	*N.Y.Bos. & Chi.Sp.	†Mail & Express.	*N.Shore Limited.	*Weste'n Express.	† Kalam. Accom.	*Pacific Express.
STATIONS.							
Boston.....		am 10.30		pm 2.00			pm 7.15
New York.....		pm 1.00		4.30	pm 6.00		9.15
Syracuse.....		8.00		11.25	am 2.05		am 7.20
Rochester.....		9.50		am 1.17	4.00		9.55
Buffalo.....		11.20		2.20	5.30		pm 3.30
Detroit.....	pm 8.45	am 6.05	am 7.20	8.30	pm 1.00	pm 4.35	11.10
Ann Arbor.....	10.25	7.05	8.43	9.25	2.00	5.57	am 12.15
Jackson.....	11.40	8.10	10.43	10.32	3.00	7.40	1.25
Battle Creek...	am 1.17	9.20	pm 12.15	11.50	4.13	9.13	2.55
Kalamazoo....	2.10	9.58	1.00	pm 12.30	4.52	10.00	3.36
Niles.....	4.00	11.13	3.00	1 45	6.12		5.00
Michigan City.	5.09	pm 12.10	4.25	2.45	7.10		6.00
Chicago.....	7.10	2.00	6.35	4.30	9.00		7.50

*Daily. †Daily except Sunday.

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

Trains on Battle Creek Division depart at 8.10 a. m. and 4.20 p. m., and arrive at 12.40 p. m. and 7.15 p. m. daily except Sunday.

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

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

NON-ALCOHOLIC KUMYSS

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

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

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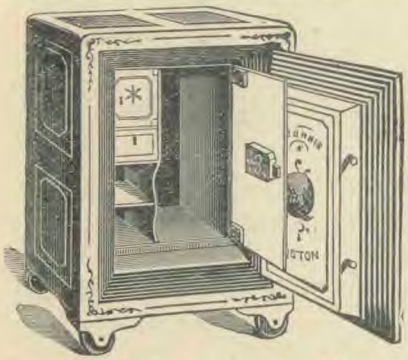

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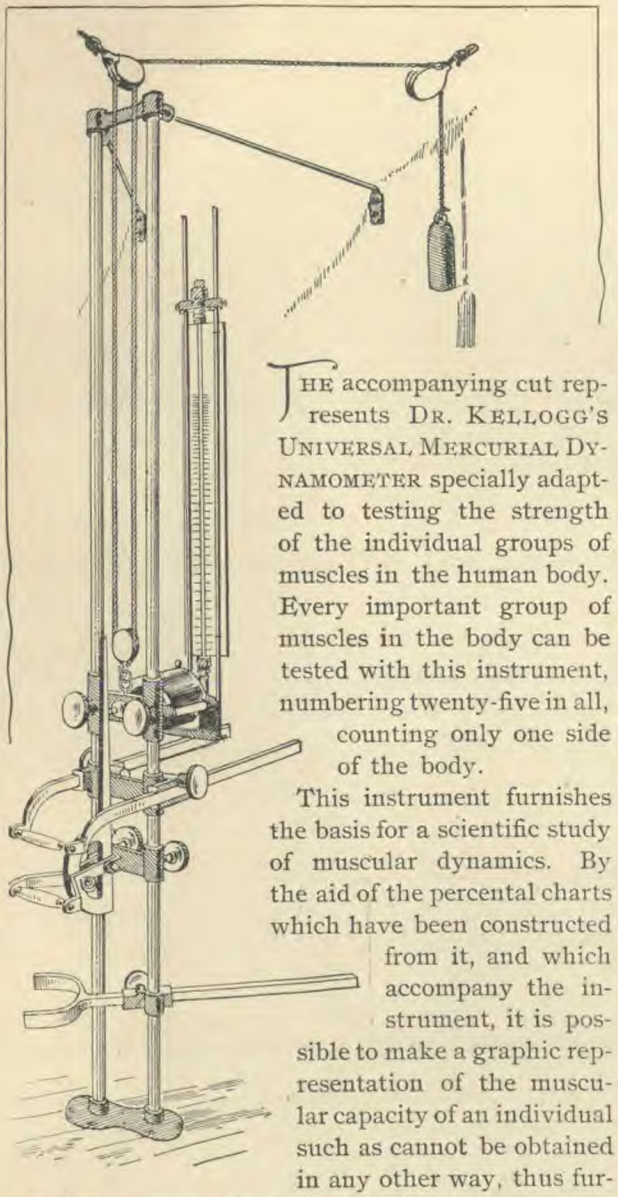

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No. 1 Graham Crackers	10	*Rye Wafers*	12	*Gluten Food No. 1*	50
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