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GOOD



HEALTH

CONDUCTED  
BY

J. H. KELLOGG M. D.

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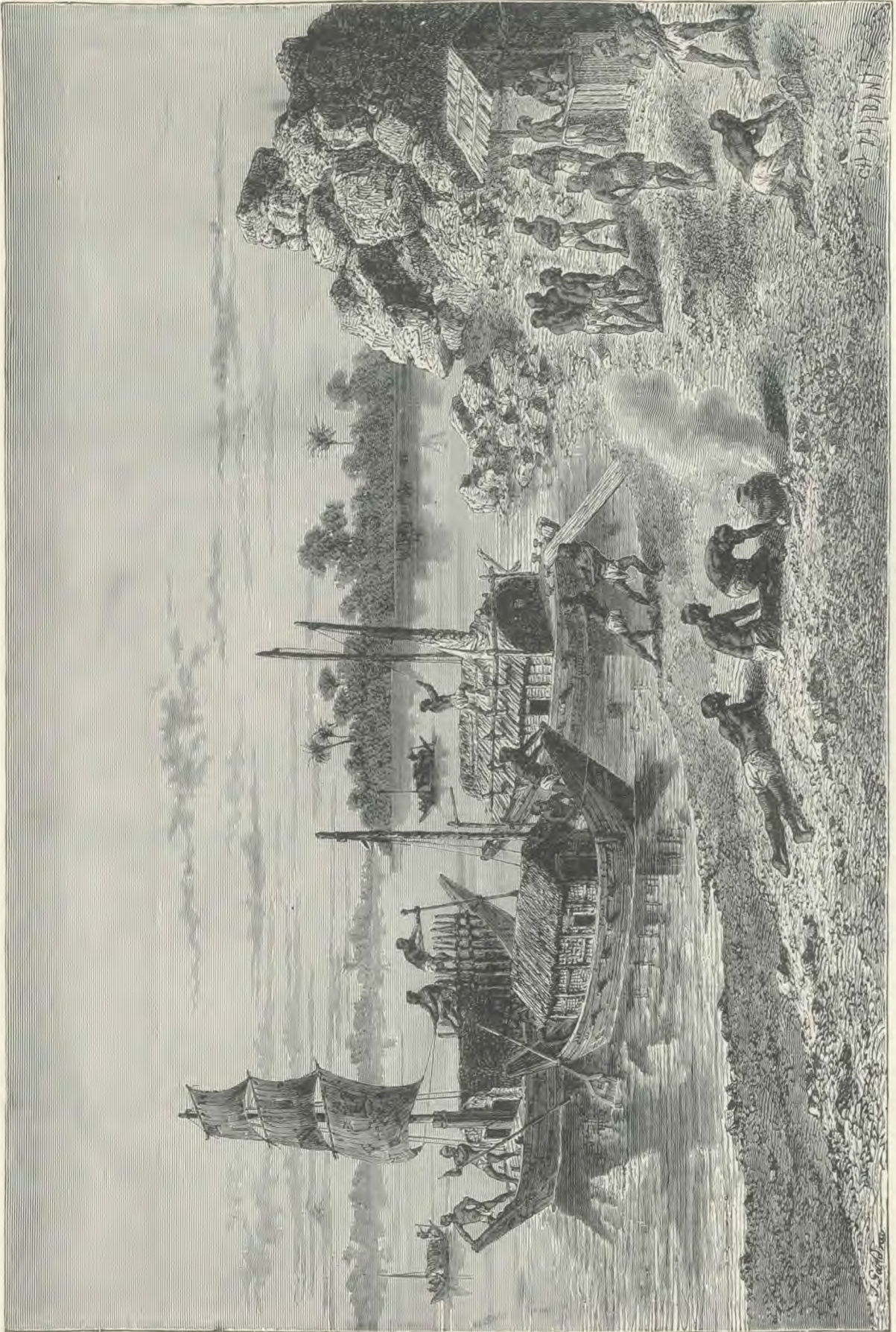
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BOATS ON THE RIVER GANGES.



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AUGUST, 1891.

INTERNATIONAL HEALTH STUDIES.

BY FELIX L. OSWALD, M. D.

Author of "Physical Education;" "The Bible of Nature," Etc.

28.—Brazil.

WHEN the Hebrew philanthropist Hirsch proposed to gather the children of Israel in the land of their forefathers, a London rabbi rejected the project, and predicted that the misery of the colonists would exceed their sufferings under the despotism of the Czar. "It is true," he says, "that in Palestine the Hebrew race attained the summit of its prosperity and power, but times have changed, and we might as well try to make the Amazon valley a rendezvous of the Northern nations, because the human species originated in the tropics. In Brazil, the Caucasian race has suffered a deeper degradation than anywhere else on earth, and the same fate might await Semitic colonists in the promised land of their ancestors."

The argument of the learned rabbi certainly involves no intentional misrepresentation, but confounds two entirely distinct phenomena. The plan of Baron Hirsch is liable to serious objections, because the Palestine of to-day bears no resemblance to the land that once flowed with milk and honey. The forests have disappeared, its pastures have been buried under the drift-sand of the Syrian desert, and its barren hills have become an unfit home for the best colonists. Brazil, on the other hand, has not changed, and may be considered a fair type of the sylvan summerlands that favored the development of the human race; but that race itself has deviated from its original state. Our early ancestors might have hailed Brazil as the paradise of the American continent, but the enervation of their descendants can no longer dispense with the climatic stimulus of the higher latitudes. Only high mountain plateaus have enabled Caucasian colonists to flourish in the neighborhood of the equator, and the topography of Brazil makes it, in that respect, the most unfavor-

able region of the South American continent. The Brazilian Republic, in its present extent, contains 3,150,000 square miles, or nearly fifteen times as much as the Austro-Hungarian empire, and throughout that enormous territory there is not a single mountain range which in Old Spain would be dignified with the name of Sierra. The northern half is an almost unbroken plain; the southeastern coast is here and there skirted by low hills, and only in the province (now State) of Minas Geraes, an isolated peak rises to the height of 5,200 feet—an elevation exceeded by Mt. Washington, N. H., by Mitchell's Peak, N. C., Clingman's Dome, Tenn., and by plateaus and mountain ranges in at least twenty other States of the American Union.

Brazil, in fact, is a flatter country than almost any other region of equal extent on this planet. There are mountains in the middle of the Sahara, and in central Siberia, but in Brazil even the water-sheds between mighty rivers are so low that in time of flood boats can pass from the Rio Madeira (a tributary of the Amazon) into the affluents of the La Plata, and from the Rio Negro into the Orinoco. The three million square miles of the Republic contain hardly an acre of ground (the hill-tops of the Sierra dos Orgaos perhaps excepted) blessed with a temperature which a New Englander would consider comfortably cool at any time of the year, but in other respects there is a considerable difference of climatic condition. The northern river plains are subject to excessive rain showers and violent thunder storms, while the southern provinces are much dryer, so much so, indeed, as to be subject to severe droughts.

Three times, in the course of this century, those droughts have ruined the stock-breeders of an area

of land as large as the State of Texas, still the south districts of the Republic are by far the best populated. In facilities of transportation, the magnificent river system of the North is almost unsurpassed, but the fearful insect plagues of its lowlands turn the



BOTOCUDOS.

scale against all other advantages. On a small plantation near the mouth of the Rio Negro, the naturalist Burmeister counted one hundred and twenty-two different species of blood-sucking mosquitoes, of all possible sizes, shapes, and colors. Some of those little tormentors appear only at night, others only in the twilight hours. The plurality of species, however, haunt the gloom of the damp, primeval forest at all times of the day and night, hovering about the traveler in humming clouds, and falling upon the face of a sleeper like a shower of hot ashes.

Ants, in some respects, constitute even a more horrible plague. A red variety, an inch in length, devours the harvest unless every field is surrounded with a deep water ditch. One of its congeners devotes its attention to the destruction of wood, and hollows out the timber of large buildings till the supports suddenly give way, and the roof comes down with a crash. Other species ravage fruits and vegetables, others are carnivorous and have no hesitation in attacking crippled domestic animals, or invading the larder in quest of viands. Fierce hornets fall upon the hunter who happens to approach the neighborhood of their nests, sand fleas lurk about stables and sugar mills, and ten or twelve different species of ticks with unpronounceable names cling to the lower side of the foliage, ready to drop upon the wanderer below.

Compared with that multitude of tiny fiends, man's enemies among the larger animal creation are rather insignificant. The jaguar may become mur-

derous in defense of its young, but has learned to avoid the neighborhood of the settlements, and rarely attacks a man without provocation. Venomous serpents abound, but are almost never aggressive, and boas appear to attack a human being so rarely that a case of that kind occurring near the mission of Cayala in the province of Matto Grosso, was published far and wide, as a sort of prodigy. River sharks and alligators are more troublesome, but their haunts are known and avoided; still in conjunction with the insect-nuisance, the multitude of carnivorous beasts has discouraged immigration, and the total white population of the vast Republic hardly exceeds that of the State of Michigan. Of the total census of 13,800,000 inhabitants, only about 2,200,000 are Portuguese colonists and white foreigners, 1,500,000 are "shaded Creoles," *i. e.*, Portuguese slightly tainted with the blood of the dusky races; the rest are Indians, negroes, and mongrels.

The sons of Ham, with their faculty for adaptation, have mastered the language of the ruling race, and affect to despise the copper-colored natives, and in fact, prosper more than any other class of the mixed population, the industrious Swiss colonists perhaps alone excepted. The climate that proves fatal to other immigrants exactly agrees with the descendants of the Congo swamp-dwellers. Their laziness is preposterous and apparently incurable, but they manage to get fat in a country where ten hours of work per week are sufficient to insure the survival,



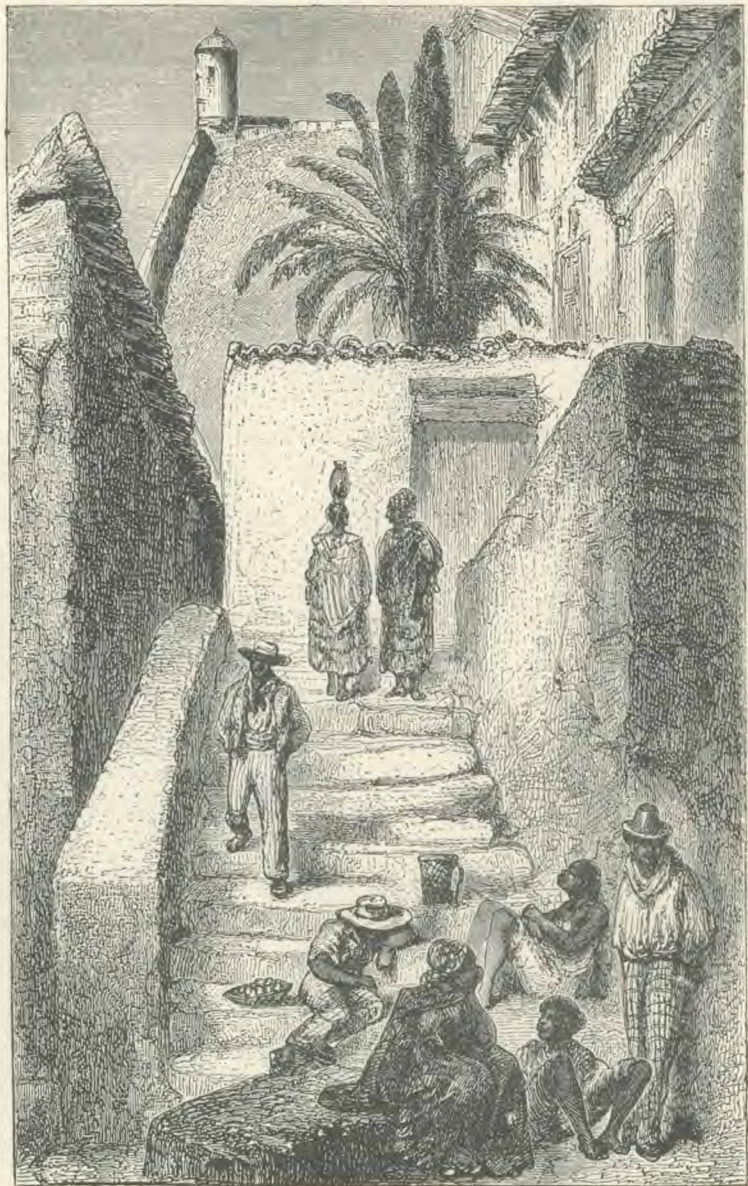
INDIAN WOMAN OF BRAZIL.

even of a glutton. In the cities, they monopolize the huckster stands. In the cool of the morning, they peddle fans, fruit, and ice, do an occasional job of street-sweeping or water-carrying, and for the rest of the day lounge about in the shade of the parks and public buildings.

The whites are not quite as indolent, but as a rule, contrive to supply their wants by other people's labor. They supervise the work of mongrel farm laborers in the country, and of house builders, and factory *peons* in the cities, and in nine out of ten cases have only one earthly ambition: the acquisition of real estate enough to live upon the rent. Like all hot-land nations, they are conservative and orthodox, and long refused to grant dissenters a vote in the administration of public affairs. Even the constitution of the new Republic is handicapped by all sorts of priestly prerogative, and according to a well-informed correspondent of the London *Times*, President Fonseca owes his success more to his eloquence and his administrative abilities than to his principles of liberalism, and with the masses is anything but a popular man.

In sanitary matters the Brazilian Creoles are less prejudiced. Centuries ago their ancestors emancipated themselves from the tyranny of the night-air superstition (which for thousands of our fellow-citizens continues to turn the lower valley of the Mississippi into an earthly hades); they sleep with wide-open windows or in rooms ventilated with open lattice-bars, without any glass windows at all, and even on flat housetops under the canopy of the stars. In point of dress their tolerance exceeds that of any other Christian nation. Children of six years are permitted to run about in *calzones* (short muslin drawers); infants mostly without *calzones* — "barefoot up to the neck," as Bishop Heber described the toilette of the Indian Nautch girls. From that extreme of simplicity to the gorgeous frippery of a fashionable *senora*, fresh from Lisbon, all possible intermediates of dress and *negligé* can be seen side by side on the *alamedas* of Rio Janeiro. Barefoot girls with silk *rebosas* and diamond earrings will enter the parlor of the wealthy planter's mansion, and with perfect unconcern proceed to ply a fan in the recess of the

ornamental bay-window; black-eyed Amazons of the Amazon valley will leap upon a horse, with or without a side-saddle, and gallop away, followed by a comet-tail of fluttering tresses. The climate of an equatorial coast region must be the excuse for many things of this sort, and it is but fair to state that in essentials the morals of the Brazilian



NEGROES OF BAHIA.

Creoles are not worse than those of their neighbors.

It is true, however, that "the precocity of Brazilian youngsters has hardly time to betray itself before the custom of the country sanctions a remedy in the form of matrimonial enterprise. Marriage of boys in their earliest teens and girls of twelve or eleven,

are matters of daily occurrence, but now and then even brides of nine years of age can approach the altar without risking an interdiction of the bans. That tolerance has curtailed the opportunity for illicit flirtation, but undoubtedly also the average stature of the Creoles. In Rio and Bahia, dudes of five feet two can still pass for "middle-sized" men; and a girl, to be described as "*petite*," would have to be nearer four than five. The average size of male adults is about five feet four in the cities, and a couple of inches more in the country.

Several of the Indian forest tribes, on the other hand, can rank with the tallest bipeds of the tropics. Lieutenant Herndon had an interview with a six-foot chief, who introduced him to several tall grandsons, and, in spite of his vigorous appearance, was probably not far from the truth in stating his age as "eighty-one or eighty-two." In their intercourse with the white traders, the Indians of the interior have become addicted to the tobacco-vice, but they avoid alcohol with an instinctive dread, and are rather abstemious in the use of meat, their hunting expeditions being, in fact, mostly supplementary to their forages for the spontaneous fruit of the wilderness. The Chaymas, the Guaranos, and Tamanacs are among the comeliest aborigines of this continent, and only the Botocudos justify the assertion of a Portuguese explorer that "the natives of these forests, though two-handed and gifted with a sort of human speech, approach in their appearance nearer to the apes than to beings of our own species." The Botocudos seem to unite the repulsive features of the Mongol and Ethiopian races, and aggravate their native ugliness by wearing *barbotes*, or flat pieces of wood in their ears and lips, and tattooing their cheeks with deep vertical furrows. Prof. Charles Biard, during his wanderings in western Brazil, came across a Botocudo who "carried in his lower lip a *barbote* as large as a five shilling piece, and who seemed to use this projection as a little table. With a sharp knife he cut on his *barbote* a morsel of smoked meat into small pieces, which then had only to be slipped into his mouth." "*Barbotes*" are also worn by the

Tamanacs of the upper Orinoco, but only as an ear ornament, which serves the additional purpose of supporting the coiled-up tresses of their long, black hair.

With few exceptions, those children of the wilderness are still nomads, subsisting upon the spontaneous products of the virgin woods, and after their experience during the time of the Portuguese conquest, can, indeed, hardly be blamed for preferring the worst hardships of their wild life to the bondage of their Caucasian neighbors. The author of the "Martyrdom of Man" should not have omitted to mention the incident of the Guahiba widow, told in Humboldt's Travels,—an episode, which, all in all, stands unrivaled, as the most barbarous inhumanity ever perpetrated on the face of this planet. Not for the sake of gain or conquest, but in the name of religion, and under the auspices of a monastic order, the protectors of an Indian family had been slain like wild beasts, and a helpless woman, with two young children, was dragged on board of a river *falusa*, and shipped to the mission of San Carlos. Twice in the course of the voyage the mother burst her fetters and leapt overboard, in the desperate hope of reaching the shore, and was twice overtaken and almost flayed alive; she only awaited her arrival in San Carlos to repeat her daring attempt. Again she was treated worse than a Russian deserter, and sent to jail in an apparently dying condition, but on the very next night broke her chains for the fourth time, only to be recaptured and dragged away from her children to the headquarters of the Rio Negro, where she finally liberated herself by death through starvation.

After all their sufferings from the superstitions of their white neighbors, the poor Indios have at last found an opportunity to profit by a less serious delusion: The sarsaparilla absurdity. Thousands of boat-loads of an herb, as useless from a sanitary point of view as sedge grass and goose weed, are yearly gathered by the natives of the Brazilian forest provinces, and sold to the white traders in exchange for brown sugar and useful jackknives.

(To be continued.)

MAKE men see and feel that a saloon is a more positive evil to a neighborhood than a shanty filled with small-pox patients, and a fire will be kindled which will purge the country of its greatest crime and misery breeder, whose colossal shadow envelops Christendom and carries a thrill of misery, a pulsation of vice, a throb of degradation wherever it falls.  
—*Arena*.

THE Italian artist, Benvenuto Cellini, who lived 300 years ago, being ill, and not liking the alcoholic treatment given by his physicians, undertook to treat himself, omitting the alcoholics. He recovered in about seven weeks, and he says: "During the time of that strict abstinence, I produced finer things, and of more exquisite invention, than at any other period of my life."



## PRIMITIVE PHYSICK.

WE propose in a series of articles to give our readers some interesting extracts from a quaint work devoted to popular medicine, by the eminent Methodist divine, John Wesley, entitled "Primitive Physick." The reader will certainly be surprised at the great amount of sound common sense displayed in the observations of the great theologian, and may almost regret that for the good of humanity he had not been a doctor of medicine instead of a doctor of divinity. We quote first a few paragraphs from the author's preface, dated London, June 11, 1747. Our author first dwells on the origin and history of medicine. His remarks show an evident lack of confidence in the scientific medicine of his time. Probably no scientific physician of the present day would disagree with Mr. Wesley on this point. His observations respecting the care of the health are mostly in accordance with the best established principles of hygiene recognized at the present day. Our quotations are from the seventeenth edition of the book which seems to have had a great sale, and was advertized as "Printed by R. Hawes, and sold at the Foundry in Moorfield; and at the Rev. Mr. Wesley's Preaching-Houses, in Town and Country. 1776."

"Tis probable, Physick, as well as Religion, was in the first ages chiefly traditional: every father delivering down to his sons, what he had himself in like manner received, concerning the manner of healing both outward hurts, with the diseases incident to each climate, and the medicines which were of the greatest efficacy for the cure of each disorder. 'Tis certain this is the method wherein the art of healing is preserved among the *Americans* to this day. Their diseases indeed are exceeding few; nor do they often occur, by reason of their continual exercise, and (till of late) universal temperance. But if any are sick, or bit by a serpent, or torn by a wild beast, the fathers immediately tell their children what remedy to apply. And 'tis rare, that the patient suffers long; those medicines being quick, as well as, generally, infallible.

"Hence it was, perhaps, that the Antients, not only of *Greece* and *Rome*, but even of barbarous nations, usually assigned physick a divine origin. And indeed it was a natural thought. That HE who had taught it to the very beasts and birds, the *Cretan* Stag, the *Egyptian* Ibis, could not be wanting to teach man.

"Yea, sometimes, even by those meaner creatures: For it was easy to infer, 'If this will heal that creature, whose flesh is nearly of the same texture with mine, then in a parallel case it will heal me.' The trial was made. The cure was wrought. And experience and physick grew up together.

"And has not the Author of nature taught us the use of many other medicines, by what is vulgarly termed Accident? Thus one walking some years since in a grove of pines, at a time when many in a neighboring town were afflicted with a kind of new distemper, little sores in the inside of the mouth, a drop of natural gum fell from one of the trees on the book which he was reading. This he took up, and thoughtlessly applied to one of those sore places. Finding the pain immediately cease, he applied it to another, which was also presently healed. The same remedy he afterwards imparted to others, and it did not fail to heal any that applied it. And doubtless numberless remedies have been thus casually discovered in every age and nation.

"Thus far physick was wholly founded on experiment. The *European*, as well as the *American*, said to his neighbor, Are you sick? Drink the juice of this herb, and your sickness will be at an end. Are you in a burning heat? Leap into that river, and then sweat till you are well. Has the snake bitten you? Chew and apply that root, and the poison will not hurt you. Thus antient men, having a little experience joined with common sense, and common humanity, cured both themselves and their neighbors of most of the distempers, to which every nation was subject.

"But in process of time, men of a philosophical turn, were not satisfied with this. They began to enquire how they might *account* for these things? How such Medicines wrought such effects? They examined the human body, and all its parts; the nature of the flesh, veins, arteries, nerves; the structure of the brain, heart, lungs, stomach, bowels; with the springs of the several kinds of animal functions. They explored the several kinds of animal and mineral, as well as vegetable substances. And hence the whole order of physick, which had obtained to that time, came gradually to be inverted. Men of learning began to set experience aside; to build physick upon hypotheses; to form theories of diseases and their cure, and to substitute these in the place of experiments.

“As theories increased, simple medicines were more and more disregarded and disused; till in a course of years, the greater part of them were forgotten, at least in the politer nations. In the room of these, abundance of new ones were introduced, by reasoning, speculative men; and those more and more difficult to be applied, as being more remote from common observation. Hence rules for the application of these, and medical books were immensely multiplied; till at length physick became an abstruse science, quite out of the reach of ordinary men.

“Yet there have not been wanting, from time to time, some lovers of mankind, who have endeavored (even contrary to their own interest) to reduce physick to its antient standard: Who have laboured to explode out of it all hypotheses, and fine-spun theories, and to make it a plain intelligible thing, as it was in the beginning: Having no more mystery in it than this, ‘Such a medicine removes such a pain.’ These have demonstrably shewn, that neither the knowledge of astrology, astronomy, natural philosophy, nor even anatomy itself, is absolutely necessary to the quick and effectual cure of most diseases incident to human bodies: Nor yet any chemical, or exotic, or compound medicine, but a single plant or root duly applied. So that every man of common sense (unless in some rare cases) may prescribe either to himself or his neighbor; and may be very secure from doing harm, even where he can do no good.

“Even in the last age there was something of this kind done, particularly by the great and good Dr. Sydenham: and in the present, by his pupil Dr. Dover, who has pointed out simple medicines for many diseases. And some such may be found in the writings of the learned and ingenious Dr. Cheyne: Who doubtless would have communicated many more to the world, but for the melancholy reason he gave one of his friends, that prest him with some passages in his works, which too much countenanced the modern practice, ‘O Sir, we must do something to oblige the faculty, or they will tear us in pieces.’

“As to the manner of using the medicines here set down, I should advise, as soon as you know your distemper (which is very easy, unless it is a complication of disorders, and then you would do well to apply to a Physician that fears God): *First*, use the first of the remedies for that disease which occurs in the ensuing collection (unless some other of them be easier to be had, and then it may do just as well). *Secondly*, After a competent time, if it takes no effect, use the second, the third, and so on. I have pur-

posely set down (in most cases) several remedies for each disorder; not only because all are not equally easy to be procured at all times, and in all places: But likewise because the medicine which cures one man, will not always cure another of the same distemper. Nor will it cure the same man at all times. Therefore it was necessary to have a variety. However, I have subjoined the letter (*I*) to those medicines which some think to be *infallible*. *Thirdly*, Observe all the time the greatest exactness in your regimen, or manner of living. Abstain from all mix’d, all high-season’d food. Use plain diet, easy of digestion; and this as sparingly as you can, consistent with ease and strength. Drink only water. Use as much exercise daily in the open air, as you can without weariness. Sup at Six or Seven on the lightest food; Go to bed early, and rise betimes. To persevere with steadiness in this course, is often more than half the cure. Above all, add to the rest, (for it is not labour lost) that old unfashionable medicine, Prayer. And have faith in God who ‘*kill-eth and maketh alive, who bringeth down to the grave and bringeth up.*’

“For the sake of those who desire, thro’ the blessing of God, to retain the health which they have recovered, I have added a few plain, easy rules, chiefly transcribed from Dr. Cheyne.

“‘I. 1. The air we breathe is of great consequence to our health. Those who have been long abroad in easterly or northerly winds, should drink some thin and warm liquor [evidently non-alcoholic] on going to bed, or a draught of toast and water.

“‘2. Tender people should have those who lie with them, or are much about them, sound, sweet, and healthy.

“‘3. Everyone that would preserve health, should be as clean and sweet as possible in their houses, cloathes and furniture.

“‘II. 1. The great rule of eating and drinking is, To suit the quality and quantity of the food to the strength of our digestion; to take always such a sort and such a measure of food, as sits light and easy on the stomach.

“‘2. All pickled, or smoaked, or salted food, and all high-seasoned is unwholesome.

“‘3. Nothing conduces more to health, than abstinence and plain food, with due labour.

“‘4. For studious persons, about eight ounces of animal food, and twelve of vegetable in twenty-four hours is sufficient.

“‘5. Water is the wholesomest of all drinks; quickens the appetite and strengthens the digestion most.

“6. Strong, and more especially spirituous liquors are a certain though slow poison.

“7. Experience shews, there is very seldom any danger in leaving them off all at once.

“8. Strong liquors do not prevent the mischiefs of a surfeit, nor carry it off so safely as water.

“9. Malt liquors (except clear, small beer, of a due age) are exceedingly hurtful to tender persons.

“10. Coffee and tea are extremely hurtful to persons who have weak nerves.

“III. 1. Tender persons should eat very light suppers; and that two or three hours before going to bed.

“2. They ought constantly to go to bed about nine, and rise at four or five.

“IV. 1. A due degree of exercise is indispensably necessary to health and long life.

“2. Walking is the best exercise for those who are able to bear it; riding for those who are not. The open air, when the weather is fair, contributes much to the benefit of exercise.

“3. We may strengthen any weak part of the body by constant exercise. Thus the lungs may be strengthened by loud speaking, or walking up an easy ascent; the digestion and the nerves by riding; the arms and hands by strongly rubbing them daily.

“4. The studious ought to have stated times for exercise, at least two or three hours a day: the one half of this before dinner, the other before going to bed.

“5. They should frequently shave, and frequently wash their feet.

“6. Those who read or write much should learn to do it standing; otherwise it will impair their health.

“7. The fewer clothes anyone uses by day or night, the hardier he will be.

“8. Exercise, first, should be always on an empty stomach; secondly, should never be continued to weariness; thirdly, after it, we should take care to cool by degrees: otherwise we shall catch cold.

“9. The flesh-brush is a most useful exercise, especially to strengthen any part that is weak.

“10. Cold-bathing is of great advantage to health: It prevents abundance of diseases. It promotes perspiration, helps the circulation of the blood, and prevents the danger of catching cold. Tender people should pour water upon the head before they go in, and walk in swiftly. To jump in with the head foremost, is too great a shock to nature.

“V. 1. Costiveness cannot long consist with health. Therefore care should be taken to remove it at the beginning: and when it is removed, to prevent its return, by soft, cool open diet.

“2. Obstructed perspiration (vulgarly called catching cold) is one great source of diseases. Whenever there appears the least sign of this, let it be removed by gentle sweats.

“VI. 1. The passions have a greater influence on health, than most people are aware of.

“2. All violent and sudden passions dispose to, or actually throw people into, acute diseases.

“3. The slow and lasting passions, such as grief and hopeless love, bring on chronical diseases.

“4. Till the passion, which caused the disease, is calmed, medicine is applied in vain.

“5. The love of God, as it is the sovereign remedy of all miseries, so in particular it effectually prevents all bodily disorders the passions introduce, by keeping the passions themselves within due bounds. And by the unspeakable joy and perfect calm, serenity, and tranquillity it gives the mind, it becomes the most powerful of all the means of health and long life.”

THE boarding-house keeper who said, “I notice that the boarders who take the dark rooms *bleach right out*,” spoke more wisely than she knew, and tersely expressed the effects of a condition which the apostle of sunlight and fresh air comprehends without further comment.

WHEN I was informed that one whose name was Banus, lived in the desert, and used no other clothing than grew upon trees, and had no other food than what grew of its own accord, and bathed himself in cold water frequently both by night and by day in order to preserve his chastity, I imitated him in those things, and continued with him three years.—*Josephus*.

NATURE, by the process of selection, mercilessly weeds out the feeble.

*Bobby*—What’s an April fool, papa?

*Papa*—An April fool is a man who takes off his winter underclothing on the first warm day, and wants to ride in an open car.

A BLIND man who plays upon an accordeon is perambulating the streets of Windsor, England. His affliction attracted the attention of the Queen, who gave him a gratuity. He now bears upon his breast a placard with the inscription: “Blind from inflammation assisted by Her Majesty the Queen.”

## SANITATION AND EDUCATION.

EVERY one asks with supreme interest, "How long shall I live, and under what conditions?" The energies of the individual and of civilization are invoked to prolong life and increase its comforts and success. The story of this struggle for life requires in its rehearsal none of the imagery of poetry; figures tell it in the shortest terms.

The last complete census of our own country shows that over 40 per cent of the population die under five years of age. Nearly half the mourning in the land is over the deaths which occur during these tender years. How large a proportion of the population is sick on any given day has not been ascertained, but as showing the supply or the lack of comforts of life, Dr. Jarvis, an expert in these statistics, points out that the white population is about evenly divided between those that are self-sustaining and those that are dependent, while of the colored population, 55 per cent are dependent.

Education and sanitation represent great forces invoked by man in this endeavor to prolong his life and improve his condition—the one, the science and art of culture; the other, the science and art of health. As terms, they may not always have been present in the vocabulary of the ancients, but the ideas they express, the facts which they include, and the objects at which they aim, are ever present in human endeavor, and are as universal in man's experience as death, sickness, and ignorance, which they antagonize.

Man finds for himself, as for all the lower orders of animal and vegetable life, everywhere, over against the law of good, the law of evil; the nerve that tells of enjoyment is the nerve that also tells of suffering. The principle of growth may be everywhere applied to prevent or perfect, and in its neglect appears the law of decay. Wrapped in the same bundle are the laws of health and disease. Since impressed with the image of his Creator, and receiving the command "be fruitful, and multiply, and replenish the earth, and subdue it, and have dominion over the fish of the sea, and over the fowl of the air, and over every living thing that moveth upon the earth," man, as the crown of this visible creation, has found it possible to bring under control, for his good, all of his own powers, and all of the forces and conditions of nature around him. Slowly, and with halting and sometimes backward step, and generally through devious course, man has reached his present marked degree of facility in commanding the secrets of nature.

In the place of the wigwam or cave of the savage, he rears the mansion of civilization, ventilated and heated to increase health and promote length of days, inspire his purity, and please his sense of the beautiful.

For his food, he has transformed the crab-apple into the pippin, the bitter almond into the luscious peach, the wild ox into the Alderney or the Durham, the wild sheep into the improved Saxon. He makes the barren soil productive, he transforms the malarial or poisonous conditions of his *habitat* into the salubrious and healthful. For clothing, he no longer tolerates the leaf of the tree, or the rude skin of the animal, but adorns himself with garments wrought by the highest skill from the improved cotton, the cultured merino, the developed silk, adorned with colors as rich as the famed Tyrian or Venetian dyes. His spiritual, intellectual, and æsthetic aptitudes are supplied by invoking a corresponding change in agencies, objects, and instruments. The obstructions to comfort and health imposed by time and space, he assails with the powers of steam, and the velocity of the lightning. In all his transformation he has applied the semi-creative principles of culture at once so simple and so universal. In his observation and experience he has found a certain uniformity, a certain order of relation of facts, and called it law; he found the relations of cause and effect, that establishing one condition produced another; he could do this for himself, or he could teach to others the principles which he followed for his own benefit. This is education which imparts knowledge, and nourishes or trains; beginning with every one of us before we reach the cradle, it cannot end before the termination of this mortal existence. It may be perverted and bad, and hasten human ills. There is education in crime; indeed, criminals have a life and language of their own, and have attempted the preparation of literature, as well as implements of their business. If the purposes or methods of education are an admixture of what ought and what ought not to be, its results must correspond, and at best can be only partially good. We conceive that education can be wholly good, and yet we rarely find it so in this state of imperfection. It may be wholly bad, and yet it is not often so, even in savage life. The instincts of self-preservation, the pure selfishness of nature, find out and employ some of the right processes of education or betterment.

Education may—nay, must—go on either by neglect

or by intent; human conditions cannot be stationary. Right education for its highest ends adopts the precepts of morality toward man and piety toward God. It practices and teaches conformity to the laws of matter and the laws of spirit. Wherever in thus carrying forward human progress it encounters disease of mind or body, or trains in the practice of health, or teaches its doctrines, it enters into relation with the science and art of sanitation.

Just as a right education is a preventive of crime, and cheaper than the machinery for its detection and punishment, so is sanitation a preventive of disease and cheaper than the appliances for its cure.

This right education should train the child, the adult, and the community in the precepts of sanitation, so that every individual may have secured to him that first requisite of power, labor, and happiness, a sound mind in a healthy body.

Education is false or impotent without the doctrines or training of sanitation; as nature itself may be healthy or unhealthy, so may that second nature called habit, aided by education.

Put unhealthy treatment to a diseased system, and how soon that system will vanish like vapor. On the other hand, bring up the child of sound mind and body in the knowledge and practice of the principles of health, and what a promise have his maturity and vigor! These doctrines are not new; indeed, they are so old and recur so frequently in literature that their statement may seem stale, though required by the exigencies of the day. The philosopher finds them illustrated in all his comparative study of races, nations, and systems of belief. The Jew and Christian note them in the remarkable sanitary code given to the Hebrews. They point to the restraints it imposes on man's destructive passions and appetites, to the healthfulness of its moderation and its rules of cleanliness, and pronounce the descendants of Jacob, scattered in every nation and every clime, so full of physical and mental vigor, ever-present indications of the excellencies of this code given in the infancy of the race.

The Levitical priesthood appears not only as presiding at the altar over the rights of man's worship of Deity, but as the depository of learning for their own and the other tribes, and as especially learned in all the knowledge of preventive and curative medicine possessed and practiced in their times. The same was true respecting the Egyptians, among whom the Israelites were so long in bondage. Herodotus found the Egyptian priesthood a sort of nobility, whose education included not only instruction in history, national and civil, astronomy, geometry, juris-

prudence and civil polity, but in medicine. John observes that "they were practicing physicians, inspectors of weights and measures, surveyors of lands, astronomical calculators, keepers of the archives, historians, receivers of the customs, judges, counselors of the king, who was himself a member of their order."

Hippocrates ascribed the origin of medicine to the discovery that the sick were injured by the use of food which was beneficial in health. But the progress of the science or art of medicine, whether curative or preventive, has ever been dependent, like that of mathematics or chemistry, or any science or art, upon education.

Education must teach, train, and prepare the men that make its discoveries and announce its precepts, and must also teach them to others, and thus disseminate a knowledge of them for general benefit.

Greek history and literature present interesting illustrations of the interweaving of the precepts and practices of education and sanitation. Mitford considered it remarkable that Homer nowhere speaks in plain terms of sickness. He, indeed, mentions diseases, but as the effect of the immediate stroke of Deity. The marked desire of the Greeks for physical excellence inspired them to a course of life conducive to health. Homer has left us many pictures of feasts and relaxations, and once mentions drunkenness as a warning example.

Exercise was the delight of his heroes, and excellence in many sports their pride. The Phœnicians exhibit their games before Ulysses, that he may relate—

"How in the boxing and the wrestling match,  
In leaping and in running we excel."

Grote observes that Greek towns were built "at some distance inland, on a rock or elevation which could not be approached without notice, or scaled without difficulty," thus furnishing conditions favorable to pure air and to good drainage, and to the ideal town of Plato. This philosopher calls attention to the fact that Homer feeds his heroes, when they are campaigning, on soldier's fare. They have no fish, though they are on the shores of the Hellespont. Sweet sauces are not even mentioned by him. It has been held that the laws of Lycurgus, in force seven hundred years, made a race totally different from any other.

Plutarch considers "the most masterly stroke of the great Spartan law-giver was the ordinance that he made that all should eat in common of the same bread and the same meat, and of kinds that were specified, and should not spend their lives at home, lying on costly couches, delivering themselves into

the hands of their tradesmen and cooks, to fatten them like greedy brutes, and to ruin not their minds only, but their bodies, which, enfeebled by indulgence and excess, would stand in need of long sleep, warm bathing, freedom from work, and, in a word, of as much care and attendance as if they were continually sick." Their public repasts were schools of sobriety and temperance. Their most famous dish was the black broth, the relish for which was found in a cold bath in the Eurotas. He provided abundant exercises and such displays as induced both men and women to care for their health. Mitford emphasizes the fact that he required the women to be specially trained, that their offspring might be vigorous; if they were not, they exposed them on Mount Taygetus. Education was publicly conducted, and aimed at endurance, courage, and strength. Plato declared that those employed in the Spartan secret service "wander over the whole country by day and by night, and even in winter have not any shoe on their feet, and are without beds to lie upon, and have no one to attend them." Lycurgus, knowing that "a merry heart doeth good like a medicine," prescribed mirth for his people, and the Spartans were ever "famous for their mirth guided by wisdom." Of the laws of the Athenians, as given by Solon, little is written; but Plutarch and Grote, as well as others, call attention to the fact that they reached all departments of private life, and regulated even the walks and feasts of the women. Says Curtius: "In the shady wrestling grounds which spread themselves out in the neighborhood of the city, the young Athenians were to unfold the vigor of their bodies and their minds, and grow to be a part of the State, which demanded men not dulled in Spartan fashion, but fully and freely developed."

Grote observes that "Pythagoras appears as the revealer of a mode of life calculated to raise his disciples above the level of mankind, and to recommend them to the favor of the gods."

"The Pythagorean canon of rule," observes Grote, "was distinguished by a multiplicity of abstinences in alimental and other physical circumstances of life, which were held to be of the most imperative force and necessity, so that offenses against them were, of all, the most intolerable." Temperance was enjoined, exercise required, and superiority of mind and body sought. Their diet was chiefly vegetables, and so spare as to become proverbial. Juvenal intimates that a feast for a hundred Pythagoreans might be provided from a farmer's garden.

Hippocrates appeared as the special apostle of hygiene. He declared that men ought to study the nature of man; what he is with reference to that

which he eats and drinks, and to all his other occupations and habits and to the consequent results from each. However cautious and feeble his medical practice, he urged attention to diet, and in his treatise concerning airs, waters, and places, enunciates great principles of public health. He speaks of medicine as an institution of nature. He describes diseases as congenital and endemic, or as traceable to regimen, locality, or seasons. He says that he that would understand medicine must study winds, waters, and localities. He points out the relation of the health of a people to their environment. Attention has been called to the fact that in the earliest times among the Greeks a person's house was used as his place of sepulture. Later it was forbidden to bury within the walls, at least in Athens. At Megara and Tarentum the graves were in a particular part of the city. At Delos, from the time of Pisistratus, no graves were allowed in sight of the temple, and after the sixth year of the Peloponnesian war, nowhere on the island. From Plato's works it appears that if any one intentionally polluted the water to be used by another, whether the water of a spring or of a reservoir, he would let the injured party bring the cause before the wardens of the city. He remarked that "when disease and intemperance multiply in a State, halls of justice and of medicine are always being opened." He would "feed the people on such provisions as are required by trained warriors, who are men of temperance and courage." Elsewhere he specifies, "They will feed on barley and wheat, kneading the flour and making noble puddings and loaves. These will be served up on a mat of reeds or clean leaves, themselves reclining the while upon beds of yew or myrtle boughs. . . . Of course they will have a relish,—salt and olives, cheese, onions, cabbages, and other country herbs which are fit for boiling; and we shall give them a dessert of figs, and pulse, and beans, and myrtle-berries, and beach nuts, which they will roast at the fire, drinking in moderation."

Thus he expected the people "to live in peace to a good old age, and bequeath a similar life to their children after them." It is remarked that the daily bath was by no means as indispensable with the Greeks as with the Romans, but so far as the bath was necessary to cleanliness, its neglect was considered a matter of reproach.

We are told that the public baths were numerous in all Hellenic cities, and in the private dwellings of the better class a chamber was always set apart for the bath.

Physical training occupied a prominent place among the early nations of the Greeks. Plato held that

“there ought to be public teachers of gymnastics, receiving pay from the State, and their pupils should be the men and boys, and also the women and girls who are to know all these things.” In education, largely physical, he saw the continuation of the State, “for good nurture and education implant good constitutions, and these goods, having their roots in a good education, improve more and more.”

Rome, even to-day, in the *cloaca maxima*, or great sewer, the remains of aqueducts and baths and other monuments, points to the early attention given to the subject of hygiene by the people of the imperial city. Lydell calls attention to the prohibition of burials in the city as early as 260 B. C. From Gibbon we have the affirmation that “all quarters of the capital and all the provinces of the empire were filled with amphitheatres, theatres, temples, porticoes, triumphal arches, baths, and aqueducts—all, whether designed for pleasure or utility, were variously conducive to the health of the meanest citizen.”

Mommsen says that “the bodily exercises of Roman youth advanced from ball playing, running, and fencing, to the more artistically developed Greek contests.” Another writer observes that “the daily bath, and previous to it strong exercise, were inseparable in the minds of the Romans, from the idea of a regular, healthy life.” The resources of architecture were brought into requisition in the erection of large buildings for baths. The ornamentations of art were added, and they became places of amusement. Out of their ruins have been dug some of the most priceless statues that adorn modern museums. The Pantheon was merely an entrance to the baths of Agrippa. The visitor is amazed at what remains of the baths of Caracalla, and of those of Diocletian, which alone contained three thousand two hundred marble seats. Even libraries were introduced, and lectures, and disputations of philosophers.

It is possible that in the more ancient times the use of the cold water bath was the prevailing one, and persons of simple habits of life adhered to this.

“Perspiration and appetite, which earlier generations obtained by corporeal exertions and agricultural labor, were attained by a later race by means of sudatoria and hot baths.”

Strabo observes: “So plentiful is the supply of water from the aqueducts that rivers may be said to flow through the city and sewers, and almost every house is furnished with water pipes and copious fountains.” Again, he says: “The sewers arched over with hewn stones are large enough in some parts for a wagon loaded with hay to pass through.” Another writer states that “Agrippa, when he cleansed the

sewers, passed through them in a boat.” The Roman military system, in many points, shows an appreciation of sanitary principles. At one period we find the imperial city divided into four police districts. Among the sanitary duties of the police were the repair of drains, public buildings and places, proper cleansing and paving of the streets, the prevention of nuisances, the supply of the market of the capital with good and cheap grain, the destruction of unwholesome articles of food, and the oversight of baths and public houses. Cæsar proposed to reduce the malarial influences around the city by draining the Pontine marshes.

Pushing our inquiries for the relation of educational and sanitary considerations among the early Christians, we find that their great Master taught the subordination of the body to the high purposes of the soul, and enforced purity even to the very thoughts. His followers were to withdraw from sinful practices and associations, and be living temples for his spiritual indwelling. . . .

Education is a central and all-embracing agency in modern progress; employs all beneficial science and art, and comprehends all that belongs to man's right development.

In a sickly or feeble nature, or an unwholesome *habitat*, education seeks to produce the conditions of health. It declares to every one, in the language of Fuller, that “only in a strong and clean body can the soul do its message fitly.” We can justly apply the words of Parkes—both education and sanitation appeal to man's universal desire for life and freedom; they both “promote efforts for obtaining the most perfect action of body and mind during as long a period as it is consistent with the laws of life.” In other words, education and sanitation unite in endeavoring to render growth more perfect, decay less rapid, life more vigorous, death more remote. They join in asking, in the language of the poet, “Who would not give a trifle to prevent what he would give a thousand worlds to cure?”

Need I add that the proper, or ideal union of education and sanitation would not be expected to annihilate pain, disease, or death, but to reduce them to their minimum? The physician would practice preventive as well as curative medicine. His directions would be more intelligently followed, and his labor more cordially rewarded. The approach of a new or modified disease or great epidemic would be at once known and speedily antagonized by all the resources at the command of the nation, the State, the city, the family, the individual.—*Hon. John Eaton, LL. D., in “Sanitarian.”*

# THE HOME GYMNASIUM



HEALTH, GRACE, AND BEAUTY.—EIGHTH PAPER.

## The Hygiene of Sitting.

AN improper attitude in sitting is doubtless one of the causes of the increasing frequency of such physical deformities as round shoulders, flat chests, and spinal curvature, as well as much of the physical weakness, backache, sideache, and other allied symptoms of which so many women complain. The president of the State Medical Society of Connecticut, in a recent address, quotes from the report of Dr. Brooks, consulting physician to the Normal School of Gymnastics, the fact that in a total of over five hundred and eighty pupils examined, one hundred and eighty-six—nearly one third—exhibited more or less lateral curvature of the spine as indicated by the elevation of one shoulder, or the greater prominence of one shoulder blade. The opinion was expressed that this position is the result simply of lack of symmetrical exercise of both upper extremities during the period of growth. We believe, however, that this condition is not due so much to lack of exercise of the arms, as to neglect of exercise of the trunk, particularly of the muscles which occupy the central portion of the trunk. Sir John Forbes, an English physician, remarked that on visiting a boarding school containing forty girls, he found, on close inquiry, that there was not one girl who had been in the school two years, who had not become more or less crooked. More than a score of instances have come under the observation of the writer, in which young women have become deformed to such a degree as to be a source of great trouble and perplexity to their dressmakers, to say nothing about the great physical damage—we may really say, constitutional injury—resulting from a disturbance of the normal relations of the bodily organs.

The several deformities observed were chiefly the results of bad positions in sitting, and neglect of proper physical training.

The purpose of this article is to point out some of the more serious of the bad positions which may be assumed in the sitting posture. The accompanying engravings are made from photographs, and represent faults that may be seen illustrated daily in almost every household.

First of all we enter complaint against the rocking chair. The writer is of opinion that the rocking chair ought to be ruled out of the sitting-room, and



FIG. 1.

relegated to the attic or the hospital. The construction of the rocking chair, its high back, wide seat, and soft cushions are an invitation to ease and relaxation, the yielding to which results in the cultivation of a bad sitting poise, even when one occu-



pies a chair in which a healthy position might be maintained.

Why the rocking chair is such a source of mischief will readily be seen by reference to Fig. 1, and a



FIG. 2.

comparison with Fig. 2. The wide seat inclines one to sit forward, while the soft cushions and supporting back lead to relaxation of the muscles of the waist, so that the spine is curved backward, the head thrown forward, the chest flattened, and the organs which occupy the trunk in the plane of the waist are crowded down into the lower abdomen. A person who habitually spends several hours in a rocking chair is certain to acquire numerous deformities of the figure, such as round shoulders, flat chest, protrusion of the abdomen, projecting chin, and a general weak expression of body. That the constant use of the rocking chair is a predisposing cause to consumption has long been recognized, and warnings have been uttered against the use of this article of furniture, on this ground; nevertheless, there are other mischiefs which much more commonly result from this cause, such as prolapse and dilatation of the stomach, prolapse of the right kidney, prolapse of the bowels, displacement of the organs of the pelvis, and a variety of functional and reflex nervous disturbances growing out of these conditions.

Fig. 2 shows the result when an attempt is made to assume a correct sitting poise in a rocking chair. The trunk is drawn so far back that the muscles of the neck are unnaturally strained, as is readily seen in the cut, and a position is assumed which it is impossible to maintain without great exertion, and doubtless injury, to the parts upon which the abnormal strain is brought to bear. How many of us would use the rocking chair if compelled to sit in the position shown in Fig. 2? and yet, it is only when a

strong and constant effort is made to maintain a good poise in spite of the almost irresistible tendency to allow the muscles of the trunk to relax, that anything like a healthful position can be secured while using this luxurious but mischief-making article of furniture.

Any one who has traveled extensively on the continent of Europe must have noticed that the rocking chair is conspicuous only by its absence. In quite extensive travels in almost every European country, the writer never saw but one rocking chair, and that was an article which was manufactured in America, and purchased by the owner, an American gentleman, at a second-hand furniture store in London. The straight-backed chairs of our ancestors were certainly far superior to the modern rocking chair, and indeed a great share of the easy chairs which are now in common use.

Fig. 3 shows the proper sitting position, which one may easily assume in an ordinary chair. The hips should touch the back of the chair. The upper part of the back, or shoulder blades, should also touch the chair, but the central portion of the back should not be in contact with the chair. The eleva-



FIG. 3.

tion of the chest, and an erect carriage of the head should be maintained in a sitting as well as in a standing poise.

#### DAILY PROGRAM OF EXERCISES FOR AUGUST.

1. *Marching in place.*—(See July number.) Bend head forward and backward, taking pains to keep the body in good poise, and raise the chest when the head is bent backward; keep the chin well drawn in.

2. *Breathing exercise.*—Repeat Ex. 34, 35, 36, and 37 (June number), each from six to ten times.

3. *Rest standing; prepare to jump.*—Place the hands at the back of the neck, with the elbows at the height of the shoulders, and the arms in line. Take care to have the head erect and the whole trunk in good poise. Raise the heels, bend the knees to right angles, then extend the knees and allow the heels to sink, repeating from two to eight times. Take care not to allow the trunk to bend forward, or the head or shoulders to get out of poise.

4. *Rest standing; trunk backward bending.*—With hands at the back of the neck (neck firm), as in the preceding exercise, bend backward (See No. 4, program for July).

5. *Swimming.*—For description of this exercise see Ex. 33, May number.

6. *Prone standing; arms sideways raising, arms rotating.*—This movement is executed as described in No. 6, program for July, except that after the arms have been raised to horizontal, the palms are turned upward. Care must be taken that the arms are fully stretched sideways, and the rotation of the arms should be completed so that the palms will look directly upward.

7. *Rest, one half standing; knee upward raising, foot flexing.*—Execute this movement as in No. 7, program for July, except that after the knee has been raised upward, the toe pointing down, the foot shall be alternately flexed and extended. Flexion and extension should each be as complete as possible. Great care should be taken to avoid losing the proper poise of the body, while resting upon one foot.

8. *Wing, stride standing, trunk twisting.*—Same as No. 8 in program for July.

9. *Facing and marching.*—Face alternately to left and right eight times; then march forward eight steps and backward eight steps, each eight times, taking care to keep the weight of the body well forward upon the balls of the feet. Avoid walking upon the heels. In forward marching, the length of the steps should be two and one half feet. In backward marching, about two feet.

10. *Stride, prone standing; arms alternately upward stretching from half bend position.*—Raise the arms sideways to horizontal; turn palms up; half bend the arms at the elbow, keeping the arms in such position that the arm will be horizontal and the forearm perpendicular, the arms in line, and elbows and shoulders high. Bend forward to an angle of  $45^{\circ}$ , keeping the head and trunk in line. Move the arms alternately, first to left, then to right to the upward stretch position, taking care that the arms when

stretched upward are in line with the head and trunk.

11. *Stretch-standing, trunk backward bending.*—Arms forward bend, upward stretch. Trunk backward bend at the waist, taking care to avoid bending the neck. Head and arms must be kept in line with the trunk, and the arms must be fully extended. Be sure and bend the knees in bending backward; do not let the hips go forward too much.

12. *Stretch, stride standing, trunk forward flexing.*—Arms forward bend and upward stretch, feet sideways place at the same time. Bend the trunk forward, keeping the head, arms, and trunk all in line. The trunk should not bend at the waist; the flexion should be at the hips only. Bend forward as far as possible without letting the arms or head drop out of line with the trunk. Hips should be allowed to sway backward. The knees must not be bent. Arms must be kept well stretched, and the hands the shoulders' width apart. When this exercise has been practiced sufficiently, it will be possible to bend forward until the hands can touch the floor, while the head, arms, and trunk are still perfectly in line.

13. *Rest, close-standing, side bending.*—Neck firm, feet close, bend trunk to left, then to right, each from two to eight times.

14. *Jumping forward.*—Execute this movement the same as No. 13, program for July, except that in landing, the toes should touch the floor at a point about six inches in front. Repeat, from two to eight times.

15. *Wing, walk-standing, heel-raising.*—Place the left foot forward about two foot lengths, taking care that the body shall be well balanced between the feet; raise heels, balancing upon the toes; lower heels, taking care not to settle back upon the heels, but bring the trunk straight down, keeping the weight well balanced upon the balls of the feet.

16. *Arms half bend, extending, rotating.*—Raise arms to horizontal, turn palms forward, half bend arms and elbows, taking care that elbows are shoulder high, and that the forearm is at right angles with the arms, hands, elbows, and shoulders,—all being in the same plane. Rotate the arms so that the hands will be pointing upward. Repeat, from two to ten times.

17. *Breathing Exercises.* In each of these exercises, full breathing should be practiced at the same time the other movements are being executed. Raise arms sideways to horizontal, raise heels at the same time, breathing in. Lower heels and arms, breathing out; raise arms forward to perpendicular, breathing in; turn palms outward, and lower the arms, breathing out. Repeat.

## THE RELATION OF HEALTH TO BEAUTY.

THE *Medical Record* gives the following report of an address recently delivered by Dr. Louise Fiske Bryson, before a New York working girls' club. The Doctor is reported as saying that "Systematic efforts to be beautiful will insure a fair degree of health, and happiness is the best safeguard against vice. The difference in appearance between one woman and another, really, is more than anything else an affair of style—that beauty of beauties so hard to define and so easy to recognize, which makes the girl of no-colored hair, features of indifferent turn, and lines none too perfect, infinitely more attractive than other maids of faultless curves and innumerable strong points not cemented by this magic quality. Style may be defined, for want of something better to express it, as an attractive manner of holding the body, a firm, graceful way of doing things and of moving about. It is the visible sign of inherent power and reserve force. It is the outcome of long, deep breaths, and the use of many muscles. The prayer of the New York child, 'Lord, make us very stylish,' when viewed aright, is recognized as an aspiration based upon sound scientific principles, and worthy of universal commendation.

"Proper breathing is the first art to cultivate in the pursuit of beauty. The lungs have their own muscular power, and this should be exercised. The chest must be enlarged by full, deep breathing, and not by muscular action from without. Inflate the lungs upward and outward, as if the inflation were about to lift the body off the ground. Hold the shoulders on a line with the hips, and stand so that the hips, chin, chest, and toes come upon one line, the feet being turned out at an angle of sixty degrees. It is wrong to make the bony structure do most of the work in keeping the body upright. The muscles should hold it in position. In walking, keep face and chest well over the advanced foot, and cultivate a free, firm, easy gait, without hard or jarring movements. It is impossible to stand or breathe aright if the feet are pinched. When correct posture and breathing are interfered with, the circulation is impeded, and deleterious substances in the blood tend to make the complexion bad. This is one of the many evils of tight shoes. To be well shod has a marked influence on style. The feet symbolize the body in their way as much as do the hands. A clever shoemaker says that in a well-fitting shoe the human foot feels like a duck's foot in the mud. It is held firmly in place, but nowhere compressed. Nothing can exceed the vulgarity and hygienic wickedness of a shoe that is manifestly too tight. For misery-producing powers

hygienically as well as spiritually speaking, perhaps tight boots are without a rival. Next to the search for style pure and simple as a means of health, the care of the complexion and the cultivation of the right kind of expression are of great importance. The first is largely a matter of bathing and the general hygiene of the skin, while the second—a good expression—is best secured by the constant preference of higher thoughts over lower ones. This is the essence of intellectual living, and is fortunately within reach of us all.

"Beauty that is lasting and really worth while is more or less dependent upon a good circulation; while a good circulation is made possible by correct poise, proper breathing, and the judicious care of the skin, something else is also necessary to insure the normal quality and activity of the blood. And this something consists in a combination of sunshine and exercise in the open air. Town dwellers have too little of these blessings, partly from circumstances, and partly from lack of wit. Exercise is the most important natural tonic of the body. Without it there can be no large, compact, muscular frame. It is as essential to physical development, as air is to life, and an imperative necessity in the maintenance of beauty. To keep the complexion and spirits good, to preserve grace, strength, and ability of motion, there is no gymnasium so valuable as the daily round of housework, no exercise more beneficial in its results than sweeping, dusting, making beds, washing dishes, and the polishing of brass and silver. One year of such muscular effort within doors, together with regular exercise in the open air, will do more for a woman's complexion than all the lotions and pomades that ever were invented. Perhaps the reason why housework does so much more for women than games, is the fact that exercise which is immediately productive cheers the spirit. It gives women the courage to go on with living, and makes things seem really worth while.

"In a general way the great secrets of beauty, and therefore of health, may be summed up as follows: Moderation in eating and drinking; short hours of labor and study; regularity in exercise, relaxation, and rest; cleanliness; equanimity of temper, and equality of temperature. To be as good looking as possible, and to be physically well, one must in general be happy. And to be happy, it is necessary to carry out ideas of personal taste and preference, as many of them as can be put into definite form without infringing upon the rights of others. Happiness has a distinct esthetic and hygienic value. In itself it will secure perfect poise and respiration."



## THE INFLUENCE OF DRESS IN PRODUCING DISEASE.

[Abstract of a lecture delivered by J. H. Kellogg, M. D., in the Sanitarium Gymnasium.]

Is there any good reason why there should be at least a million women invalids in the United States at present? There are one hundred thousand doctors, and we may safely estimate that each one has at least ten lady patients. No doubt three fourths of the medical practice in the United States is in relation to diseases peculiar to women. Among lower animals, the females are no more subject to disease than are the males, and often the female is the larger and stronger animal. Among savage tribes, women are quite equal to men in ability to do any kind of hard work. The Amazons of Africa are the strongest soldiers of the Dark Continent, and Stanley says that African women were his best porters. Herne said that, as the result of his long observations while a traveler in Africa, he had concluded that women were made for work, for he had found that among all the native tribes women work harder than do men. As a rule, women have more endurance, can stand a greater constitutional strain and more suffering than can men.

Statistics show the interesting fact that while there are an equal number of boy and girl babies born, at the end of the first year there is a larger number of girls alive than boys. At the end of the second year the disproportion has increased, and so on up to about the age of twelve years, when the difference is considerable. At birth, girls are smaller than boys. In school, the girls are usually a year or two ahead of boys of the same age, and they maintain the warfare against the foes of health up to the age of about twelve or fourteen, when they begin to decline. The decline is very marked up to about twenty-five years. It is less so between thirty and forty, and the balance is even between forty and fifty. In old age, women again assert their supremacy and endurance; for statistics show that the last person alive in a million is always a woman. Women are, then, tougher at both extremes of life, and why not all the way through? The increase of the death rate can-

not be charged to the change at puberty, because there is no more reason why it should be fatal to girls than to boys, and no such difference exists in savage races. But there is another influence at work at this period to which the decline may be traced, and that is, the girl is put into corsets, and then begins the fatal constriction of the waist. Dress-makers demand that there shall be a difference of ten inches between the measurements of the bust and waist, whereas, from extensive studies and measurements of savage women, Chinese women, and peasant women of Europe, I find that the difference should be only from two and one half to five inches. Outline measurements of a fashionable woman show that instead of the beautiful convex line which should mark the front of the body, there is an ugly dip of from two to three or four inches at the waist line. This means that the natural adipose tissue which belongs here is deficient, and nature having just so much fat to deposit, packs it away below, which gives the unsightly protruding abdomen. This explains the reason why so many women have to resort to the use of abdominal bandages and abdominal corsets.

The question of invalidism among American women is often discussed in medical books and journals. Some claim that it is due to hereditary influences, others to diet, and still others think there is something peculiar to the climate. But there is nothing in hereditary influences which would affect women more than men. The diet of the average woman is better than that of the average man. She is more fastidious, and less given to the gratification of appetite. If the fault were in the climate, why does it not affect all the other women who live upon this continent, the colored women of the South, the Indian women of the plains? The greatest deterioration is noticeable among the women who follow most closely the dictates of fashion in clothing. In comparing the figure of the Venus de Medici with a

French fashion plate, it will be observed that the sculptor's model has a strong back, with good width of waist in the form of an ellipse; while the Parisian belle has a small, round waist. When the waist is compressed, all the organs underneath it are crowded out of place, and they in turn crowd upon others, until all the organs of the abdomen and pelvis are out of normal position. Where the waist is constricted so that the diaphragm cannot move, the rhythmical exercise to which the pelvic organs are naturally subjected, is destroyed, they lose their vitality, and as a result there is a wasting of all the ligamentary supports. For example, the round ligaments which should be half as large as a lead pencil, are often found to be not half so large as the lead of a pencil. These round ligaments have become so attenuated that some anatomists have declared that many American women have none.

In Germany, France, and other Continental countries, it is exceedingly uncommon to find an unmarried woman suffering from diseases peculiar to her sex. European surgeons have told me that among the unmarried they had to deal with only one class of diseases,—those which were the result of impurity. Among married women, the cases were simply those resulting from some accident or injury at childbirth, or lack of proper care. The opposite is true in this country. The large majority suffering from sexual diseases are unmarried women. Girls even at the age of sixteen or eighteen years, are not infrequently found with some distressing ovarian or uterine trouble. From the imperfect breathing caused by constriction of the waist, there is a lack of thorough emptying of the blood-vessels of the abdomen, and the result is some form of congestion. The organs in the pelvis suffer just as much as, or a little more than, the organs above. Prof. Gibbes, of Ann Arbor, who has been giving special study to this matter, traces nearly all ovarian diseases to conges-

tion. The ovaries are the most sensitive organs of the body. Large nerves connect them with other organs in the abdomen, and there are other nerves which extend to the legs and back. When the blood-vessels are unnaturally distended, they press upon the delicate nerve filaments, and so produce pain in various parts of the body. Very often the blood-vessels become permanently dilated, and the congestion chronic.

At the menstrual period there is a normal congestion, and sometimes the walls of a little cyst which should break and empty itself, become too much thickened by the congestion, and so it keeps on growing and growing until it forms an enormous tumor. Sometimes as the result of inflammation, a blood tumor is formed, which by and by ruptures, or it may be an abscess is formed, filled with pus. There is another class of cases in which the uterus itself receives too much blood, and so becomes enlarged and heavy, and by and by becomes seriously displaced, entailing with it no end of other evils. If it is displaced forward, it causes great inconvenience to the bladder, and if backward, it presses upon the rectum, and hemorrhoids, rectal ulcers, and obstinate constipation ensue. Doubtless mental influences affect these conditions also, but the great predisposing cause is improper dress.

There is still another result of invalidism among women, namely, the injuries resulting from childbirth. But by the adoption of a proper mode of dress, and of such habits of life as shall perfectly develop the muscular system, it is possible for a woman to pass through this experience—just as nature intended she should—with a comparatively small amount of physical suffering. Indeed, if a woman has a natural waist and strong abdominal muscles, there is no reason why she should not be able to perform all the duties which fall to her in life, without becoming a chronic invalid.

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JOHN NEWTON, giving advice to a lady, said, "Madam, so dress and conduct yourself that persons who have been in your company shall not remember the clothes you wore."

Says a writer in the *Girl's Own Paper*: "It seems to us that when a lady has once discovered the dress best suited to her age, appearance, and condition,—the ideal robe in which she would wish to be painted for the eyes of unborn generations,—her future study will be not how much she can 'follow the fashion,' but how little she need follow it to escape singularity."

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THE women amongst the ancient Greeks, who were perhaps the most beautiful race of the world, and whose glorious statues people pretend nowadays to admire, never wore stays. The use of them was first mentioned about 400 years after Christ, when some Grecian women were said to have laughed at a poor slave who squeezed her waist.

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A CERTAIN physician thinks that tight-lacing may after all be a public benefit, because it kills off the foolish girls and leaves the sensible ones to grow into women.

# SOCIAL PURITY

## THE CHILD IN THE MIDST.

EDUCATION is the solution now being offered for many of our national problems, and we are rapidly awaking to the fact that in the great question of social impurity, ignorance is an enormous factor, which must be eliminated if we would cleanse our land of the dread pestilence.

One blessed feature of the civilization of the nineteenth century is that ignorance on the part of parents does not necessitate, nor in any way predetermine, ignorance for the children. Where the law of the State does not compel them to attend school, there is another law which says: "If a man will not work, neither shall he eat," and machinery has so taken the place of manual labor that a man or woman without some learning must struggle hard for a bare existence, and not infrequently goes under in the fight. Thus the children, by the very demands of the case, are being forced through the open doors of our public schools, and with the teachers in kindergarten, grammar and high school, and college, rests large responsibility in the solution of this problem. Our hope is in the children, and we believe it is the little ones of this generation and of those to follow, who are to lead this crusade on to its final victory.

Thank God for the kindergartens, the child-gardens, where the twig may be bent so that the tree shall grow in a true perpendicular from earth to heaven. Right here on the threshold, the work of the teacher for social purity must begin. It is none too early. Indeed, this work ought to have begun farther back. Just as soon as a child becomes self-conscious, that is, cognizant of a self-hood,—just so soon is he ready to receive regular, careful, scientific instruction regarding this wonderful shrine in which lives a still more wonderful mind; ready to learn the sacredness of this temple of clay where God has chosen to dwell, and that he, the child, is to be God's messenger and worker. If he is old enough to know the difference between obedience and disobedience, if he can independently choose between good and ill, if he has found out that it is in his

power to affect the happiness or unhappiness of his companions, then he is old enough to learn these things.

The kindergartner might be termed the day-mother, and she must have in her heart the deep mother-responsibility and tender mother-love which shall lead her to watch over these little ones committed to her care, in every detail of their living while with her. Habits of cleanliness she must enforce and instill; rules of health in eating and drinking, in exercise and repose, habits of modesty and delicacy; all these she must teach by daily doing, explaining, wherever possible, the rules of science that govern them all. A glorious fact it is that science no longer lodges alone with the physician and the astronomer, but has come in simple garb and homely Saxon tongue to dwell with us and with our children.

Here in the kindergarten must the relation of boy and girl be based upon the granite foundation of purity and chivalry. A diviner knighthood has arisen out of the ashes of the past, and the kindergartner has a rare task before her in imparting its first precepts. The wee knight must learn to love and cherish the little lady who plays and works with him, and she must be taught the truest valuation of her power, that she may ever incite him to be a better and purer boy for her sake. Both must learn, even while in skirts and pinafores, that what is unseemly for one is unseemly for the other, and that for each there is but one high rule of conduct.

Even deeper than all this are the kindergartner's lessons to go. All about us, nature is reproducing herself in a thousand forms. How children's queries in regard to this fact are to be met is a question that has as many answers as there are combinations of circumstances under which it may arise. It is something requiring the very finest degree of tact, delicacy, and wisdom, with heavenly purity of thought and language, but let no teacher pervert the truth and descend to lies. Children will find out the truth. From whom and in what form shall their information come?

Hard lessons these to teach? Yes, indeed. It is a work angels might well undertake, and that none but a woman whose life draws all its inspiration from the Perfect One should dare to put her hand to.

From the child-garden the little learner goes to the public school. The atmosphere is a trifle less home-like. He has more restraint and more freedom. His teacher exacts more from him and knows him less intimately. Have her responsibilities lessened? Has his need decreased? "For what are we educating these boys and girls?" is a question which every teacher should face and answer. What part are they going to play in the destiny of the world? Here is a room of forty or fifty individuals, no two alike in looks, capabilities, ambitions. One will paint, another will preach, this one will keep books, that one will be a commercial king; this one will teach, that one wash and scrub. Their paths will diverge, but this one thing is certain—the greater number, if not all of them, will tread the common road of motherhood and fatherhood. How many of them will tread that path as if it were holy ground?

We find charts on physiology and hygiene in the infant room of our schools. Children in the first and second readers can tell you that alcohol is a

poison lurking in every glass of wine, beer, brandy, and cider. The charts and the instruction grow more complicated as the grade advances, and we find pupils discoursing intelligently of the blood corpuscles, causes of heart disease, and the effect of nicotine upon the nerve centers. But is the training that was begun in the kindergarten being continued here, broadening and widening, as the boys and girls develop into young manhood and womanhood? Slowly and steadfastly our systems are being modified and improved. In the last ten years the progress has been such as to encourage, and give a bright outlook for the future. Lessons in physiology and hygiene have been followed up by practical lessons about narcotics, courses in gymnastics, with occasional experimental instruction in the art of cooking according to the best methods. What shall follow these? What but regular courses of instruction regarding the laws that govern or in any wise affect the birth of man? The right of children to be well born must be recognized, and that right looked out for in the school-room. The inflexible, inevitable law of heredity must be taught and studied, that it may be fulfilled according to its very highest possibilities.—*Ada M. Melville.*

(To be concluded.)

PROTECT GIRLHOOD.—Good people longing to stem the tide of villainy may unitedly demand that the "age of consent" at which time the law adjudges responsibility, be not fourteen years, as is quite general now, but eighteen. Let innocent girlhood be protected from the loathsome vipers which curse society and feed upon virtue. Not least among the loving deeds of that princely philanthropist, Lord Shaftesbury, of England, was the arousing of the nation to the proper care of its growing girls. I hope the time will come when the man who dares destroy the purity of a girl just verging into womanhood will be hung as high as Haman; but until that glad triumph, let us securely protect her by stringent legislation.

Let working girls be paid living wages—treated like equals instead of slaves—so that penury and want may not drive into temptations to sin. It is authoritatively stated that the sinning Magdalenes as a rule despise the routine of their lives, but enter and continue because of the luxuries which are afforded. It is true, alas! that many a girl cannot sustain her self-respect and labor for the wages which legitimate business offers, and when she finds herself neglected and ostracized, passes over the awful dead line, and sacrifices womanhood's most precious possession.

—*Rev. C. E. Locke.*

THE essence of the home is a training school, not only to fit the body by proper management for its services and uses in adult life, but to train unfolding character, and the love nature of the child.

SHE SAVED THE BOYS.—A mother, growing anxious over the repeated absences of her three boys from home during evenings, and suspecting that they were acquiring a love of loafing at the stores, wisely resolved to make for them a more attractive place, where they would be under her own eye and influence. She says: "Our parlor had hitherto been kept sacred to the use of visitors and for Sabbath; but after thinking the matter over very seriously, the next evening I started a fire, arranged everything with as much care as though expecting company, and invited my boys in. They did not go down town that evening, nor have they ever been since, except when a legitimate errand called them out. They read, and write, and sing, and play (they are all musical), and seem perfectly content. No doubt they'll wear out the carpet and furniture, but I mean, by God's help, to have my boys grow up to become good, pure men, and if it's going to take my best and prettiest room to help do it, why, I'm very glad I have it to give the boys, that's all."



DEATH FROM AN ELECTRIC BELT.— We have generally spoken of these contrivances as harmless trinkets, capable of no injury, although equally incapable of producing any good results. This is doubtless true of the great majority of these so-called electric belts. Few of them afford any electricity whatever, or indeed so small an amount that no appreciable effect can be produced by them. The following account, however, furnished by Dr. J. H. Mc Casey of Kansas, to the *Weekly Medical Review* of St. Louis, indicates that an electric belt may be the means of great injury. In the case referred to it is quite possible that the fatal results were due to poisoning of the tissues with the zinc and copper salts (?) produced by contact with the acids and other chemicals with which the belt was charged. According to the account referred to, a German, aged sixty-four, a farmer by occupation, obtained of a quack manufacturer of electric belts, a belt for the relief of rheumatism, from which he had suffered for many years. "The belt consisted of twenty-four sections, made of zinc and copper, charged with vinegar and common salt. It fitted on like a harness. He wore the belt for forty-eight hours, as directed. The result was great swelling of the parts in contact with the metal. Ten days later, he applied neck piece of belt; the result was, to use his own expression, his neck swelled until it resembled a bull's neck." About a week later, March 17, he again applied belt for forty-eight hours. This time the metals cut and scarred the patient frightfully. The result was swelling of the limbs, inflammation of the skin, intense burning pain, fever and chills, restlessness and delirium. About a week after this application, March 26, I was asked to visit Mr. H. His arms were enormously swollen and skin inflamed; five days later, his legs were as bad as his arms. Fever 102°, pulse 106°. In about two weeks, swelling and œdema disappeared, with abatement of itching and burning, and a spotted rash broke out. About April 12, boils and carbun-

cles appeared, six boils in the left groin, two under left arm, one large carbuncle appeared below the left elbow. There were boils on the shoulders, sides of knees, and some on the back, making a total of about one hundred."

It is only necessary to add that after several weeks of great suffering, the patient died from blood poisoning.

BLOOD PURIFIERS.— Most of the so-called blood purifiers contain a considerable portion of iodide of potash, a mineral medicine which has long been used, with the idea that it in some mysterious manner purifies the blood. It is an active diuretic, and doubtless excites the liver to increased activity, and is said to be an alterative. Nevertheless, it does not purify the blood. The only way to purify the blood is to renew it by wholesome and proper food, and to cleanse it from impurities by the abundant use of water. Blood is not purified by putting additional impurities into it, but by removing, by the use of Nature's universal solvent—water, such impurities as it may contain in consequence of deficient elimination.

The following are the formulas for a few popular medicines, which, under different names, are recommended as blood purifiers:—

*Cuticura Resolvent*.— According to the *St. Louis Druggist*, this preparation consists of "Aloes, Socot. 1 dr., rhubarb powd. 1 dr., iodide potash 36 gr., whisky 1 pt. Macerate over night and filter."

*Elixir Iodo-bromide of Calcium Compound*.— Dr. Oleson gives as the formula of this nostrum: "Bromide of calcium 256 gr., iodide of sodium 256 gr., iodide of potassium 256 gr., chloride of magnesium 256 gr., compound fl. ext. of sarsaparilla 2 fl. oz., compound fl. ext. of stillingia 2 fl. oz., elixir of orange 4 fl. oz., sugar 4 Troy oz., water to make 16 fl. oz."

*Iodia*.— This preparation manufactured by Battle & Co. of St. Louis, although not generally classed as a nostrum, is a proprietary medicine, and really



belongs in the same category as other proprietary or patent nostrums. *New Idea* gives the following as the formula: "Fl. ext. stillingia 3 oz., fl. ext. prickly ash 1 oz., fl. ext. saxifrage  $\frac{1}{2}$  oz., fl. ext. yellow parilla  $\frac{1}{2}$  oz., fl. ext. blue flag  $\frac{1}{2}$  oz., potassium iodide 256 gr., iron pyrophosphate 256 gr., dilute phosphoric acid  $\frac{1}{2}$  oz."

*Corassa Compound*.—A circular issued by Rev. (?) Jos. T. Inman gives a pitiful account of how he suffered from the consequences of early sins, and after trying all the physicians of Europe and America, went to South America as a missionary to the heathen. While there, he discovered the marvelous virtues of the corassa compound, which is claimed to consist of the following drugs: "Extract of corassa apimis 8 dr., extract of salarino umbellifera 4 dr., powdered alkermes latifolia 3 dr., extract of carsados herbalis 6 dr." The following explicit directions are given in the circular:—

"Mix well together in a mortar, then put the mixture in a box and keep it covered, or wrap it in paper and cover with tinfoil, to exclude the air. For a dose, take about half a teaspoonful of the mixture, and moisten it in a little cold water in a glass or cup, then add about two tablespoonfuls more of cold water, or just enough to enable you to take it down easily. Take the medicine at night before going to bed, and in the morning before eating. If you wish to sweeten it, you may add as much sugar or syrup to each dose as may suit your taste."

In order to increase the reader's interest in this marvelous remedy, the unprincipled charlatan continues: "The above-named herbs, so remarkable for their healing qualities, are found in the great valley of the Amazon, and through most of the valleys of the South American mountains. Their wonderful medicinal properties are known to the Indian medicine men, and also to some of the learned missionaries from Europe, who reside in South America.

"This remedy from South America (the land of medicines) is entirely a product of the vegetable world. No deleterious ingredients enter into its composition; no injury to the constitution can possibly occur from its use, and no other remedy will so thoroughly eradicate mercury and other mineral poisons from the body. On the human system it acts like a charm. It improves the digestion, purifies the blood, gives tone to the nerves, prevents the tendency to consumption, imparts to the skin a fresh bloom, and gives to the countenance an animated and brilliant expression."

Some time ago a Detroit chemist made an investigation of this remedy, and found it to consist of the

following common herbs: Gentian 15 per cent, licorice root 15 per cent, sugar 50 per cent, sodium bicarb.  $17\frac{1}{2}$  per cent, cochineal  $2\frac{1}{2}$  per cent. The wonderful plants of which it purports to be composed do not exist. The Latin-sounding names, "corassa apimis," "salarino umbellifera," etc., are a meaningless combination of letters. No substance known by either of these terms is to be found anywhere. The scheme of the charlatan is to persuade his victim that these herbs are capable of curing him, and as the prescription is sent without charge, the patient takes it to the drug store to be filled. He then finds that the druggist has no such medicines in stock, and is obliged to order them from Rev. Jos. T. Inman, who offers to furnish them as an accommodation, if they cannot be obtained elsewhere. This ingenious scheme was worked for many years. Some time ago, a gentleman took the pains to look the matter up, and found there was no such person as Rev. Joseph T. Inman, but that an ignorant but shrewd and unscrupulous fellow who had never seen South America, and who was himself too much in need of reform to be useful as a missionary, even in the most benighted corners of the earth, had assumed this title as a means of inspiring confidence.

LAVARRE'S SURE CURE.—For the exposure of the character of this mixture and the false representations made concerning it, we are indebted to *New Idea*, one of our leading pharmaceutical journals:—

"Upon examination, we find that it is in a white glass, oblong, square-panel bottle, holding 2 3-4 fluid ounces, of a rather turbid, deep pinkish-red liquid, with a sweetish, saline, aromatic taste, the composition of which is about as follows: fl. ext. poke berries 80 minims, fl. ext. sassafra 40 minims, liquid ammonia, caustic 5 minims, sodium bromide 20 gr., alcohol  $\frac{1}{2}$  fl. oz., oil peppermint 1 minim, powdered cochineal 4 gr., white sugar 3 dr. Troy, water (enough to make) 4 fl. oz.

"The bottle is inclosed in a straw-board pipe, and wrapped in a thick, light-blue wrapper, upon which is stated 'Health is Wealth,' with the portrait of an old gentleman with clerical tie, high forehead, and sparse white locks. The wrapper states that it is a sure cure for neuralgia, rheumatism, toothache, headache, back-ache, and all diseases produced by any derangement of the nervous system. A special guarantee is printed on the wrapper, that it contains no morphine, opium, chloral hydrate, or other poisonous drugs. Another paragraph states that the contents of the bottle contain the virtues of two pounds of the choicest barks and herbs."

# GOOD HEALTH

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

BATTLE CREEK, MICHIGAN.

## ALARMING INCREASE OF INSANITY.

THE alarming increase of insanity, as shown by the statistics of insane asylums, and the necessary increase of the number of hospitals for the insane, has attracted the attention not only of sanitarians and physicians, but of statesmen. That there is a real increase in the number of insane persons, is shown by a comparison of the statistics given in the United States Census Reports for 1860, 1870, and 1880. The number of native insane persons in the United States in 1860, was 18,258; in 1870, the number was 26,205; ten years later, in 1880, the number was found to have increased to 65,651. These figures exclude all insane persons of foreign birth; consequently, the increase of insane persons cannot be attributed to the importation of insane paupers from foreign countries.

A comparison of the number of insane persons found in each of the years 1860, 1870, and 1880, with the total number of native-born population in the same years, is very instructive. Such a comparison shows that the rate of increase in the number of insane persons has been vastly out of proportion to the increase of population. The increase of population between the years 1860 and 1870 was 21 per cent; the increase in the number of insane persons during the same time, was 43.5 per cent. The increase of population in the ten years between 1870 and 1880, was 32 per cent, while the number of insane increased during the same period, 155 per cent. In other words, the rate of increase in the number of insane between the years 1860 and 1870, was more than double that of the increase in population; while between the years 1870 and 1880, the increase of insanity was nearly five times that of the rate of increase in population.

A comparison of the number of the insane with the total native-born population at each of these periods, shows that in 1860, there was one native-born insane person for 1,500 native-born inhabitants in the United States; in 1870, there was one insane person for 1,260 inhabitants; in 1880, there was one insane person for 660 inhabitants. Or (changing the basis of comparison), we find in 1860, there were, for every 4 insane persons, 6,000 inhabitants; in 1870, for the same number of inhabitants, there were 5 insane persons; and in 1880, for the same number of inhabitants, there were 10 insane persons,—an increase, within twenty years, in the proportion of the insane, of 250 per cent.

This rapid increase in the number of persons affected by a malady at once so grave in consequences to the individual, and often so dangerous to the life and property of others, certainly demands a most careful and thorough-going investigation. Would it not be a wise expenditure of money, if the national government would appoint a commission to make a special investigation of this matter? Thousands of dollars have been expended in investigating the cause and the best means of prevention and cure of hog cholera, within the past thirty years, while not a dollar has been expended in the same length of time for the investigation of a matter of infinitely greater importance. The attention of our legislators is respectfully called to this subject as one worthy of their most serious attention. There has been no such increase in the comparative frequency of any other malady, which fact suggests the propriety of devoting special study to the possible causes of a disease so grave in its consequences to both the individual and to the community.

## DANGER IN THE USE OF STIMULANTS IN CASES OF HEMORRHAGE.

WE are glad to find a writer in the *Medical Epitome* calling attention to the danger involved in the use of stimulants in cases of hemorrhage. The weakness and faintness which commonly result from the loss of blood are a great temptation to resort to the use of alcoholic or other excitants,—a practice which is based upon the false idea that stimulation and strength are synonymous terms. The writer referred to, remarks as follows:—

“It is customary, when the accident of hemorrhage occurs, for the operator, or some bystander, to administer wine, brandy, or some other alcoholic stimulant to the patient, under the false idea of sustaining the vital power. It is my solemn duty to protest against this practice on the strictest and purest scientific grounds. The action of alcohol, under such circumstances, is injurious all around. It excites the patient, and renders him nervous and

restless. It relaxes the arteries, and favors the escape of blood through the divided structures. Entering the circulation in a diluted state, it acts after the manner of a salt in destroying the coagulating quality of the blood; and above all other mischiefs, it increases the action of the heart, stimulating it to throw out more blood through the divided vessels. These are all serious mischiefs, but the last-named is the worst. In hemorrhage the very keystone of success lies so much in quietness of the circulation, that actual failure of the heart, up to faintness, is an advantage, for it brings the blood at the bleeding point to a standstill, enables it to clot firmly, when it has that tendency, and forms the most effectual possible check upon the flow from the vessels.”

The writer recommends the use of hot milk as a restorative after the immediate danger from loss of blood has been met.

A SENSIBLE DOG.—The late Dr. Beech, of Coldwater, Mich., reported at a meeting of a medical society in Detroit, a number of years ago, the case of a dog which had suffered from a tapeworm, and afterwards, although it lived a number of years, could never be induced to eat raw flesh. If all human beings who have suffered from the effects of eating flesh food would behave in an equally sensible manner, the raising of stock for market, and the slaughtering of animals, would soon cease to be profitable employments. The writer has met persons who had suffered from tapeworm several times in succession. Such persons ought to take a few lessons in preventive medicine, and we would respectfully refer them to the aforesaid dog as a competent teacher.

KISSING.—One of the most senseless and reprehensible practices occurring in modern society is the indiscriminate kissing which is not only tolerated but encouraged by many in the most thoughtless manner. The danger of communicating various loathsome diseases in this manner is much greater than is supposed. Dreadful and disgraceful maladies have not infrequently been traced to this source of infection. A physician recently reported in the *St. Louis Courier of Medicine*, a most distressing case in which a young married lady of excellent character became infected with a most horrible and loathsome disease. The circumstances were truly distressing, and the young woman's character was likely to be impeached, and

her social standing forever destroyed. She singularly saved her reputation and position by tracing the infection to a certain young man, who, supposed to be of good character and habits, had been allowed the habit of frequently kissing her baby. The little one had contracted the horrible disease from the young man, who was suffering from the consequences of gross immoralities, and thus had communicated the same frightful disease to the young mother, whose character, to say nothing of her life and health, were thus imperiled. Such cases may be more numerous than is generally known.

A DANGEROUS PRECEDENT.—It is reported from Russia that a physician of that country has brought a suit for libel against a man whose wife died while under the physician's care, the charge being that the bereaved husband had pasted on the tombstone of his dead wife the last prescription the physician had given her the day before her death.

WITHIN the last twenty-five years, the fruit-producing resources of the United States have increased just ten times as fast as have the meat-producing resources. Apples, oranges, and grapes are growing cheaper every year, but meats are growing dearer. This means clearer heads, cooler blood, and better equipoise of brain and brawn. It is a more distinct blow at alcoholism than anything else this year reported.—*Frances E. Willard.*

A BOUNTY FOR BABIES. — For several years the French government has been greatly troubled over the increasing rapidity with which the depopulation of that country is taking place. The depopulation of France is not due to emigration, as the Frenchman is satisfied with his home and his government, and believes that "*La France*" is the sunniest and healthiest land in all the world. For many months, the leading savants of France have been engaged in a careful study of all the possible causes of depopulation. Infanticide, abortion, and the employment of artificial means to interfere with natural processes are regarded as the principal factors in producing a state of things in which the death rate exceeds the birth rate. Notwithstanding all the efforts which have been made for the purpose of effecting a change in this order of things, the discrepancy between the death rate and the birth rate is continually on the increase, and the French government has finally become so alarmed that it has offered a "bounty of 100 francs to every married couple in France who shall add one more citizen to the state during 1892." This means the payment of twenty dollars for every legitimate child born during the year 1892.

The facts exhibited by the last census to which General Walker, chief of the Census Bureau, has called attention; viz., that there were found to be several million babies short in comparing the decade between 1880 and 1890 with that from 1870 to 1880, is evidently the result of a diminution in the birth rate in this country from causes which have not yet been investigated, but which when looked into, will doubtless prove to be the same as those which have brought about the same result in France. At this rate, the time will come before another quarter of a century has elapsed, when in this country as well as in France, a bounty will be offered for babies as a means for checking the depopulation of the country.

THE PHYSIOLOGY OF INFANT DIGESTION. — Dr. Booker states in the *Johns Hopkins Bulletin* that "the milk remains in the stomach of infants for a much shorter time than in adults. The period depends upon the character of the milk, and the age of the patient. In breast-fed children, during the first week, the stomach is sometimes found empty within an hour after nursing. The maximum period for breast-fed children during the first week is an hour and a half, and two hours for older children and those fed on cow's milk. It has not yet been determined whether the milk passes from the stomach continuously, or periodically. During the first few minutes after feeding, the reaction of the contents of

the stomach is that of the food that was taken. After fifteen minutes, it is always acid. *Milk absorbs hydrochloric acid so rapidly that free acid does not appear until late.*

"In disordered conditions of the digestion, milk remains much longer in the stomach than in health. Milk curds are sometimes washed out four or five hours after feeding. They sometimes become very hard and of bad odor. Excessive secretion of mucus usually accompanies disordered digestion."

THE APPLE-CURE FOR DRUNKENNESS. — An American physician calls attention to the fact that the free use of apples is an excellent means of preventing the appetite for liquor. For a number of years, he has treated patients suffering from dipsomania, by requiring them to eat apples freely at meals, and to take an apple whenever the appetite for liquor was experienced. He claims that this free use of apples is a complete antidote for the appetite for alcoholic drinks. On principle, we do not approve of substitutes; nevertheless, no objection could be offered to the use of so harmless a substitute as ripe, sub-acid apples.

WINE AND INDIGESTION. — Many physicians are in the habit of recommending wine to persons suffering from indigestion, particularly persons advanced in years, with the idea that it is an aid to digestion, or in some way re-inforces the vital power. The practical experience of observing physicians long ago pointed out the error of this practice, nevertheless all those who are interested in the advance of temperance reform will be interested in the following confirmatory evidence afforded by the result of a series of researches, conducted for the purpose of determining the influence of wine upon digestion, by Prof. Hugounenq, as reported in a recent French medical journal.

"(1) All wines, without exception, retard the action of pepsin; the most pernicious are those which are loaded with alcohol, cream of tartar, and coloring matter. (2) Of the elements of natural wine the active coloring matters, together with the cream of tartar and the alcohol, retard or arrest pepsic digestion. (3) The acidity of ordinary wines is powerless to provoke the action of pepsin; in the majority of cases it does not seem to aid it. (4) The coloring matters fraudulently introduced into wines, such as methyl blue, azoflavine, solid blue, and especially fuchsine, hinder pepsic digestion. The vegetable coloring matters, such as black mallow, elder, maki, exercise, like enoline, a noxious action."

A FISH EPIDEMIC.—The fishermen living at a certain point on the French coast are in great distress, owing to the fact that an epidemic is prevailing among the fish of that section. The fish succumb very rapidly to this mysterious disease. When first affected, they rise to the surface and swim about for some time, and are easily caught; but when diseased, the fish are found to have an extremely bitter taste, so that they cannot be eaten even by those to whom the idea of eating a diseased animal is not repulsive. Microscopical examinations which have been made by Profs. Raillet and Trasvot show the presence in the flesh of the fish of microbes similar to those which are found in decomposing meat.

This is a fact worthy of note by those who, while discarding the use of the flesh of warm-blooded animals, do not object to the use of fish, with the idea that it is likely to be more wholesome, or thought to be less subject to disease than the flesh of land animals.

GERMS ASSOCIATED WITH RAW FRUIT.—Many persons, especially those suffering with feeble digestion, have observed that raw fruit creates much stomach and intestinal disturbance, while cooked fruit can be eaten with impunity. According to the *Journal de la Santé*, Prof. Schnirer has recently made an observation which at once points out the cause of the frequent disagreement of fruits when eaten raw.

“While at work one day in the laboratory at Weichselbaum, he sent for some grapes with which to refresh himself. The fruit had been kept for some time in a basket outside the laboratory, and was covered thickly with dust, so that the water in which it was washed was absolutely black. On examining the water, he reflected that inasmuch as the neighboring street was traversed frequently by consumptive patients going to the clinic, the dust probably contained the dessicated sputa of the persons, charged with tubercle bacilli. To settle this point, M. Schnirer injected into three guinea pigs 10 cubic centimes of the water in which the grapes had been washed. One animal died in two days from peritonitis, the two others died on the forty-eighth and fifty-eighth days respectively, presenting marked tuberculous lesions, especially at the place of injection. The water in which the grapes had been washed had been taken directly from the faucet, and the glass containing it had been sterilized; neither the boy who had brought the grapes, nor the merchant who had sold them, was tuberculous. Hence the cause of infection was beyond doubt, the dust on the grapes. This experiment illustrates the danger arising from the dis-

semination of dessicated tuberculous sputa in the air.”

It should be borne in mind that not only the germs of tuberculosis, but also many other sorts of microbes, may be disseminated in this way. The bloom, which is found upon grapes, peaches, and many other fruits, contains myriads of germs, as shown by many microscopical and bacteriological studies which have been made by various observers.

Some interesting researches upon this subject are now being carried on in the bacteriological laboratory of the Sanitarium at Battle Creek, Mich., under the direction of Dr. Paquin, professor of Bacteriology in the University of Missouri, who is spending his vacation at the Sanitarium. A report of these experiments will be published in future numbers of GOOD HEALTH.

SHELL-FISH.—M. Metter, in the *Bulletin Medicale* calls attention to the frequency of poisoning by shell-fish, clams, and oysters, in recent years. It occurred in this country not long ago, that a distinguished Chicago surgeon died as the result of eating oysters; and the writer has known several similar cases.

According to the authority above named, the poison of shell-fish is to be found in the liver. Falckaaski and Brieger, two eminent investigators in this line, have isolated the poison, and given it the name of *mitylotoxicon*, a poison closely allied to the poison produced by decomposition. According to M. Metter, this poison is always to be found in the liver of shell-fish at all seasons of the year, and is neither more abundant nor more frequent during the periods of spawning, as is generally supposed.

The last mentioned fact, which must be received as authentic, since it is vouched for by so reliable authority, ought to be a sufficient reason for discarding shell-fish of all kinds from the list of wholesome foods. The scavenger habits of shell-fish are well understood, and, since their diet consists of decomposing matter which must always be contaminated with poisonous substances, it is not surprising that their livers always contain these poisons.

A DRUGGIST'S BILL.—An English druggist presented, after the death of an old customer, a bill according to which the poor man had swallowed in twenty-two years 226,934 pills, an average of twenty-nine a day. For five years he had used seventy-eight pills daily, and in one year swallowed 51,590 pills. Besides, he had taken 40,000 bottles of mixtures, and juleps and electuaries in proportion. Certainly a profitable customer. The druggist ought, at least, to have thrown in a headstone without charge.



### BRIGHT'S DISEASE CONTAGIOUS.

THE contagiousness of small-pox, scarlet fever, measles, mumps, "the plague," cholera, yellow fever, and other common diseases, has been recognized almost as long as the diseases themselves; and recent discoveries in bacteriology have shown that maladies formerly unsuspected of contagious properties, such as nasal catarrh, ordinary inflammation of the eyelids or common sore eyes, consumption, boils, lock-jaw, and even warts and many other forms of skin disease, are contagious by communication of the germ causes of these maladies. It would seem that the list of contagious maladies is certainly large enough; nevertheless, a leading medical journal recently reports the results of extensive researches in relation to the cause of Bright's disease of the kidneys, which have been conducted by Prof. Mannaberg, by which it appears that this formidable malady must also be added to the list of "catching" disorders. At any rate, this seems to be true of certain forms of the disease.

It has long been known that Bright's disease frequently follows pneumonia, erysipelas, typhoid fever, scarlet fever, and several other fevers, all of which are infectious or contagious in character. But it now

appears that there is a peculiar form of the disease in which the active cause is a specific germ which acts directly upon the kidneys, sometimes affecting also the heart. It is found that these germs can be cultivated outside of the body, that they are found present in the urine of persons suffering from this disease, and that they disappear when recovery occurs. A pure culture produced outside of the body, injected beneath the skin of rabbits and dogs, gave rise to violent inflammation of the kidneys, and of the lining membrane of the heart, a complication which not infrequently arises from inflammation of these organs.

Many cases of acute inflammation of the kidneys occur which result in recovery. It is evident that an overworked kidney would be less able to defend itself against the attacks of invading microbes, than one of which only a normal and reasonable amount of work was required. The use of condiments, alcoholic liquors, the excessive use of flesh food or a highly albuminous diet, and all the causes which are recognized as predisposing to disease of the kidneys, favor the development of this disease by weakening the ability of these organs to defend themselves against the germ cause of the malady.

**HOW TO CONTROL THE COUGH IN WHOOPING COUGH.**—A Swiss physician, Dr. Naegely, has suggested a method which he claims to be uniformly successful in arresting the cough in whooping cough. No medicine is administered. The physician faces the patient and places his thumb upon the sides of the little bone which lies at the root of the tongue. The forefingers are placed over the ears, and the other fingers at the sides of the neck. With the fingers in this position, the thumbs are passed up-

ward so as to elevate the hyoid bone and the larynx, which must be raised and held in position from one minute to a minute and a half. The author of this method claims that a single application is generally sufficient to relieve an obstinate cough. An attack of hysterics accompanied by the sensation of a ball in the throat, nausea, etc., when of nervous origin, one-sided headache, and facial neuralgia, it is claimed, may also be cured by the same method. Sometimes several applications are required.

FOR INGROWING TOE-NAIL.—A French medical journal gives the following for the treatment of ingrowing toe-nail: "The half of the toe-nail towards the affected side is softened by applying a solution of potash consisting of four parts of potash to ten of water. By moistening the nail with this solution, a thin layer of the nail will be softened in a few seconds, and can be scraped off with the sharp edge of a fragment of broken glass. The solution of potash is again applied, and another portion softened and scraped off, until the nail is reduced to the thickness of a sheet of paper. With a pair of small forceps the depressed edge of the nail can now be easily raised and cut off with the scissors. This method, which is entirely painless and bloodless, gives immediate relief from the distressing pain which is often occasioned by this condition. It must not, however, be regarded as radically curative in its results, as the same measure must be applied again, when the nail is developed sufficiently to again encroach upon the flesh. It is possible, however, to render the method more effective, by elevating the depressed edge of the nail, and placing under it a small bit of cotton saturated with vaseline, thus keeping the nail elevated, and so giving it a new direction as it grows.

NURSING A SICK CHILD.—It is needful that mothers should learn the significance of various signs which are of great importance during the illness of young children, as these are the only means they have of indicating a knowledge of their condition. Most of these signs are automatic, or unintentional, so far as the child is concerned, but on this account are all the more significant and important. We quote a paragraph or two from "Hospital and Home Nursing," by an English author:—

"A skillful nurse should read intuitively by a sign, or a cry, what is amiss; crying is very expressive, and is a baby's only language, and an occasional good cry does it good rather than harm, by expanding its lungs. You must remember that a young baby can neither talk, sing, nor laugh aloud, so that the deep inspirations it takes in crying are the only means it has of thoroughly aerating the residual air in its lungs. Do not, then, grudge the healthy cry which usually accompanies the morning tub.

"The cries of children vary much, according to the nature of their illness, and are often very significant. In brain disease the cry is piercing and shrill, and the child wakes, perhaps, with a shriek; pain in the stomach usually causes a loud, passionate cry, accompanied by a flow of tears; the abdomen is probably distended, and the legs are drawn up. In chest

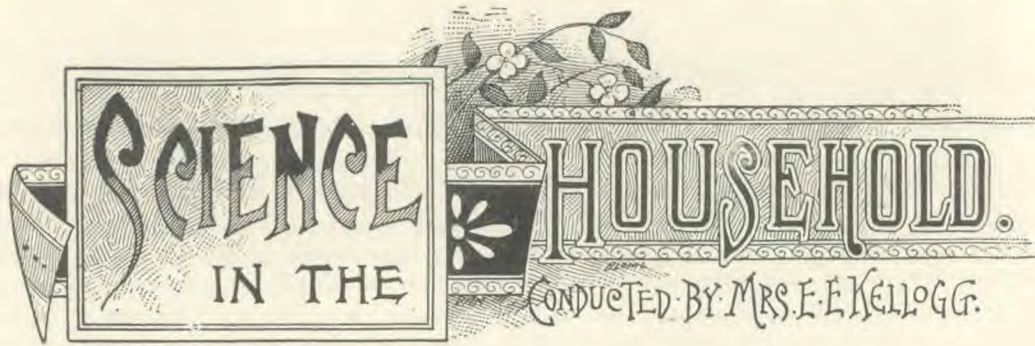
complaints the cry is generally stifled, because the act of crying increases the pain.

"The slightest symptoms of illness in a child should never be neglected; infantile complaints develop very quickly, and require, as a rule, the practiced eye of a medical man to discern at once what is wrong.

"It is very desirable for those in charge of little children to have some general knowledge of symptoms, so as to know what to do in an emergency before the doctor comes; moreover, it is essential that they should have some elementary knowledge of the laws of digestion and of health. More than half the mortality among children under five years of age is caused, directly or indirectly, from errors in diet, such as giving young babies bread, biscuit, or any starchy food before they can digest it, and from the foolish and injurious custom of giving little children a 'taste' off their parents' plates. The direct result of wrong feeding is usually diarrhea, and the indirect result is, not infrequently, convulsions or fits."

CHOLERA INFANTUM.—A French physician has discovered a germ which seems to be the cause of cholera infantum. That this disease is produced by germs, has long been believed, but the exact germ which causes the malady has never before been isolated. This recently discovered germ is found to be present in all cases of cholera infantum, usually in very large numbers. It may be cultivated outside the body, and when injected into the tissues of animals, produces symptoms resembling cholera. The germ is found to produce a very poisonous substance identical with that produced by the germ of cholera. This substance, when introduced into the body in small doses, produces symptoms of poisoning, and in large doses produces death. Doubtless the germs of cholera infantum are generally introduced in milk; hence the best preventive of the disease is to be found in sterilizing, or boiling, the milk. When a child has already contracted the disease, the best remedy is to be found in large hot enemata, and withholding milk and all meat preparations, from the food. Farinaceous preparations, such as well boiled and strained barley gruel, should constitute the diet. Milk should be withheld for a few days, until the severe symptoms have passed away, as milk furnishes food for the germ.

FOR MOSQUITO BITES.—There is no better remedy for relieving the bites of mosquitoes and other small insects, than menthol liniment, made in the proportion of one part menthol to ten parts of alcohol.



## WHOLE-WHEAT BREAD.

SEVERAL requests have recently come to us asking for directions for making light yeast bread of whole-wheat flour, and while it would be impossible in the space allotted to this article to enter into full details of the *modus operandi*, which would include a study of the nature and action of yeast and of fermentation, we may, perhaps, be able to offer such suggestions as will enable those already somewhat familiar with the bread-making process, to make a success of this kind of bread. To make good bread of whole-wheat flour, three things are especially essential; good yeast, good material, and good care. Accuracy in measuring is also important. Many housekeepers fail in producing good bread, because they guess at the amount of material, and sometimes with the same quantity of liquid will use considerably more flour than at another, thus making the results very variable. With the same brand of flour, the same quantity should always be used to produce a given quantity of bread, and this amount should be carefully measured out.

Many failures in making whole-wheat bread are due to poor flour. Because flour made from the entire grain of wheat is darker in color than that made from the central starchy portions of the wheat kernel, some unscrupulous dealers take advantage of the fact, and put up so-called whole-wheat or graham flours from inferior grades of white flour and bran. Such a fraudulent article will not produce good bread. The genuine whole-wheat flour may be distinguished from a spurious article, by taking a small pinch in the mouth and chewing it for a few moments. If made from the entire grain, a small amount of gum will be produced, the same as when a wheat kernel is chewed. The best whole-wheat flour with which we are acquainted is what is called the wheat-berry flour, to be obtained of the Sanitarium Food Co., Battle Creek, Mich.

The temperature at which the bread is kept is frequently the cause of failure to produce good results.

The best bread can never be produced by allowing it, during the fermenting process, to rise to 80° one hour and lower to 60° the next. An even, equable temperature throughout the entire process is essential. Whole-wheat flour ferments more readily and rises more quickly than does white flour, hence bread made with it needs greater care, as it is more liable to sour. Less yeast is also needed. Whole-wheat breads will be lighter if at least one third white flour be employed. When the bread is made with a sponge, this white flour is best utilized for the sponge. The length of time the whole-wheat flour will then be undergoing fermentation will be somewhat lessened and hence its liability to become sour will be decreased.

Graham and whole-wheat flour breads must be kneaded softer than white flour bread, and a hotter oven and a longer time will be needed for the baking.

The following recipe if carefully followed makes a nice light bread:—

WHOLE-WHEAT BREAD.—One pint milk, scalded and cooled, one quart wheat-berry flour, one pint Minnesota spring wheat flour, one-third cup of soft yeast, or one half cake compressed yeast soaked in one-third cup of cold water. Stir enough flour into the milk to make a stiff batter, put in the yeast, and let it rise until foamy. (Have the milk so warm that when the flour is put in, the batter will be of a temperature of about 70°. Wrap in a thick blanket, and keep as nearly at this temperature as possible.) When light, stir in, slowly, enough warm flour to make a soft dough. Knead for fifteen minutes, and return to the bowl (which has been washed and oiled) to rise again. When risen to double its size, form into loaves, place in separate tins, let rise again, and bake from three fourths to one and a half hours, according to size of loaf and heat of oven.

The following recipe, although not resulting in so light and flaky a loaf, may be preferred by some on account of being more quickly made:—

WHOLE-WHEAT BREAD.—Take one pint of milk



scalded and cooled, two tablespoonfuls of sugar and one cup of yeast or one fourth of a cake of compressed yeast and five or six cups of whole-wheat flour. Add the sugar to the milk, then add the yeast, or if it is compressed yeast, save out a portion of the milk in which to dissolve it. After the dough

has risen, stir it down, and if it is thin enough, pour it into pans; if not thin enough to pour, knead it into loaves. Allow this to rise, and then bake. Graham bread may be made with the same proportions, using instead two cups of white flour and three or three and a half cups of sifted graham flour.

RUGS VS. CARPETS.—The practice of European housekeepers of covering the floors with rugs, which may at any time be lifted and shaken, cannot be too earnestly commended, and we are pleased to note that the fashion is growing in favor in this country. In regard to both beauty and sanitary considerations, rugs are undoubtedly to be preferred to carpets. From an economical point of view, they are about equal in expense. Many persons, however, will refuse, under any consideration whatever, to be won away from their allegiance to the old-time carpet, and to such we would give the following advice: Lay all carpets with a floor space of several inches between them and the sides of the room, which space should be painted some color in harmony with the prevailing tone of the carpet. This arrangement is chiefly in the interest of neatness, that the carpet sweeper may be able to reach every inch of carpet, so avoiding any collection of dust in corners; but if the carpet be put down carefully, and tacked in straight, unvarying lines, it gives, likewise, a pleasing effect to the room. Daily use of a good carpet sweeper combined with frequent wipings of the carpet with a big, damp sponge, or soft cloth, will keep the room comparatively free from dust, though in constant use. For seasons of more than ordinary wear and accumulation of dirt, a writer in the *Household* gives the following as an excellent wipe-up: "Add a pint of ox-gall or two tablespoonfuls of turpentine to a pail of warm, soft water, and wringing out the sponge or cloth very often, wipe over the entire surface of the carpet."

E. L. S.

THE KITCHEN OF THE PHARAOHS.—The discovery of "Pharaoh's house in Tahpanhes," of which we read in the book of Jeremiah, is by far the most interesting yet made in connection with the Egypt Exploring Fund. Most curious, perhaps, of all is the perfect condition in which—after the lapse of nearly three thousand years—the kitchen and servants' offices have been found. The kitchen is a large room with recesses, which probably served for dressers, built in its walls. Here Mr. Flinders Petrie found standing unharmed some fourteen large jars and two large flat dishes. A pair of stone corn-rubbers, a large iron knife, various weights, and three small, flat, iron pokers were also found in the kitchen.

Opening out of this was a small, curious apartment, doubtless once occupied by the scullery maid. Here she had evidently "wrestled" with the pots and kettles of ancient days, with the aid of the few and rude conveniences then in use. A bench of masonry served for the table upon which the dishes were washed, and recesses built in the wall probably for shelves upon which to place them. There was a sink to receive the dishwater, made of a large jar with the bottom knocked out, and filled with pieces of broken crockery set up on edge. Slops filtering through these dropped into other bottomless jars set one within another, finally reaching the sand a few feet below. When discovered, Pharaoh's kitchen sink had no doubt, for some time stood in need of the kindly offices of a sanitarian; for it was coated with organic matter and clogged with fishbones.

CLEANSE cistern water with powdered borax and alum.

HEAT, skim, and seal up fruit juices in bottles without sweetening, and keep for summer drink.

STARCH the tablecloths slightly; it will give them a new look, and besides, they will keep clean much longer.

It is said that the unpleasant smell of newly-painted wood-work may be lessened by setting pails of fresh water about in the rooms.

A QUANTITY of all stock articles in the kitchen should be prepared at one time. Dry beans may be kept picked over, potatoes washed, raisins seeded, etc.

OLD newspapers will put the finishing touch to newly-cleansed silver knives and forks and tinware better than anything else. Rub them well, and make perfectly dry. Newspapers are excellent to polish stoves.

SAVE all the paper bags. They are most convenient to draw down over cans of fruit to shut out the light; the hand can also be slipped into one when cleansing the stove, as well as in doing much other household work which is hard upon the hands.

## LITERARY NOTICES.

THE August *Scribner* is a fine midsummer number, and although short stories are in the majority, they are finely illustrated, being, together with the illustrated papers, the combined work of the best American and Old World artists. Of the latter, "Piccadilly," by Andrew Lang, is both picturesque and amusing. From his long residence in London, Mr. Lang knows every phase of this great street in a great metropolis, and is able, readily, to recall its literary myths and memories. Another paper—the final one in the series—is Professor Wigmore's "Parliamentary Days in Japan," also illustrated. This gives a clear idea of the personality of the leading Japanese statesmen, with an insight into the workings of that great, deliberative body which recently met for the first time. The "Point of View" is, as always, enjoyable; and altogether, *Scribner* fails not to hold its own in the hearts of its friends. Charles Scribner's Sons, New York City.

So rich and varied a table of contents is placed before its readers in the *Chautauquan* for August, that we have space to mention but a portion, as follows: Old Chautauqua Days (Illustrated), by Theodore L. Flood; Flying by Means of Electricity, by Prof. John Trowbridge; Illustration and Our Illustrators, by C. M. Fairbanks; African Myths and Legends, by Heli Chatelain; The Physical and the Mental in Hypnotism, by Alfred Fouillée; Death Valley, by R. S. Dix; Traveling in Provincial France, by Elizabeth Robins Pennell; England in the Eighteenth Century, by Edward A. Freeman; Modern Surgery, by C. R. Hammerton; The Sorosis Club at Bombay, India, by Mrs. M. B. Denning; What Women's Clubs have done for Women, by Mrs. Kate Tannatt Woods; A Debate in Germany. The poems of the number are by Philip Burroughs Strong and Virna Woods. The usual editorial and department space is well filled. *The Chautauquan*, Meadville, Pa.

*Good Housekeeping* for August is promptly at hand, as bright and enjoyable as though there were no "heated term" and no such thing as vacation time. This magazine, carefully read in any household, will do more than can be estimated to aid the mistress of the home, and to lighten her burdens, by bringing to her assistance the wisdom of others in all parts of the country. The publication was never more interesting or valuable than at present. Clark W. Bryan & Co., Publishers, Springfield, Mass.

POULTNEY BIGELOW, who was a schoolmate of the German Emperor, contributes an article to the August number of *The Century* on the first three years of the Emperor's reign—the third anniversary of his ascent to the throne having taken place June 15. Mr. Bigelow believes that "since Frederick the Great no king of Prussia has understood his business like this emperor," and in this article he gives what he considers the secret of the power of William II with his people, and incidentally contributes many facts regarding his life. This number of *The Century* is especially rich in illustrated articles and complete stories, and the illustrations of Mr. Bigelow's paper include a number of views of the palaces at Berlin and Potsdam, and engraved portraits of the Emperor and Empress form a double frontispiece.

"VACATION TIME," by H. S. Drayton, M. D., Fowler and Wells Co., 775 Broadway, New York. The author writes in a pleasant style, and really covers a good deal of ground in a few words. He talks of life at the seaside, in the mountains, of boating and bathing, games, excursions, etc., puts in some very practical hints on eating and dress, and the management of household economies, and has a word of advice to mothers and housekeepers that they cannot but value. Even the stay-at-homes get a thought or two that must be encouraging. As an epitome of summer hygiene, the book is so good and practical that they who would read it and follow its suggestions could not but get real profit out of their summering, wherever they might be. Sent by mail on receipt of price, twenty-five cents. Address the publishers, 775 Broadway, New York.

THE Cassell Publishing Company are issuing, by arrangement with the English publishers, Miss Menie Muriel Dowie's book, "A Girl in the Karpathians," in which she gives an unconventional and racy account of her travels among the mountains of Russia-Poland. The book is illustrated with maps and bits of scenery, and contains a full-length portrait of Miss Dowie in flannel shirt, jacket, knickerbockers, and Tam O'Shanter, as she traveled on horseback and alone through this wild region. Miss Dowie, who is in her early twenties, is the young lady who aroused the enthusiasm of the British Association by an address before that learned body on her return from her travels. Her book is likely to make as great a success here as it has in England.

## PUBLISHERS' DEPARTMENT.

THE Sanitarium Hospital has been enlarged by the addition of a story to the main central portion of the building, which will not only improve its appearance, but will add to the accommodation for patients, besides giving additional and much needed room to the surgical operating department.

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THE collection of animals in the Sanitarium park has been enriched recently by the addition of a fine eagle, a pair of beautiful fawns, and a six-weeks'-old bear. The last-named member of the Sanitarium happy family of animals is a constant and never-ending source of amusement to the children, to whom he sets a good example in adhering rigidly to vegetarian habits.

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THE new Orphans' Home to be located near the Sanitarium, and in which the managers of the Institution have taken a deep and leading interest, has received donations to a sufficient amount to guarantee the success of the enterprise. The grounds have been laid out, the trees and shrubs which have been planted are growing finely, and it is hoped that within a few months work may be begun on the building.

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PATIENTS at the Sanitarium will soon have the pleasure of visiting all parts of the beautiful city of Battle Creek and its suburbs in a rapid and smooth-riding electric car. Three electric lines of railway are now being constructed in the city, one line running direct to the Sanitarium Summer Resort at Lake Goguac, and the managers of the line promise to furnish a fine private car for the benefit of Sanitarium patients; but on special occasions, when the whole family turns out for a grand picnic, at least half a dozen cars will be required, in addition to the private car, for feeble patients who have to go in wheel chairs, who could not be taken in an ordinary car.

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THE managers of the Sanitarium find the large addition made to their main building last summer none too ample to accommodate the large family of patients who are here seeking the advantages of the Institution the present summer. At the time of present writing, the number of guests and patients is larger than at any previous time in the history of the Institution,—numbering something more than four hundred. When this is added to a family of three hundred helpers, nurses, attendants, and physicians, it will be apparent that the Sanitarium must be a very lively place just now. But, notwithstanding the great number of people here, and the great amount of work done, the Institution is so well organized that matters run very smoothly, and there is no appearance of bustling or jostling, no confusion, and a degree of quiet reigns at all hours, which is, perhaps, found nowhere else in so populous a place. Indeed, the weary, nervous invalid finds at the Sanitarium an opportunity for rest which is unequalled anywhere. The grateful shade afforded by the beautiful grove in front and about the buildings, the opportunities for outdoor games, such as lawn tennis, croquet, etc., the pleasant excursions to Lake Goguac, where the Sanitarium has a beautiful villa and a mammoth dining pavilion, and the agreeable and interesting daily program of treatment, gymnastics, and various health-giving exercises, aid in making this one of the most desirable places for sick people, to be found anywhere on the Continent. The weather is cool enough to be agreeable, rarely or never unpleasantly hot, and the air is so fresh and breeze so constant that one might easily fancy himself at the seaside or the lake shore, only that the air is drier, and hence more salubrious than sea or lakeside localities.

THE lateness of this number must be attributed to the fact that at the time it should have gone to press almost every member of the editorial staff happened to be called away by emergencies of one sort and another, and as their absence was unexpected, no provision had been made beforehand. We trust, however, that the excellence of the journal's contents will atone for its being a few days behind time.

\* \*

THE agents of the Good Health Pub. Co., in South Africa, report a very large sale of our health works in that part of the world. Nearly a thousand copies of the "Home Hand-Book" have been sold within the last few months, and several thousand copies each of the "Ladies' Guide" and "Man the Master-piece." These works prove very popular where they have been introduced by competent agents among English-speaking people.

\* \*

THE Sanitarium Medical class, numbering nearly twenty in all, have been spending several weeks very pleasantly and profitably in the study of bacteriology under the instruction of Prof. Paquin, late Professor of Bacteriology in the University of Missouri. Arrangements have been made with Prof. Paquin to take the direction of the Sanitarium Laboratory of Hygiene, for which a new building is about to be erected. It is expected that the new quarters will be ready for the laboratory by the first of September, when Prof. Paquin expects to be ready to take charge of it. Prof. P's long experience as an original investigator of bacteriological problems, as well as his rich opportunities for study and experience as a student of the famous Pasteur, in Paris, eminently qualify him for this line of work, the results of which it is hoped will be useful in the cause of sanitary reform.

\* \*

THE COOKING SCHOOL AT BAY VIEW.—Mrs. Kellogg's Cooking School in connection with the Bay View Assembly, at Bay View, Michigan, has proved a grand success. She reports nearly one hundred students in daily attendance, and nearly twice this number gather daily to hear the introductory talks by Prof. Wakeham and others, on subjects pertaining to dietetics. Mrs. Kellogg has had a large experience as a teacher of scientific cookery, and makes this subject especially interesting, as she explains the "reason why" for everything. With the aid of such experienced assistants as Mrs. Kress and Miss Bucknum, she has been able to make the Cooking School at Bay View so thoroughly successful that desires are expressed on every hand that it shall be a permanent feature of this very popular Assembly. The editor spent a few days on the ground, addressing several very intelligent audiences at Evelyn Hall, in connection with the W. C. T. U. School of Methods. The principal subjects presented were "Temperance from a Physiological Standpoint" and "The Deformities of Fashion." The "Assembly" has come to be a very popular means of education, and is one which ought to be employed as an avenue through which reformatory ideas respecting diet, dress, and other matters relating to health, may be successfully propagated.

\* \*

AMONG the interesting curiosities of the greenhouse which have come out for their summer airing, are a fine orange tree, nearly fifty years of age, which is bearing a large crop of most delicious oranges, and two fine fig trees, reared in the greenhouse, each of which is bearing a nice crop of figs. A ripe fig which the writer picked the other day, was found to be much more delicate and luscious in flavor than the fresh figs imported from California and the South.

*PUBLISHERS' DEPARTMENT.*

SINCE the first of January, nearly 10,000 copies of the "Household Monitor of Health" have been sold, and the third edition of 5,000 copies is now under way.

\* \* \*

AGENTS are wanted in every town in the United States to introduce GOOD HEALTH. The new agents' outfit for the journal, and the new canvass which has been prepared with great care, enables the canvasser to give the journal a much fairer presentation than heretofore.

\* \* \*

THE Sanitarium health foods are unexcelled as a summer diet. Any person who will make his diet consist principally of fresh ripe fruit and Sanitarium foods will be certain to escape the multifarious diseases which prevail during the summer season. Arrangements have been made with several large firms by which these foods can be had in various large cities of the United States.

\* \* \*

THE publishers are constantly receiving inquiries from persons who desire braces, elastic stockings, abdominal supporters, and similar appliances, and for years have been in the habit of referring all such inquirers to the long-established and reliable firm of Sharp & Smith, whose advertisement appears in our advertising columns. We have been doing business with this firm for many years, and take pleasure in recommending them as thoroughly reliable in every respect. Any orders sent to them will undoubtedly be filled with goods the quality of which cannot be excelled.

\* \* \*

WHEREVER the GOOD HEALTH canvass has been undertaken with the new outfit, success has attended the efforts, even of inexperienced persons. Two agents who have recently begun work in South Dakota report as the result of one week's work, 42 and 52 orders respectively. As a liberal discount is given agents who devote their whole time to the introduction of the work, it will at once appear that the GOOD HEALTH canvass is a financial success. Certainly, if the journal is so readily taken in Dakota, which has recently met with so many and serious misfortunes, it is evident that in more favorable localities even better results ought to be obtained.

\* \* \*

THE "Household Monitor of Health" has proved so popular in this country, that a demand has been made for it in French and other foreign languages. Arrangements are now being made for its translation, and the book will be in the hands of translators in a very short time. A demand is also being made for the preparation of a similar work in the Spanish language. At the present time no subject is so popular among all civilized nations as that of health. The fact that most civilized nations are losing their physical stamina at an alarming rate, has come to be so well recognized, that most intelligent persons have come to see the need of making an effort to counteract this deteriorating tendency.

\* \* \*

MR. GERMAN, the experienced gardener at the Sanitarium, has succeeded in making the place blossom like the rose, being possessed of real genius in making plants grow in such a manner as to provide a constant succession of beautiful flowers during the entire year. Just now the lawns and porches are resplendent with blossoms of every description. The magnificent palms which are wintered in the large Sanitarium greenhouse have been brought out and placed about the lawn, in position to give them the greatest effectiveness. The long lines of blooms on the balcony railings of the Hospital front make almost one complete nosegay of the building.

SOCIAL PURITY leaflets and Health Science Leaflets, the plates of which were destroyed in our recent fire, are being reproduced, and will be announced as soon as ready.

\* \* \*

THE Sanitarium patients enjoyed a delightful picnic at the Sanitarium Summer Resort on the shores of Lake Gogouac a few days ago. Excellent music was furnished by a military band, and the excellent Sanitarium dinner, which was prepared in the commodious kitchen adjacent to the new dining pavilion, was a great surprise to those who had never before attended a Sanitarium picnic, as they found the board spread with all the delicacies and palate-tempting viands which the Sanitarium table regularly offers.

\* \* \*

A NEW edition of Social Purity and a Talk to Mothers, by Dr. and Mrs. J. H. Kellogg, is now in press, and will be ready for delivery in a few days. Large and important additions have been made to the work, which now numbers forty-eight pages. It has been entirely reset in antique type, and will be very tastefully bound with antique laid linen covers. The price has been raised to twenty-five cents, which is certainly a very low price for the work in its improved form. A liberal discount is given to those who purchase in large quantities.

\* \* \*

THE publishers of GOOD HEALTH are encouraged in their efforts to promulgate the principles of scientific hygiene by the fact that they have recently received nearly two thousand new subscribers in a single month. At the present rate of increase the list of subscribers to the journal will soon exceed the highest point which it has ever reached. The fact that the journal is now being circulated by agents who have been trained especially for the work, and who have an appreciation of its merits and the importance of the principles which it represents, affords a good basis for the belief that the increased interest in the journal is not due to a spasmodic effort on the part of a few of its friends, but is the result of an organized and systematic effort, which will increase in strength, activity, and efficiency, rather than diminish.

\* \* \*

WHERE THERE ARE NO BAD INDIANS.—The Sisseton Indian reservation at the eastern boundary of South Dakota and containing one million acres of choice farming lands, has just been opened for settlement and offers to the home-seeker inducements that cannot be equaled. The soil is very fertile, the country well watered, there being numerous small lakes within its boundary, and it is within a short distance of the twin cities of the Northwest, St. Paul and Minneapolis, insuring good markets almost at the settlers' doors.

This is not a frontier reservation, but is surrounded on all sides by an old, well settled, and prosperous country.

The reservation will be held for actual settlers, only homestead entries of 160 acres each being permitted, and there is room for more than 6,000 farms. To get the best, however, come early; first come, first served. The Chicago, Milwaukee & St. Paul Railway is the only road which runs directly through the reservation. To reach it from the East, buy tickets to Summit, S. D., Waubay, S. D., Wilmot, S. D., or Wheaton, Minn. Summit is within the reservation, the other stations on the border. All ticket agents in the United States or Canada sell tickets via the Chicago, Milwaukee & St. Paul Railway.

For further information, apply to Geo. H. Heafford, General Passenger Agent, Chicago, Ill., or to Harry Mercer, Mich. Pass. Agent, Chic., Mil. & St. Paul Ry., 82 Griswold St., Detroit, Mich.

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PEROXIDE OF HYDROGEN,  
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Is rapidly growing in favor with the medical profession. It is the most powerful antiseptic known, almost tasteless, and odorless.  
This remedy is not a Nostrum.



Can be taken internally or applied externally with perfect safety. Its curative properties are positive, and its strength and purity can always be relied upon.

A REMEDY FOR  
DIPHTHERIA ; CROUP ; SORE THROAT, AND ALL INFLAMMATORY DISEASES OF THE THROAT.

OPINION OF THE PROFESSION.

Dr. Geo. B. Hope, Surgeon Metropolitan Throat Hospital, Professor Diseases of Throat, University of Vermont, writes in an article headed "Some Clinical Features of Diphtheria, and the treatment by Peroxide of Hydrogen" (*N. Y. Medical Record*, October 13, 1888). Extract :

" . . . On account of their poisonous or irritant nature the active germicides have a utility limited particularly to surface or open wound applications, and their free use in reaching diphtheritic formations in the mouth or throat, particularly in children, is, unfortunately, not within the range of systematic treatment. In Peroxide of Hydrogen, however, it is confidently believed will be found, if not a specific, at least the most efficient topical agent in destroying the contagious element and limiting the spread of its formation, and at the same time a remedy which may be employed in the most thorough manner without dread of producing any vicious constitutional effect. . . .

" In all the cases treated (at the Metropolitan Throat Hospital), a fresh, standard Marchand preparation of fifteen volumes was that on which the experience of the writer has been based. . . .

" A steady, coarse spray, with an air pressure of twenty pounds or more, will in a few moments' time produce a more positive action than prolonged efforts to reach the fauces by means of cotton applicators. The force of the spray should be sufficient to cleanse at once the surface accumulations, as it destroys the necrosal elements with which it comes in contact. In this manner the removal of the *débris* and the action on the deeper structures go hand in hand. . . .

" How frequently the treatment is to be followed up depends to a considerable extent on the density as well as the area of the surface involved. It may be said, however, that two applications a day, in the great majority of cases, should be sufficient, if thoroughly performed, to arrest all danger of extension and accomplish the gradual resolution of the local formation. . . .

Dr. E. R. Squibb, of Brooklyn, writes as follows in an article headed "On the Medical Uses of Hydrogen Peroxide" (*Gaillard's Medical Journal*, March, 1889, p. 267), read before the Kings County Medical Association, February 5, 1889 :—

**CAUTION.**—I would earnestly impress upon the profession the very great importance of prescribing only my Peroxide of Hydrogen (Medicinal), from which all hurtful chemicals have been eliminated. By specifying in your prescriptions "Ch. Marchand's Peroxide of Hydrogen (Medicinal)," which is sold only in  $\frac{1}{4}$ -lb.,  $\frac{1}{2}$ -lb., and 1 lb. bottles, bearing my label and signature, you will never be imposed upon. Never sold in bulk. PREPARED ONLY BY

A book containing full explanations concerning the therapeutical applications of both CH. MARCHAND'S PEROXIDE OF HYDROGEN (Medicinal) and GLYCOZONE, with opinions of the profession, will be mailed to physicians free of charge on application.

☞ Mention this publication.

" Throughout the discussion upon diphtheria very little has been said of the use of the Peroxide of Hydrogen, or hydrogen dioxide ; yet it is perhaps the most powerful of all disinfectants and antiseptics, acting both chemically and mechanically upon all excretions and secretions, so as to thoroughly change their character and reactions instantly. The few physicians who have used it in such diseases as diphtheria, scarlatina, small-pox, and upon all diseased surfaces, whether of skin or mucous membrane, have uniformly spoken well of it so far as this writer knows, and perhaps the reason why it is not more used is that it is so little known and its nature and action so little understood. . . .

" For example, some albuminoids are instantly changed by contact with hydrogen dioxide, as is shown by rinsing the mouth with a dilute solution, when the albuminoid matters of the secretions are at once coagulated. Then, as all virus is albuminoid, whether propagative or not, it is destroyed or by coagulation rendered inert by simple contact with this agent, just as it is by contact with corrosive sublimate. This simple experiment of rinsing the mouth with a dilute solution of hydrogen dioxide and examining the discharged liquid can hardly fail to convince any one of the destructive potency of this active oxygen on some albuminoids, and of its thoroughly cleansing effects upon the mucous surfaces. . . .

" Now, if diphtheria be at first a local disease, and be auto-infectious ; that is, if it be propagated to the general organism by a contagious virus located about the tonsils, and if this virus be, as it really is, an albuminoid substance, it may and will be destroyed by this agent upon a sufficient and a sufficiently repeated contact. . . .

" A child's nostrils, pharynx and mouth may be flooded every two or three hours, or oftener, from a proper spray apparatus with a two volume solution without force, and with very little discomfort ; and any solution which finds its way into the larynx or stomach is beneficial rather than harmful, and thus the effect of corrosive sublimate is obtained without its risks or dangers. . . .

Further on Dr. Squibb mentions that Charles Marchand is one of the oldest and best makers of Peroxide of Hydrogen, and one who supplies it to all parts of the country.

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

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*Some Strange People,*                      *The World's Bill of Fare,*  
*Dame Fashion and*                      *Health and Temperance*  
*Her Slaves,*                                      *Miscellany,*  
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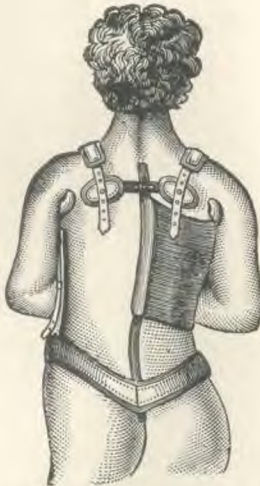
*Elastic Stockings,*

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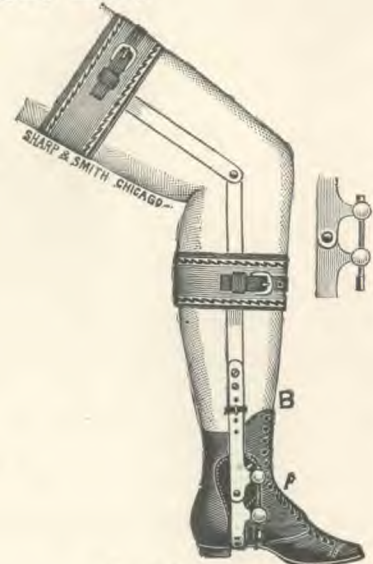
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Time Schedule of Passenger Trains, in effect July 8, 1891.

Going North and West.			STATIONS.	Going South and East.		
P. M.	A. M.	P. M.		A. M.	P. M.	
.....	1.30	.....	Ar.... Allegan.....Lv	.....	7.40	.....
A. M.	A. M.	P. M.	Ar.. Battle Creek..Lv	A. M.	P. M.	A. M.
1.45	11.45	.....	.....	9.14	4.13	5.45
P. M.	A. M.	.....	Lv.... Toledo.....Ar	.....	.....	.....
6.30	7.35	.....	.....	.....	8.35	12.10
.....	.....	.....	Ar..... Bryan.....Lv	A. M.	P. M.	.....
.....	.....	.....	.....	6.20	1.32	.....
.....	.....	.....	Lv.. Cincinnati...Ar	P. M.	P. M.	.....
.....	5.00	7.30	.....	1.45	8.55	.....

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GOOD HEALTH PUBLISHING COMPANY, Battle Creek, Michigan.



# Chicago & Grand Trunk R.R.

Time Table, in Effect May 10, 1891.

GOING WEST.					STATIONS.		GOING EAST.				
p m	a m	p m	p m	p m			a m	p m	p m	p m	p m
8.00	9.00	7.00			.....	Boston.....	8.30	9.50	7.30		
5.00	6.00	8.00			.....	New York.....	9.55	7.40	5.07	10.10	
6.00	6.00	1.00			.....	Buffalo.....	8.55	5.00	4.20	8.30	
7.45	7.30	2.45			.....	Niagara Falls.....	7.30	3.17	3.10	7.10	
			1.00		.....	Boston.....	8.30	9.50	7.30		
			11.55		.....	Montreal.....	8.10	7.45	7.45		
				1.00	.....	Toronto.....	8.42	5.30	7.40		
					.....	Detroit.....	9.00	7.45	11.55		
Chl. Pass.	D. C. Pass.	Lmt. Exp.	Pacific Exp.	Pacific Exp.	Mail Exp.		Mail Exp.	Lmt. Exp.	Actg. Exp.	Day Exp.	Pri. II Pass.
am	pm	pm	pm	pm	am	Dep.	am	am	am	pm	am
5.59	4.14	12.15	8.59	7.24	7.19	.....	Port Huron.....	10.31	12.31	7.35	8.21
7.28	5.40	1.20	10.10	8.55	8.31	.....	Lapeer.....	8.55	11.15	6.17	7.01
8.05	6.27	1.48	10.43	9.45	9.01	.....	Flint.....	8.0	10.45	5.40	6.27
8.48	7.24	2.14	11.28	10.30	9.35	.....	Durand.....	6.5	11.20	5.03	5.55
10.00	8.25	3.00	12.33	11.30	10.30	.....	LaSalle.....	5.37	9.30	4.04	5.05
10.37	8.58	3.25	1.06	12.01	11.00	.....	Charlotte.....	4.58	9.01	3.25	4.37
1.00	10.00	4.10	2.00	1.00	11.50	.....	BATTLE CREEK.....	4.05	8.20	2.35	5.55
1.48	pm	2.50	1.48	12.30		.....	Vicksburg.....	2.05	7.43	1.48	am
1.58	.....	.....	1.58	.....	.....	.....	Schoolcraft.....	2.12	.....	1.58	.....
2.52	.....	5.25	3.48	2.45	1.25	.....	Cassopolis.....	1.50	7.00	12.45	2.35
3.40	.....	6.00	4.25	3.35	2.10	.....	South Bend.....	1.00	6.20	12.00	1.67
.....	.....	.....	.....	.....	.....	.....	Haskell's.....	.....	.....	.....	.....
5.15	.....	7.21	5.55	5.10	3.40	.....	Valparaiso.....	11.25	5.00	10.30	12.40
p m	.....	9.30	8.05	7.30	5.50	.....	Chicago.....	8.40	3.00	8.15	10.40
.....	.....	pm	am	am	pm	.....	Dep.	am	pm	pm	am

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Corrected June 28, 1891.

EAST.		† Mail.	† Day Express.	* N. Shore Limited.	* N. Y. Express.	* Atlantic Express.	† Eve's Express.	† Kal. Accom'n
STATIONS.								
Chicago.....	am 7.05	am 9.00	pm 12.20	pm 3.10	pm 10.10	pm 9.25	pm 4.55	
Michigan City.....	9.10	11.10	2.00	4.48	am 12.25	11.25	7.00	
Niles.....	10.20	pm 12.43	2.53	5.50	1.45	am 12.40	8.25	
Kalamazoo.....	12.00	2.20	3.55	7.04	3.35	2.17	pm 10.05	
Battle Creek.....	pm 12.55	2.50	4.25	7.37	4.29	3.04	am 7.27	
Jackson.....	3.05	4.25	5.32	8.52	6.25	4.45	9.05	
Ann Arbor.....	4.42	5.25	6.22	9.45	7.45	6.05	10.19	
Detroit.....	6.15	6.45	7.20	10.45	9.20	7.30	am 11.25	
Buffalo.....	am 3.00	am 3.00	am 3.00	am 6.25	pm 5.05	pm 5.05	pm 7.00	
Rochester.....				5.50	9.55	8.10	10.00	
Syracuse.....				8.00	12.15	10.20	am 1.00	
New York.....				pm 3.45	pm 8.50	am 7.00	am 1.00	
Boston.....				5.40	11.05	10.45	10.45	
WEST.								
STATIONS.								
Boston.....			am 8.30	pm 2.15	pm 3.00	pm 6.45		
New York.....			10.30	4.50	6.00	9.15		
Syracuse.....			pm 7.30	11.55	am 2.10	am 7.20		
Rochester.....			9.35	am 1.45	4.20	9.55		
Buffalo.....	pm 11.00		11.00	2.40	5.30	11.50	am 8.45	
Suspension Bridge.....				3.25	6.25	pm 12.50		
Detroit.....	am 8.20	am 7.40	9.25	pm 1.20	9.15	pm 4.45	pm 8.00	
Ann Arbor.....	9.35	8.39	10.19	2.19	10.30	5.52	9.18	
Jackson.....	11.25	9.40	11.18	3.17	11.50	7.15	10.45	
Battle Creek.....	pm 1.00	11.12	pm 12.22	4.25	am 1.23	8.47	am 12.05	
Kalamazoo.....	2.17	11.55	12.59	5.00	2.17	pm 9.30	1.10	
Niles.....	4.15	pm 1.12	2.08	6.17	4.15	7.40	3.10	
Michigan City.....	5.37	2.14	3.08	7.20	5.45	8.55	4.30	
Chicago.....	7.55	3.55	4.50	9.00	8.05	11.15	6.50	

\*Daily. †Daily except Sunday. †Daily except Saturday.  
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