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GOOD



HEALTH

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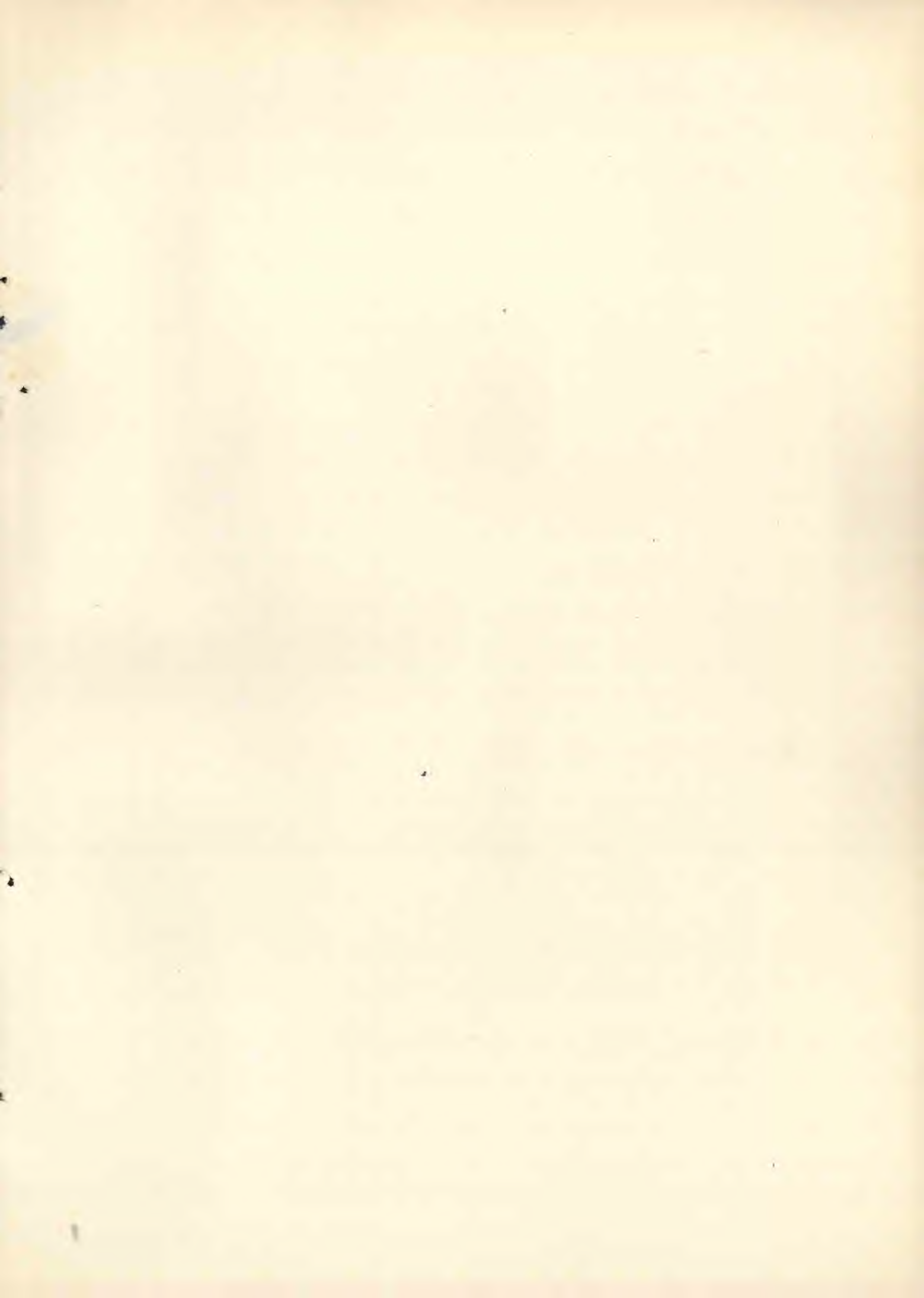
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MARCH, 1892.

INTERNATIONAL HEALTH STUDIES.

BY FELIX L. OSWALD, M. D.

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

35.—Venezuela.

THE author of that philosophical apocalypse known as the "History of Civilization," holds that the moral nature of every nation is the outcome of physical conditions based upon peculiarities of soil and climate. Wherever nature is genial and manageable, as in ancient Greece, industrial enterprise finds the requisite encouragement; where deserts and high mountain barriers, or the demoniac force of the elements overawe the energy of man, we find superstition, ignorance, and indolence, though shiftlessness may now and then result also from an excess in the spontaneous bounty of the soil.

Both the latter excuses for a lack of enterprise might be offered by the natives of Venezuela, on the volcanic north coast of the South American continent. The fertility of the valley regions is inexhaustible and almost incomparable; in the woodlands skirting the lower tributaries of the Orinoco, actual starvation is made almost impossible by the abundance of vegetable food; but, on the other hand, there is no land on earth, the island of Java, perhaps, alone excepted, where the destructive force of the volcanic Titans assumes a more terrible and irresistible form. The fate of the thirty-five human beings who (mostly indirectly) owed their death to the earthquake of Charleston was discussed for weeks by thousands of American newspapers; but in 1812, when the table-lands of eastern Venezuela were upheaved all over an area of nine hundred square miles, eleven thousand persons perished in Caracas alone. Dozens of surrounding hamlets were shaken up more than Charleston, and in the metropolis three thousand houses fell at the first shock; no stone or brick structure was left undemolished, and an hour after,

nineteen out of twenty habitable buildings were in ruins. The same city was once more badly damaged in 1839, and again in '62 and '69; minor *temblores* are of such frequency that Caracas has been called the "City of Earthquakes." Its *entreport*, La Guayra, is about as often visited by epidemic fevers, against which the prayers of the priests and the pills of the doctors seem alike unavailing.

Nowhere else on this planet, in short, can a moderate degree of comfort be more easily obtained, while absolute security against sudden calamities is nowhere more unattainable. As a result, the natives are easy-going, improvident, given to fatalism and superstition, but, withal, passionately fond of existing sports, like men resolved to enjoy to the utmost the favor of fickle fortune. What need of toil where a day's labor can provide a family's food-supply for a month, and where the climate (as on the plateau of Truxillo) is so genial that the mean temperature during the month of February is 69° F., being only six less than that of June? What use to lay up treasures of wealth or health, which earthquakes or the black *vomito* may destroy in a night? The enjoyment of the fleeting hour must, under such circumstances, appear the best philosophy, and cities and villages abound with disciples of Epicurus; bull fights flourish, and dancing masters have a much better chance of success than teachers of gymnastics, not to mention professors of philosophy. The traffic in stimulants is unusually large for a country at the threshold of the equator; tobacco, coffee, and rum form articles of a busy commerce, and many of the coast hills are covered with vineyards, most of them connected with wine cellars and *posadas*, where

"good, cheap, country wine" is retailed with the usual results.

Whites and Indios alike are insatiably fond of dances, and on the village green of small mountain hamlets, old men with crutches may be seen leaning against the ropes to watch the performers of a brisk *bolero* or *fandango*. A correspondent of the *Freie Presse* describes an assembly of Bulgarian patriots enumerating the blessings of independence, till a wag named pork and *slibovitz* (plum brandy), the enjoy-



SOUTH AMERICAN INDIAN.

ment of which luxuries had been somewhat circumscribed by the Turkish government. In a vote on the same topic, frank inhabitants of Spanish America would probably mention the privilege of a Sunday afternoon circus. In Mexico, every larger town has a bull-ring of its own, and in San Luis Potosi they have a Sunday law prohibiting the employment of weak or undersized steers; but the circus managers of Venezuela do not content themselves with bulls; they have agents all over the country to supply panther cats, coyotes, monkeys, and wild boars for the side shows of the arena. Even children will save their pennies all the week to get the requisite *real* of gate money; but it might be questioned if that rage for exciting pastimes is much worse than the terrible lack of popular diversions which drives thousands of our brightest farmer boys from the country to the large cities. At all events, Venezuela is not apt to suffer from that form of mental derangement which in certain farming districts of our gameless Central States, is said to have resulted from the perennial misery of all work and no play. The Venezuelians are superstitious, but withal hospitable and tolerant; hundreds of foreigners of dissenting creeds or no creed at all,

have been intrusted with public offices, and the education of the young, and it may have been in La Guayra where Bonpland found a few engaged in teaching the rudiments of the catechism—the only book found in the house of a wealthy planter.

In La Guayra, three fever epidemics in ten years have been about the average of the last century, though the city has now a branch establishment of the Cuban *medico* who found a way to cure climatic diseases in ice-cooled rooms—“*cameras polares*,” as he called them. Foreigners are sometimes troubled with a kind of intermittent fever that seems to defy quinine, and may be explained by the extent of the surrounding swamps, aggravated by accumulations of fluid refuse,—a combination of disease factors which has managed to offset the sanitary arrangements of more than one coast town, even in the temperate zone, *e. g.*, Oakland, California, with its excellent water-works, but reeking pools of the Alameda marsh.

The delta of the Orinoco, too, is malarious to an irreclaimable extent, but things mend with every hundred feet higher up, and the plateau of Cumana enjoys about the finest dry-warm climate of the Western hemisphere. The atmosphere is so clear that such small objects as a piece of broken glass can be seen glittering from a distance of a Spanish league, and it was here that Humboldt witnessed that marvelous display of shooting stars which, on



HOUSE ON STILTS.

the night of November 11, 1833, descended from all parts of the compass like a dense shower of snow-flakes.

Caracas, too, can boast an enviable immunity from epidemic diseases, though its elevation above the level of the Caribbean Sea is less than three thousand feet. Fevers are not altogether unknown, but are rarely fatal, and a year ago the local physicians recorded an interesting experience with the endemic influenza that swept all over the Western world from

Montreal to Montevideo. *La grippe* had spread from New Orleans to the West Indies, and reached Caracas on time, but in a remarkably mild form; hardly distinguishable from the contagious catarrhs, which about the middle of March are apt to afflict the school-houses of the Northern hemisphere. No fatal cases could be with certainty traced to the influence of the epidemic, which disappeared after a brief sojourn, but made up its lost chance in Para and Rio Janeiro. The fact seems to be that an intensely dry climate, whether hot or cold, is not propitious to the spread of pulmonary epidemics, but that a moist-warm region is almost worse than a humid-cold one. Italy and Southern France suffered as severely as any part of Russia, and epizootics—a kind of horse *grippe*—attack the tenants of warm, stuffy, street-car stables, while they spare the herd roaming the hill prairies of the far West.

It has been noticed as a curious fact that in La Guayra the Indians are more liable to come to grief in fever seasons than the white Creoles; in Venezuela the term "Indios" is applied rather loosely to colored people of all classes, and includes a vicious element of red and black mongrels, given to nocturnal riots and barbecues of pork and *aguardiente*. In Caracas, too, their morals are extremely free, but they profit by the prevalence of universal tolerance, and have large licensed dance halls of their own. As an offset, their principal church, the Alta Gracia, is the finest religious edifice in the city, much roomier and much more lavishly decorated than the metropolitan cathedral.

All classes of the population frequent the hot springs of the central plateau, and the use of sulphur water has become a fixed habit with many of the inland settlers, being, indeed, apt to become a "second nature," and a rather undesirable necessity to those who have used it too frequently for its laxative properties. Its effect in "cleansing the blood" may likewise be more apparent than real, the impurities of the skin being liable to be driven back on the vital organs. The horrid taste of the fluid may have assisted the belief in its remedial virtues, and toppers, on their return from an all-night carousal, swallow a quart of sulphur water as an atoning act of self-mortification.

The Indios of the Orinoco valley must forego advantages, but enjoy happy hunting grounds on this side of the grave, in addition to still more inexhaustible fishing grounds. Fish of less than three pounds' weight are often flung back into their native element, the fisherman not deeming it worth his while to cumber his frying pan with small bones.

"Where shall we get the material for our dinner to-day?" is a question rarely asked before 9 A. M. on the banks of the Macarico or Pedernales, the two main branches of the great delta. With a stout hook and almost any sort of bait, a hundred pounds of fish can be easily caught in half an hour; tortoise eggs are found in thousands of sandbanks, and the woods abound with nuts, roots, and fruit.

In the rainy season, the natives have to take to the trees, but practice has made them very expert in constructing flood-proof frames, crowned by sheds where the fisher can rest on his return from a day's sport in his aquatic hunting-grounds—accessible now only by canoe, but still abounding with vegetable as well as animal food. Grapes can be picked from the tangled vines, nuts by the peck may be seen drifting about in the eddies of the flooded lagoons. At night, life in the tree-tops has the incidental advantage of insuring immunity from the visit of all sorts of creeping and crawling things. By as simple a contrivance as a bundle of reeds tied tips down about the posts of the aerial wigwam, such pets as centipedes can be prevented from ascending the frame. Jaguars might be more successful, but the owner of the house on stilts is apt to keep an assortment of tame monkeys that are more vigilant than dogs, and shriek out at the slightest suspicious noise.

Whenever fishing gets monotonous, the Indians of the Orinoco resort to arrow hunting. Small, feathered arrows shot from long blow-pipes, bring down birds and squirrels from the tops of tall trees, the skill of the marksmen having been developed by practice from the age of five years up. For larger game the arrows are poisoned with curari virus. The researches of Profs. Condamine and Koellicker have made it probable that two different kinds of poison are employed for that purpose; one derived from venomous serpents, the other from the juice of the curari or woorali plant (*Strychnos toxifera*). Besides, Dr. Bernard has since described a third form, more fatal than either of the first-named, and known to the Indians as *corroval*. A gum prepared from the latter substance will retain its deadly properties for more than five years, and Dr. Herinant, by a series of experiments, proved that a very small quantity introduced into the circulation by means of a lancet or dart, will kill a rabbit in forty seconds, and a bear in six minutes.

Curari of both kinds has but little effect when swallowed in small doses, and its fearful efficacy as a blood poison seems due chiefly to its paralyzing influence on the respiratory organs.

The ingredients of *corroval* poison have never

been clearly ascertained; but in his account of the mode of its preparation, Dr. Fontana mentions the suggestive circumstance that the vapor of the boiling

mixture may prove fatal to persons who have been fasting, but may be inhaled with impunity after a full meal.

(To be continued.)

RATIONAL MEDICAL PRACTICE.

DR. JOSEPH EDWARDS, Secretary of the State Board of Health of Pennsylvania, and the editor of the *Annals of Hygiene*, a most excellent health journal, in an article on "Beginnings of Disease," gives the following as his idea of how medical practice ought and ought not to be conducted. We trust every reader will carefully ponder these good thoughts, and profit by them:—

"I have never felt satisfied with the practice of medicine as we find it in the office of the average physician. At the bedside, matters are more satisfactory. When a person is sick enough to be confined to his bed, and the physician is summoned, the symptoms manifested are usually sufficiently urgent to demand a thorough investigation, and as a rule, the intelligent physician will acquire as much familiarity with the condition of his patients as is possible with the means and knowledge at his command. I do not know that we can much improve upon the rationale of bedside practice; but it is about what we might call office practice that I am so dissatisfied. I have already hinted at what I mean, but let us now go more into detail.

"Of course, there are extremes in medicine, as in every other walk of life. We have routine physicians, and we have extreme routine physicians. That you may the better understand my idea, I will first assume the position of an extreme routine physician,—a class that may be typified by the story which a Portuguese newspaper tells of the American physician, whose custom is assumed to be so enormous that the following laconic process must be employed: Enter, a woman with finger in bad condition.

"'Cut?' asks the doctor.

"'Bite,' replies the woman.

"'Dog?'

"'Parrot.'

"'Baked potato.'

"On the following day the lady returns.

"'Better?'

"'Worse.'

"'Hot poultice of bread crumbs.'

"Third visit.

"'Better?'

"'Well.'

"'Three dollars. Good day.'

"If this physician ever has a clear understanding of the nature of the disease with which his patients may be afflicted, or if he ever prescribes the proper treatment, it is because he has accidentally stumbled upon the truth. There is certainly no science in such practice.

"The ordinary routine physician may be typified by the contract physician in Berlin, who follows this schedule in his examinations and consultations: Minor surgical cases, 15 minutes; headache and other pains, 5 minutes; influenza, 6 minutes; rheumatism, 6 minutes; examination of the lungs, 5 minutes, etc.

"Fortunately, we do not encounter many physicians of the first class; but of the second class there are many. Let us enter the office of such a doctor. I am complaining of rheumatism. The doctor talks to me for, may be, five or six minutes, and gives me a prescription containing salicylic acid. I go off and dose myself with this drug. My rheumatism gets a little better, but I am still considerably troubled with it, and now, in addition thereto, I begin to suffer from dyspepsia. After awhile I begin to feel bad all over. Now what has happened? The real trouble in my case was that my kidneys were deranged, and what I thought to be rheumatism was really only muscular pains that were produced and maintained by the faulty action of my kidneys; the salicylic acid did me some good, for it does have a specific action on such pains; but at the same time this drug has deranged the functions of my stomach, and, as an irritant to my kidneys, it has only made the disordered condition of these organs worse. But the physician is hardly to blame, because I have presented to him all the evidence of rheumatism, and his text-books tell him that salicylic acid is a good remedy for rheumatism. But he has not penetrated deeply enough into my case; he has viewed me, not in my entirety, as a piece of mechanism requiring universal integrity, but as a rheumatic, calling for special medication.

"Am I understood? The public recognizes dropsy as a disease; every physician knows that it is only a symptom of disease of some organ; but the physician does not follow this idea out to its ultimate logical conclusion. Any physician who would treat

dropsy as a disease would be considered a very ignorant man; he would institute measures to relieve this particular symptom, but he would know that it was only one evidence of some organic disease, and he would also know that unless he could find out the nature of this disease and cure it, he could not permanently remove the dropsy. Now it seems to me that to be rational he should follow out this same course of reasoning and practice with every case that presents itself to his notice. If I complain of rheumatism, he should not only seek to find the cause of the rheumatism, but, according to my ideal idea, he should even go further.

“Knowing what I do about the human body and its derangements, I would like my physician to make a thorough examination of my whole system. I would like him to examine my heart and lungs, my

kidneys and liver, my stomach. I would want him to examine my blood, my muscles, my excrement, my secretions and excretions. Physiology teaches us what should be the condition and duty of each and every part of the body; I would like my physician to construct, mentally, an ideal man, based upon the teachings of physiology, and I would like him to examine me and to have me under observation until he could tell me just wherein, and to what extent, I departed from this ideal standard; and then I would like him to tell me how I could make myself conform more closely to this standard. I would be ready to believe him if he were to tell me that I did not require any drugs, that I wanted only a modification of my life habits; and I would be equally ready to trust his skill if he ordered me some drugs to supplement or assist his hygienic advice.”

WHETHER or not life is worth living, all depends upon the liver.

MICROBES AND CARPETS.—In our endeavor to be comfortable in this vale of tears, there is a tendency to overlook the elementary laws of hygiene, and in no respect, perhaps, more so than in the superabundance of curtains and carpets—those non-patented contrivances for hindering the circulation of fresh air, and stultifying nature's automatic arrangements for the deodorization and disinfection of our homes. Carpets are always objectionable when they are not designed so as to allow easy removal for cleansing purposes without the necessity of turning the room topsy-turvy. In most houses the carpet comes up only once a year, by which time it is as full of microbes and accumulated filth as its interstices will allow. No wonder, then, if our rooms preserve a musty smell in spite of the periodical opening of windows and vigorous sweepings, which only displace a portion of the dust, to settle promptly elsewhere in some less accessible spot. Fixed carpets are even more objectionable and unwholesome in bedrooms, for there they absorb the fetid emanations of the night, and soak up various decomposable materials for future use. The ideal would be a polished wooden floor, garnished with rugs in sufficient number to give an aspect and feeling of comfort, while admitting of easy exposure to the salutary influence of air and light. Rugs, carpets, and curtains ought to be frequently shaken and hung up in the fresh air, if they are to remain sweet—not once a month or year, but twice or thrice a week, if not oftener. At this price only can we

hope to deprive confined spaces of their native unwholesomeness, and the sooner housewives lay this maxim to their hearts and act upon it, the better.—*Hospital Gazette.*

THE TRIUMPHS OF HYGIENE.—In an address before the Social Science Association at Brighton, Eng., Dr. B. W. Richardson, the eminent English sanitarian, gave the following brief summary of some of the benefits resulting from modern sanitary regulations:—

“In England, from 1790 to 1810, Heberden calculated that the general mortality diminished one fourth. In France, during the same period, the same favorable returns were made. The deaths in France, Berard calculated, were 1 in 30 in the year 1780; and during the eight years from 1817 to 1828, 1 in 40, or a fourth less. In 1780, out of 100 newborn infants in France, 50 died in the first two years; in the later period, extending from the time of the census that was taken in 1817 to 1827, only 38 of the same age died, an augmentation of infant life equal to 25 per cent. In 1780 as many as 55 per cent died before reaching the age of 10 years; in the later period, 43, or about a fifth less. In 1780, only 21 persons attained the age of 50 years; in the later period 32, or 11 more, reached that term. In 1780 but 15 persons arrived at 60 years; in the later period 24 arrived at that age.”

NEVER eat till you have leisure to digest.

EVERY hour you steal from digestion will be reclaimed by indigestion.—*Oswald.*

BATHING FOR SICK CHILDREN.

If a child under three years has a simple fever the origin of which is not clear, no remedy will give more comfort than a bath of 95° F. for 15 minutes. Don't fly to aconite and quinine, which are poisons unless skillfully used by a physician, but simply have a nice large tub placed alongside of the bed. Don't take the child into the bath-room, in which the air must be foul and the tub so large as to frighten the little one. Put a screen between the bed and the tub so as not to disturb the child by the preparations. Fill it two thirds full of water of the exact temperature required. Gently undress the baby and lay it upon your lap. Bathe its face, head and chest with your wet hand, and now lift it into the tub gently and calmly, while words of love and comfort issue from your lips to allay apprehension. Let it have some little plaything or let some one amuse it with a toy at a distance. Seat the baby in the tub and bathe it with the flat hand, using gentle friction over successive parts of the body.

If the child's temperature has been 102° or more, dip out some of the warm water and add ice-cold water without touching the body, until the bath temperature is lowered to 80°. If this bath be prolonged to twenty-five minutes without fretting the child too much, the result will be a reduction of the temperature and quiet sleep. Preparation for receiving the bathed child should be made before it is placed in the tub, as follows: A blanket is put on the side of the bed not to be used by the child. Upon this a linen sheet or tablecloth (cotton is not so useful) is spread, a towel being laid upon the pillow. The child is laid upon the sheet and quickly wrapped in it. Thus it can be dried rapidly. This may also be done upon the lap for very young children.

Many cases of feverish indisposition or nervous irritability will be nipped in the bud by such a bath. It goes without saying that a physician should be summoned if the bath does not restore the child to its usual health and spirits. If this be the case, a great advantage will have been gained even over the simplest medication, which often interferes with the doctor's plans of treatment. The writer has observed the most striking results from the various bath methods in the treatment of the most severe types of disease.

It is not his province to teach the mother how to treat these. A physician only should be intrusted with so important a matter. To aid the doctor in reconciling the mother to what may appear to her

heroic treatment and to provide for emergencies, is the chief aim of this article.

If a physician cannot be obtained quickly, the following methods are useful in cases of urgency: In the eruptive fevers, that is, in fevers accompanied with redness of the skin, like scarlet fever, measles, etc., if the child be very ill, with a high temperature, and the eruption is slow in appearing, and a physician cannot be quickly obtained, a bath of 90° reduced to 85° with gentle friction for ten minutes, will bring out the eruption and soothe the sufferer. Let not the fear of driving in the eruption deter any one from using this bath, if the temperature is above 102°. Rapid drying as directed above will cause a reaction to the surface, which will soon gladden the mother by its ruddy glow. When the temperature is very high,—over 104°,—in the early stage of these eruptive fevers, with cold extremities, mottled skin, more or less livid face, rapid breathing, and threatened collapse, there is no remedy that will reinforce the action of the heart, which is overcome by the poison of the disease, and bring out the eruption so quickly and surely, as rapidly dipping the child two or three times into water of from 65° to 70°. This causes deep inspirations, which carry a fresh supply of oxygen to the blood; the pulse grows stronger, the face resumes a more natural hue, and the marbled condition of the skin gives way to a rosy hue which at once tells of the restoration of an equilibrium in the disturbed circulation.

Dr. T. G. Thomas, the eminent gynecologist, related to me the case of a child whom he was called to see in consultation twenty years ago. The child was suffering from scarlet fever, and had a temperature of 106°. The attending physician had given up all hope and yielded reluctantly to Dr. Thomas's suggestion to put him into a cold bath. This restored the patient and saved his life. Although I regard this treatment, as above explained, as perfectly harmless, I do not advise it if a physician can be quickly obtained. When the child becomes unconscious in scarlet fever or measles, and the temperature is high, no time whatever should be lost; life may be saved by early treatment.

In summer diarrhea of infants, when the temperature is above 102°, the greatest benefit may be derived from a moderately cool bath. I have seen children who were tossing in agony, with parched lips and upturned eyes, moaning or looking pitifully for water, purging and vomiting, calmed as if by

magic by a bath of 95°, reduced to 80° gradually, with friction, for fifteen or twenty minutes. I have seen them fall asleep in the bath, and awoken from a long slumber refreshed and bright, prepared to cope with the exhausting disease. We do not expect to cure fever or diarrhea by baths, but we carry the patients over the dangers of heart failure and nervous exhaustion, which threaten to engulf them.

Again, in bronchitis and pneumonia, cool baths are the most potent remedies at the command of the physician. I fancy I see a shudder passing over the reader. What! bathe a child suffering from pneumonia in cool water? why, we avoid even the regular cleansing bath when the baby is sick with a cold. The same apprehension, doubtless, exists in cases of eruptive fevers; here we encounter the absurd fear of driving the eruption in. I speak from a fairly large practical experience when I counsel greater familiarity with the bath-tub in the sickness of children. If your doctor is a hydropath, let him guide you by all means, and do not urge the views here expressed. He is a better judge of the case, standing in its presence, than the writer can possibly be. His objections may be well founded. I counsel obedience to his directions. Only in the event of difficulty of obtaining a physician, do I counsel resort to the simple, yet effective bath-method of treating sick children. This brings me to the treatment of convulsions in children. This is the most horrifying phantom before every mother's eye. How often have I seen the poor mother pale with terror because the child was in convulsions; how the household is ransacked for tubs, how everybody rushes into everybody's else

way with hot water or something else regarded as imperatively necessary. There are two points upon which too much emphasis cannot be laid. A convulsion in an infant under two and one half years is, in the majority of cases, not a dangerous symptom. Horrible as are the contortions, they will surely cease if you do not meddle too much. Be as calm as possible, remove the clothing, give an injection into the bowels, a whiff of chloroform if you have it, and prepare for a moderately warm bath. The latter need not, indeed it should not, be a mustard bath. This seems to be an old nursery usage, which gives the child pain when it awakens from the spasm, and is more likely to reproduce the convulsion. A warm bath is useful because it soothes the surface nerves and relieves the brain, but it does not cure the convulsions. Don't worry and wring your hands in despair, then, if there happens to be no hot water handy. Your baby will not succumb on that account. It has happened to me again and again that the baby has come out of a convulsion before the bath could be made ready. Hence I speak from actual experience when I counsel you not to be alarmed. Babies do not die from convulsions; they die from the causes of convulsions. The doctor will be in time to remove these. Hence the chief thing to do is to be calm. The baby is unconscious of its contortions; it does not suffer, it is in little danger; and will almost surely recover if you keep your wits about you. To the true physician there comes no greater joy than the relief of suffering; next to that comes the giving of comfort and allaying of needless apprehension.—*Babyhood.*

SOME eat to live, they loudly cry!
But from the pace they swallow pie
And other food promiscuously,
One would infer they eat to die.—*Sel.*

COLONEL FITZGIBBON was, many years ago, colonial agent at London for the Canadian Government, and wholly dependent upon remittances from Canada for his support. On one occasion these remittances failed to arrive, and it being before the day of cables, he was obliged to write to his friends to ascertain the reason of the delay. Meanwhile he had just one sovereign to live upon. He found he could live upon a sixpence a day,—four pennyworth of bread, one pennyworth of milk, and one pennyworth of sugar. When his remittances arrived a month afterward, he had five shillings remaining of his sovereign, and he liked his frugal diet so well that he kept it up for several years.

BE CHEERFUL.—I give you the precept for just what it is worth, as I would recommend to you to be six feet, or at least five feet ten, in stature. You cannot settle that matter for yourself, but you can stand up straight, and give your five feet five its full value. You can help along a little by wearing high-heeled shoes. So you can do something to encourage yourself in serenity of aspect and demeanor, keeping your infirmities and troubles in the background, instead of making them the staple of conversation. This piece of advice, if followed, may be worth from three to five years of life to you.—*Dr. O. W. Holmes.*

THE tallest human beings are the Patagonians and Polynesians; the smallest, the Boschimans of South Africa. The average height of the human family is five feet and three inches.

VALUE OF SUNLIGHT IN THE HOME.

THE potent influence of sunlight upon health can hardly be exaggerated. Mr. Wingate, in an article in the *Building News*, says: "No element is more important to consider in selecting a home than sunlight. Its presence is indispensable to health and comfort; its absence is a sure aid to gloom, want of happiness, and disease."

Dr. Weir Mitchell, in his interesting researches on snake poisons, found that the poisons of the deadly cobra, if exposed to sunlight for a brief time, became harmless. Prof. Huxley has shown that yeast increases indefinitely in volume amid darkness and damp, while in sunlight just the reverse is the case. Sunless houses are the creators of sickness.

Yet it is amazing to find so many houses built in utter disregard of the necessity of sunlight. There are hundreds of city homes, expensively built and occupied by wealthy tenants, which are as deficient in light as the average tenement house. Yards barely ten feet deep are common, especially with corner houses, and scores of families with ample means and refinement seem content to live in rooms which have no outlook beyond a blank wall or the rear windows of their neighbors. The inconvenience and destruction of comfort and privacy caused by this depredation are patent, but a more serious consequence is the injury to health. Dr. Bell, in his recent work on "Climatology," says: "Free access of light favors nutrition and regularity of development, and contributes to beautify the countenance, while deficiency of light is usually characterized by ugliness, rickets, and deformity, and is a fruitful source of scrofula and consumption in any climate." This statement is corroborated by a fact noticed by Dr. Hammond, that various experiments demonstrate that the action of light is a benefit in many conditions, anæmia, chlorosis, and phthisis being among the number. It is probable that one of the chief benefits derived by invalids from a winter sojourn at Alpine or tropical resorts is due to the larger amount of sunlight enjoyed.

What Florence Nightingale says of the value of light to those who are ill, indicates no less its necessity for those who are well. Second only to fresh

air, however, I should be inclined to rank light. Direct sunlight—not simply daylight—is necessary for speedy recovery. Instances could be given, almost endlessly, where in dark wards, or in wards with a northern aspect, even when thoroughly warmed, or in wards with borrowed light, even when thoroughly ventilated, the sick could not by any means be made speedily to recover.

The dark side of the street is far more subject to disease than the light side. Sir James Willie found three times as many cases of disease on the shaded sides of the barracks at St. Petersburg, as on the other side. Dupuytren is said to have wrought a cure in the case of a lady in a seemingly desperate condition, by simply removing her from her dark quarters to a brighter residence, and keeping her as much as possible in the daylight.

Dr. Farrar, who has given special attention to the effect of the presence or absence of light in living rooms upon health, found that in his own case when occupying a room facing north, his general health was not nearly so good as when his window had a southern exposure. General experience will confirm this conclusion. Human beings, like plants, need an abundance of light, and if denied, they pine and wilt.

The height of a window has an important bearing on the amount of sunlight which is admitted, and also upon the ability to ventilate a room. If a window is low, a stratum of hot air may lodge near the ceiling; hence, the windows should be high enough to carry off the foul air when they are lowered. Curtains, lambrequins, and other draperies to windows and doors hinder the admission of light and free circulation of air, while they accumulate quantities of dust. A well-known New York physician, who had occasion to observe this fact, has abolished curtains altogether in his home, and moderation in their use is recommended.

Dr. Richardson objects to houses built in the Queen Anne style, because of their insufficient light. Those who occupy them live in shadow, and he calls their small windows, overhanging cornices, and sharp, small, pitcher roofs, enclosing attics with windows, an "architectural perversity."—*Canada Health Journal*.

THE health journals and the doctors all agree that the best and most wholesome part of the New England doughnut is the hole. The larger the hole, they say, the better the doughnut.

DIET cures mair than doctors.—*Scotch Proverb*.

AN HOUR of exercise to every pound of food.—*Cswald*.

HYGIENE OF OCCUPATIONS.

SANITARIANS have within recent years given considerable attention to this subject, and as the result some very interesting statistics have been collected. It has been found as the result of these studies, that of all classes of men, clergymen enjoy the greatest longevity. Considering the period of life between 25 and 65 years, and the death-rate of clergymen at 100, the death-rate among those who follow other professions and trades has been found to be as follows, the figures given indicating the number of deaths in each trade or profession for 100 deaths among clergymen:—

Gardeners.....	100	Wool workers.....	186
Farmers.....	114	Armormen.....	186
Husbandmen.....	126	Tailors.....	189

Papermakers.....	129	Hatters.....	192
Grocers.....	139	Printers.....	193
Fishermen.....	143	Cotton workers.....	193
Cabinet makers.....	148	Clerks.....	199
Lawyers.....	152	Physicians.....	202
Brushmakers.....	152	Quarrymen.....	202
Mechanics.....	155	Bookbinders.....	210
Tradesmen.....	158	Butchers.....	211
Woolen drapers.....	159	Glass makers.....	214
Miners.....	160	Plumbers, painters, etc..	216
Shoemakers.....	166	Cutlers.....	229
Commercial travelers....	171	Brewers.....	245
Bakers.....	172	Omnibus drivers.....	267
Millers.....	172	Wine merchants.....	274
Upholsterers.....	173	Bass singers.....	300
Masons.....	174	Potters.....	314
Smiths.....	175	Hotel waiters.....	397
Laborers.....	185		

A SPOILED CHILD.

MORAL hygiene is one of the matters to which it is as much the duty of a parent to give attention as to supply the child with proper food and raiment. Alice P. Carter, writing from Paris, gives the following story with its moral, under the head, "A Tyrant and Her Victim," in a recent number of *Babyhood*:—

"I witnessed, yesterday, from my Parisian balcony, a sad case of a persecuted victim and of the tyranny of one in whose hands was apparently absolute, irresponsible power. The victim was a woman, and therefore worthy of some forbearance and pity, but there was no pity in the heart of her tyrant. And why? That tyrant was a minute child who had learned the power of her own screams. The scene lasted so long that it seemed that there would be no end to it. First the woman would take the child's hand and gently try to draw her along. Instantly the roars would break forth and fill the street, and the woman, either her mother or governess, would meekly drop the hand, and the child, accepting the implied apology, would cease roaring. This was repeated over and over again. The passers-by every now and then stopped, and apparently tried to mediate between the tyrant and her victim. One woman went down on her knees and seemed to plead for some time. In vain! One lady, in passing, gave the child a poke with her umbrella, whether in wrath or jest I do not know. Then a gentleman tried his powers of blandishment and persuasion. Still the child refused to stir. I think finally the matter was settled by bribery, for after some talk the child suddenly took the woman's hand and walked off as amiably as possible.

"It is such scenes as these that you have before you, fathers and mothers of babies, if you are letting those babies, great or small, see that you are afraid to have them cry. Once give up to a child because it cries, and it will try again this excellent recipe for getting its own way. Once let it get the habit of using this formidable weapon of lung power, and you are enslaved. There is no more helpless mortal on the face of the earth than the parent who must give up for fear a child will scream. The child knows it, and knowledge is power. The youngest babies are knowing enough to discover their power in this way. Mine discovered it when he was too young to move when I laid him on the sofa. He noticed that the servant was afraid of his slightest squeak. I was not. Consequently he bullied her, and was a model baby with me. By the time he was twenty months old, his behavior in this way was simply ludicrous. Now and then a parent is absolutely obliged to be conquered by a screaming fit in public. A friend of mine was thus conquered, but a whipping, administered the moment the little rebel reached home, gave her a hint that she must not again attempt to manage her mother by lung power, in a city street.

"Some such penalty ought certainly to follow any such triumph on the part of the child who has thus temporarily conquered a parent, to take away the desire for future triumphs of the same description. Fortunately, a child who does not have such triumphs in the privacy of home, does not generally indulge its parents in such scenes in public as I witnessed yesterday under my windows."

WOMEN AND PLUMBING.

It may seem strange to many, and probably laughable to some, to hear one speak of women in connection with plumbing. Yet, here is something for women to learn, if they wish all the knowledge necessary fully to fit them for all the responsibilities the housewife assumes. She should, in a sense, be a plumber. She should have that knowledge of the work which would qualify her to judge of the character of it, and enable her to recognize the good in distinction to the bad. We do not say that she should be able to wipe a joint or do any of the mechanical part of the work, but a theoretical knowledge of plumbing, as it is practically applied to-day, would add to her fitness for the discharge of her important duties.

A number of ladies were recently interviewed in New York with reference to their knowledge of plumbing, and without exception all of them confessed a profound ignorance of the matter. Many expressed regret at this ignorance and felt ashamed to confess it, as it applied so directly to the science of housekeeping, and held such an important place regarding the healthfulness of the home. Many expressed a desire to understand this branch of domestic sanitation, and some expressed an intention of attending the trade school in that city and taking up this branch of education. The director of the trade school was also interviewed on the subject, and we would not be surprised to hear of a class of ladies in the department of plumbing at an early day. The purpose of all this is not to make plumbers of the ladies, not to prepare them to stop leaks, repair

plumbing work or the like, but to make them able to know when such is needed, and how to go about getting it properly done. This part of housekeeping is generally left to the lady of the house, and it is well that she be prepared to give it intelligent oversight.

All ladies cannot attend a plumbing class to learn this; only a very few can. But are there not other ways in which this important information can be gained? Women associate themselves together to become enlightened on history, science, literature, cooking, street cleaning, garbage disposal, smoke abatement, and the like, and why not on plumbing? In the hygiene of the home it is of the most importance, and surely every housewife is deeply interested in the health of the household. It does not seem amiss that she should be qualified to protect her home in this regard. It is an essential part of domestic education, and a woman self-reliant in this matter would be worthy of high esteem. She could thus protect her home from dangers consequent upon the wear and decay of plumbing material, and the tricks and frauds of the tinker.

How shall this work be started? There are several ways, but the one that first presents itself to our mind is the favorable position plumbers' wives are in to begin this work of education. They have the advantage of a school with competent instructors at home. They could form an association and reduce to a system the instruction desired, and thus very important knowledge regarding the household could be imparted.—*Sanitary News*.

OCCUPATION FOR OLD PEOPLE.

WHEN people get old, the question as to what shall be their occupation may be more important than it has been at any previous period of their lives. They may only stay out their existence, with the consciousness that they are superannuated members of society, who have fallen out of the procession which is marching along with the progress of the world, and have been left behind to die, as beasts and some savage tribes of men abandon the exhausted of their numbers.

Such old people, pitiable in their decay, may be sustained by appropriate regard, but they do not represent the true dignity of age. They have dropped behind when they might have gone ahead. They have accounted themselves supernumeraries in so-

ciety when really they might be among its most important and useful factors, if they would only forget their age as measured by years alone. They have put themselves on the retired list when they are still fitted for active service. Their faculties fall into decay simply because they do not exercise them. No matter how young a man may be in years, he can produce for himself the same unfortunate result in the same way.

Physicians can report many cases wherein are manifested all the symptoms of age at the very beginning of manhood, and so also they can point out examples of physical and intellectual youth even at a period exceeding the psalmist's limit of life. Run through history yourself, and more especially the

history of our own time, and you can make out a long list of men distinguished in statesmanship, science, literature, and the church, whose intellectual prowess has been displayed up to fourscore years and beyond.

They would not grow old; they would not allow themselves to be counted out of the world of thought and accomplishment. They remained in the competition to the last. Life was not mere animal existence for them after they had passed the limit where conventional age begins. Longevity did not bring rest, for they kept the intellectual machine bright with the friction of continued use. It simply gave them time to learn more, and to do more, with the advantage of a training and an experience so much prolonged.

THE WORK AFFECTED BY THE PHYSICAL STATUS.—Our work, whatever its character may be, even if it be mechanical and muscular—the work upon which depends success and fame—is strangely affected by the physical status. The healthy man, sweet and clean, writes healthy books, paints wholesome pictures, conceives refreshing poems; but the fetid exhalations from an abused body taint all the finest productions of the mind. Contrast Wordsworth and Byron. Wordsworth, orderly in his life, regular in his habits, simple in his tastes, moderate in all his desires and gratifications, a devoted lover of nature, whose scenery of mountain and lake was his inspiration, whose fields were his study, whose woods were his daily resort—Wordsworth, whose frame was receptive of all nature's loveliest influences, whose clear brain, unclouded by fumes of tobacco or steam of punch, comprehended the grand lessons that she taught him in her solemn way, wrote poems pure as mountain brooklets and healthy as mountain air—the instruction and the delight of all innocent and good people. He need not regret a line of his maturest works. Byron, irregular in his life, unnatural in his habits, the creature and the victim of a depraved social taste, intemperate, licentious, and an epicurean, surrounded by artificial luxuries and excitements, owing the occasional and transient periods of nervous tranquillity to his doses of Epsom salts, wrote poems which are the delight of the profligate, poems which are found in the haunts of low pleasure, and are devoured by the young in their season of impulse, but which the pure and innocent for the most part regard with anxiety and terror. Over them is the odor of tobacco, the flavor of strong coffee, and still worse the reeking scent of the gin under whose inspiration they were written. — *Set.*

Consciousness of decay brings depression, but discovery of the ability for growth gives useful exhilaration. Nothing is so delightful as to find that the machine has not worn out after all, but is ready for use to good purpose even to the end. What men want in both youth and age is the recreation which is afforded by a keen interest in occupations that make them forget themselves. It prolongs their lives, for the foundation of youth is not exhausted. A variety of occupations furnishes far better recreation than the mere pursuit of pleasure for itself. Even a hobby serves the purpose more effectually than any direct chase of the happiness, so elusive is the prize when you go hunting for it, instead of waiting for it to come to you while you are seeking only to make the best use of your life. — *The Chautauquan.*

THE SOURCE OF HALF THE WORLD'S UNHAPPINESS.—“The longer I live,” said Sydney Smith, “the more I am convinced that half the unhappiness of the world proceeds from little stoppages, from a duct choked up, from food pressing in the wrong place, from a vexed duodenum or an agitated pylorus. My friend sups late; he eats some strong soup, then a lobster, then some tart, and he dilutes these esculent varieties with wine. The next day I call upon him. He is going to sell his house in London and retire into the country. He is alarmed for his eldest daughter's health; his expenses are hourly increasing, and nothing but a timely retreat can save him from ruin. All this is the lobster, and when over-excited nature has had time to manage this incumbrance, the daughter recovers, the finances are in good order, and every rural idea is effectually excluded from the mind. In the same manner old friendships are destroyed by toasted cheese, and hard salted meat has led to suicide. Unpleasant feelings of the body produce corresponding sensations in the mind, and a great scene of wretchedness is sketched out by a morsel of indigestible and misguided food.”

No spice but hunger; no stimulant but exercise.

“VERY few nations in the world,” says a sagacious historian, “produce better soldiers than the Russians. They will endure the greatest fatigues and sufferings with patience and calmness. And it is well known that the Russian soldiers are from childhood nourished by simple and coarse vegetable food. The Russian grenadiers are the finest body of men I ever saw,—not a man is under six feet high. Their allowance consists of eight pounds of black bread, and four pounds of oil per man, for eight days.”



STOOP-SHOULDERS, OR BACKWARD CURVATURE OF THE SPINE.

THIS form of spinal curvature resulting in round or stoop-shoulders, flat or hollow chest, and the associated deformities of figure—forward carriage of the head, depression of the epigastrium, and protrusion of the lower abdomen—are perhaps the most common of all the bodily deformities, and the least understood even by teachers of physical culture.

Persons with round shoulders are told to put their shoulders back; those with flat chests are exhorted to expand their chests; persons whose heads hang forward are told to hold the head up, but it is very rare indeed that the real root of the difficulty is reached. The several deformities referred to, are the result, not of any special defect in the shoulders, chest, neck, or abdomen, but wholly the result of a backward curvature of the spine. Lateral curvature of



FIG. 1.



FIG. 2.

metry of the two sides of the body. Single curvature to the left, for example, causes elevation of the right hip and depression of the right shoulder, and *vice versa*. A double curvature of the spine, in which the upper part curves to the right and the lower part to the left, results in depression of the left shoulder and elevation of the right hip. These

deformities are quickly recognized by the tailor and the dressmaker, who undertake to hide the deformities by various well-known artifices. A posterior curvature of the spine, however, is almost universally overlooked, even by physicians, probably because, although it destroys the symmetry of the body as a whole, it does not change the relations of the two sides.



FIG. 3.

the spine, either single or double, is very certain to be recognized by the fact that it produces asym-

The natural curve of the spinal column is shown in Fig. 1. It will be noticed that for the greater part of its length, the

spinal column has a strong anterior curve, its posterior border being concave. In a round-shouldered person, the natural curve of the spinal column is very materially modified,—the strong anterior curve is in part lost, and the posterior concavity lessened, or we may even have either a vertical line or a convex surface. As the spinal column is carried backward, it is evident that a considerable part of the weight of the body is also transferred to a point posterior to the median line; in consequence, the balance can be maintained when the individual is in an upright position only by dropping the head and shoulders forward so that the weight of the head and the arms shall counterbalance that position of the trunk which has been carried backward.

The same cause results in an unnaturally advanced position of the hips and lower abdomen. The vertebral column may be properly compared to a bow, and the muscles which run along beside and above it, to the string of the bow; when these muscles are strongly contracted, the bow is well strung up, and is thrown forward; and the two extremities, the upper and lower ends of the spinal column, are held well back by the effort of the contracting muscles to draw together the distant ends of the bow. By this means, the head is held back, and the hips are held well back. As soon as the muscles of the back are relaxed, the ends of the bent bow separate; as the bow straightens out, the posterior concavity, or hollow of the back, is lessened or lost, and the head and hips move forward.

Fig. 2 shows a round-shouldered person.

Fig. 3 shows the outlines of an individual in correct and incorrect positions. The dotted lines indicate the correct poise, and the solid lines the incorrect poise, and the resulting posterior curve in the upper part of the spinal column. This outline is from a person who said to the writer not long ago:

“Doctor, how can I get a full chest? My chest is so flat and narrow, that I fear my lungs will become diseased.” It required only five minutes’ instruction to demonstrate to the satisfaction of the questioner that the trouble was not in the chest, but was in the incorrect position habitually assumed in standing and sitting, which had resulted in a posterior curvature of the spine.

A strong posterior spinal curve is necessary for strength, for health, and for grace and dignity of carriage. A certain amount of posterior curvature of the spine doubtless exists in a large proportion of the people in civilized communities, though very rarely among savages, except in infirm and aged persons. It is not always the case that the entire spinal column is either straightened or curved backward, nor is this necessary to produce the very worst results which arise from this deformity. There may be simply an increase of the posterior curve naturally found at the upper part of the spinal column.

The cases of posterior spinal curvature are numerous. They may be chiefly stated to be due to bad positions in sitting, particularly in the use of easy-chairs, rocking chairs, and lounges or sofas. In children, it not infrequently results from the use of seats too high to allow the legs to be supported by the feet placed squarely upon the floor, or too wide to allow the hips to reach the back of the seat.

An incorrect position in standing, particularly standing upon one foot, is also productive of posterior curvature, as well as other forms of curvature of the spine. The cure consists in the employment of such exercises as will strengthen the muscles of the back, including those which hold back the shoulders. We will, in the next number, give illustrations of a few exercises which are especially adapted to the correction of this most common and most harmful of spinal deformities.

PHYSIOLOGICAL EFFECTS OF EXERCISE.

DR. W. P. LOMBARD, of Clark University, Member of the American Physiological Society, has recently conducted an interesting series of experiments upon the relation of muscular work to food, work, sleep, time of the day, temperature, and other modifying influences. In his experiments he employed the second finger of his left hand, using only the flexor muscles (those which close the hand); the finger grasps the cord which runs over a pulley, the weight being attached at the other end by means of suitable connections. Each movement of the finger was re-

corded upon tracing paper. We quote from the *Sanitary Era* the following summary of some of the principal results as given by the experimenter:—

“The weight was raised with all the strength I was capable of exerting each and every time I flexed my finger, until a time was reached when I could no longer raise the weight, and this point I called the point of fatigue.

“*Nervous Location of Strength and Fatigue.*—When this point was reached, I applied electricity, which resulted in a firm contraction, showing that

the muscles were not fatigued. The will-power was not affected, as when I detached my finger from the weight I had no difficulty in contracting the muscles. Therefore the loss of power must lie somewhere in the nervous system between the finger muscles and the brain.

"*Influence of Food.*—Eating a slight amount of food increased the power of contraction for a short period, after which the curve again descended to where it was before. For the food to show its effect sometimes required ten minutes, at other times half an hour.

"*Sleep.*—I found that sleep exerted a great influence in restoring the strength of the muscle contraction.

"*Exercise of the Muscle.*—For about one week my power steadily decreased, after which there was a steady increase of power until about the twentieth day, when it had increased enormously. On the first day, I was able to raise the weight but thirty times before reaching the point of fatigue, and on the last day I was able to raise the same weight seven hundred and seventy-eight times.

"*The Barometer.*—I found that my muscular power increased with a rising barometer, but fell with a falling one. If the barometer rose during the day, or fell less than on the preceding one, my strength increased. On the other hand, if it fell more than on the preceding day there was a corresponding falling off of muscle power.

"*Time of the Day.*—I noted that my power was greater at 6 P. M. than it was at 4 P. M. This at first I could not understand, until I found that the barometer undergoes two diurnal changes, when I found that my strength also underwent like changes. Thus, I was strongest at 10 A. M. and weakest at 4 P. M., and after this hour again increasing. It was suggested to me that if such was the case, then

my power should be again greatest at 10 P. M., and after a series of experiments, I found this was an actual fact, and I did have a 10 P. M. maximum power.

"*Altitude.*—After trying my power in a valley, I ascended a mountain, and after my system had time to get accustomed to the increased altitude, I found my power actually stronger at 4 P. M. than it had been in the morning, and that, too, at a time when it would have been at its minimum in the valley. I then descended, and I found my power decreasing as I reached the lower altitude.

"*Temperature.*—When the extremely hot wave came on, at first I did not notice any loss of power, but on the third day of excessive heat, my muscular power fell considerably and remained low until the temperature fell. As the temperature fell, my power increased rapidly until at the end of three days' time my power again reached its highest point.

"*Humidity.*—When the temperature was high, I found that as the percentage of humidity increased, my strength fell off much more rapidly than it did during a still warmer period when the percentage of humidity was low. I also found that even though there was a high percentage of humidity, if the temperature was not high, there was but very little decrease in muscular power.

"*Tobacco.*—One evening at a time when my power should have been rising toward its maximum, I smoked a cigar, and to my surprise, I found immediately afterward my strength dropped down to a point very near its minimum. This experiment I repeated in the morning, first testing my power and then smoking a cigar, and the record showed a great falling off in strength. This decrease lasted for some time, until the effects of the tobacco had had time to wear off, after which my power again returned."

SMALL CHESTS AND DISEASE.—Prof. M. Maurel, of Toulouse, recently made to the Academy of Medicine, Paris, an important communication, from the conclusions of which we translate from *La Gazette Medicale*, as follows:—

"1. A necessary relation exists between the height and the weight of a person and the size of the chest.

"2. These relations vary with age, but for each age they are constant.

"3. When the chest is too small, a series of morbid symptoms make their appearance.

"4. These troubles constitute a special disease, a form of anæmia, which is due to a deficient supply

of oxygen to the blood and consequent deficiency of combustion in the tissues.

"5. All these troubles are due to insufficient action of the chest, the result of deficient respiration, which is proven by the fact that by simply increasing the size of the chest, all these disorders disappear.

"6. Enlargement of the chest is rapidly secured by respiratory gymnastics."

THE QUESTION OF THE PHYSICAL INFERIORITY OF WOMAN.—That the average woman is weaker than the average man, is not to be contested. The average small man is weaker than the average large man,

for the reason that his bones and muscles are smaller, — in other words he is a smaller machine. The average woman is smaller than the average man, which is a sufficient reason for the lesser strength of the average woman, but that woman is so constructed as to be naturally weaker than a man of the same size, is a question worthy of more serious consideration.

The average woman has a smaller brain than the average man, although, according to *data* supposed to be reliable, the average feminine brain is somewhat larger in proportion to the weight of the average woman, than is that of the average male brain. But whether the efficiency of the smaller brain of the woman is any less in consequence of its lessened size than that of the male brain, is a mooted question. The difference in quality must be considered, as well as the difference in size. Dr. Van de Warker has recently pointed out the fact that the feminine knee, as a characteristic structure in the human family, is so much smaller in proportion to the rest of the leg that it only in a very slight degree intercepts the gradual taper of the limb; that when viewed with the leg semi-flexed, the joint is smooth and round, rather than angular, as in man. This is due to the fact that the patella and the articular surfaces of the joint are smaller in proportion to the size of the limb. The greater breadth of the pelvis also results in another peculiarity; viz., the shortness of the purchase of the muscles connecting the upper border of the pelvis, and the great trocator which forms the prominence near the upper end of the thigh bone.

From these facts it is argued that woman is naturally weaker than man, and not so capable of sustaining herself upon her feet. Just what is the bearing of these anatomical peculiarities cannot be determined upon therapeutic grounds. The question is one which can only be settled by actual experiment. In a future number, we shall call attention to some of the characteristics of men and women, considered from a muscular standpoint. We have gathered much interesting *data* upon this subject, in the careful examination of some hundreds of men and women, in which there has been made an accurate determination of the strength of each group of muscles.

EXERCISE FOR ELDERLY PEOPLE. — While the elderly man has less capacity for some forms of exercise than the younger adult, he has no less need than the other of the general and local efforts of the exercise. It is in the earliest period of mature age that the most characteristic manifestations of defects of nutrition — obesity, gout, and diabetes, in which

lack of exercise plays an important part — are produced; and the treatment of them demands imperiously a stirring up of the vital combustion. Placed between a conviction that exercise is necessary, and a fear of the dangers of exercise, the mature man ought, therefore, to proceed with the strictest method in the application of this powerful modifier of nutrition. It is impossible, however, to trace methodically a single rule for all men of the same age, for all do not offer the same degree of preservation. We might, perhaps, find a general formula for the age at which the muscles and bones have retained all their power of resistance, and at which the heart and vessels begin to lose their capacity to perform their functions. The mature man can safely brave all exercises that bring on muscular fatigue, but he must approach with great care those which provoke shortness of breath. — *Fernand Lagrange, M. D.*

THE highest grace is the outcome of consummate strength. — *Goethe.*

AN eminent writer contends that the ancient practice of hand-shaking was originally suggested by the wish to ascertain the wrist power and consequent wrestling capacity of a stranger.

IT is the merit of the gymnasium that when properly used it makes one forget to think about health or anything else that is troublesome. A man remembereth neither sorrow nor debt; cares must be left outside, be they physical or metaphysical, — like canes, at the door of a museum. — *T. W. Higginson.*

THE mind ought never to be cultivated at the expense of the body, and physical education ought to precede that of the intellect, and proceed simultaneously with it, without cultivating one faculty to the neglect of the other; for health is the base, and instruction the ornament, of education. — *Spurzheim.*

THERE are two vital points indispensable to a good walk, which if the student will observe, he will acquire free and elastic carriage. These two points are, to let the chest lead, and to *feel* the balls of the feet as one walks. As you walk, so poise yourself that you will feel the balls of the feet, the heels touching but lightly, and as it were, incidentally, the chief weight and strain coming on the balls. This, with a forward and erect chest, will give the main items for a good walk, and the minor points, such as controlling the hips, restraining the arms, etc., may follow as incidentals. — *Myra Pollard, A. M.*



DEFORMITIES CAUSED BY BAD DRESS AND IMPROPER EDUCATION IN CHILDHOOD.

[Extract from a Lecture by Dr. Kate Lindsay, of the Battle Creek Sanitarium.]

THE body that is symmetrically developed is the one, other things being equal, which performs its functions healthfully, and yet how few are allowed to develop normally! Mothers have incorrect ideas of physical beauty, and carelessly allow their children to become deformed. The bad dressing which makes bad positions easy, begins in infancy, with uncomfortable and unnecessary swathing bands. Again, many mothers are careless as to whether the clothing of their growing children fits comfortably or not. They are careful to see that their clothes have the right amount of embroidery and the number of ruffles and tucks which fashion prescribes, and yet a little child's dress may be so uncomfortable in the armhole, that the wearer cannot exercise freely without friction of her tender flesh, and to ease the chafing she keeps hitching up one shoulder until it may become permanently higher than the other. Dressmakers cut by rule, and if the child's form does not fit the model, so much the worse for the child! She may be frequently chided for her ungraceful and disagreeable habit, but it does not occur to the mother to seek for the cause, much less does she realize that her child may become deformed by the bad habit. The underclothing, too, is sometimes ill-fitting and uncomfortable, and the effects of this may be even worse.

In large families the eldest daughter is sometimes called upon to care a great deal for each successive baby, often a load too heavy for her strength, and so her spine becomes somewhat curved, thus raising one shoulder. Others are deformed by continually carrying heavy weights of some kind with the right arm, as pails of water. If such tasks must be imposed, a little forethought on the part of the mother will prevent all damage. The same amount or more of water can be carried with greater ease, if two small pails are substituted for one large one. Other kinds of work need to be carefully directed, that symmetrical

development instead of deformity may result to the growing girl.

A further cause of this one-sided condition, is the not uncommon practice of compelling children to sleep on high pillows. The better plan is to sleep with no pillow at all, but if one is used, let it be a very small one.

Ill-fitting and out-grown shoes are causes of further mischief and sometimes deformity. If a shoe will go on, and it is not worn out, the poor child must wear it, no matter if in-growing toe-nails, corns, and bunions are the result. Not that mothers would willingly inflict such infirmities upon their children, but they are careless and ignorant of results. A child's shoes should be changed, as a rule, as often as every six months, no matter whether they are worn out or not. Natural ease and grace of movement is impossible if the feet are hampered in tight, uncomfortable shoes, and a mincing, crippled gait will almost surely be acquired.

Just at present, those "sweet and lovely" Kate Greenaway costumes are having injurious effects upon little girls. Women are not content to hamper their own feet and limbs with long, clinging skirts, but they must fetter their children in like manner. Young children should be able to run with ease and grace, but notice one attired in these "bewitching" long dresses, and see how she waddles and tries to walk around in her skirts! A permanently awkward gait and sometimes bandy legs, cannot fail of being the result. It is nothing short of wicked to sacrifice native grace and activity for the sake of a senseless fashion.

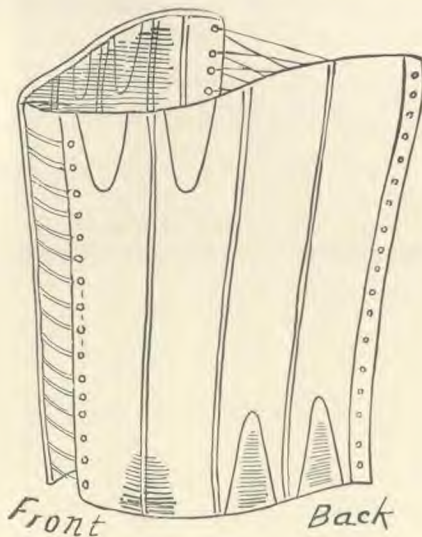
Bad habits of sitting and standing are fearfully common. Children read a great deal when they would better be at work or play, and they are allowed to sit by the hour with cramped lungs and round shoulders. Teachers in most schools are criminally neglectful as to this habit, seldom insisting upon

correct sitting postures. Both in homes and schools, tables and chairs are used for children, which are not of proper and comfortable height. The feet of the little ones cannot touch the floor when sitting, the spine is strained in consequence, and the head settles down on the shoulders. Mothers do not think to educate their children out of bad positions and make it easy for them to attain correct carriage for walking and other exercise, or for healthful sitting postures. It takes a great deal of time and thought to educate a child in proper physical habits, but it pays. Just so in educating children to household work. Mothers often say that they would rather do their work alone than bother with a child's help. True, it may be easier during the training period, but for the sake of the child's future usefulness, it should be done, patiently and cheerfully. The wise mother will reap the benefit in after years.

During childhood, boys and girls are apt to suffer alike from most of the causes mentioned as liable to produce these deformities; but as the boys grow up,

they begin to take exercise which, in a large measure, counteracts the previous bad education of their muscles. Alas for the little girls! their troubles have only just begun! Their forms must be molded into the hour-glass shape decreed by a fashion which aims to get as far from nature's models as possible. The proper muscular supports of the body are destroyed by tight dressing and want of proper exercise, and so their young daughters become limp, lackadaisical, listless creatures, without life or energy. Interesting? Oh yes, very—to the doctors! The girls are not to blame; the fault is with ignorant and foolish mothers. If the girls could only have the benefit of good physical training to give them firm muscles, and if they were nourished upon something better than cake and other sweets, they would not mope in this way. Instead, they would have all the exuberance of spirits, energy, and grace, which a well-groomed colt exhibits. Nature intends them to have a joyous, active, useful life, not to be sickly and sentimental.

MEN'S CORSETS.—The accompanying cut is an illustration of a man's corset, which is thus described by a New York paper: "The latest style of corset for men look more than anything else like a large-sized belt curved for the hips, and are about ten inches



wide. They are made of the same material as a woman's corset."

Men's corsets are mostly worn by city "dudes," military men, and actors, and it is stated that they are coming to be more and more of a necessity for the toilet of fashionables of the classes mentioned.

REMEMBER, a woman is only well dressed when she is appropriately dressed.

DRESS SENSIBLY.—A sprightly woman writer writing to women, says: "If you want to be happy, dress sensibly, and according to the season. Women are eaten up with neuralgia, say the doctors. No wonder! They sit still all the morning by a hot register, then tie the five or six inch strip of bonnet over their hair, a bit of lace film over their bangs, put on kid boots, with silk or thread stockings underneath, and dawdle along the pavement with cold, raw winds smiting their temples, their ears, their throats, and the bases of what should be their brains. The outraged nerves shrink and quiver under their barbarous exposure. But no matter; the chest is well covered with fur cloaks and sacques; but cold feet, numb ears, reddened temples, the exposed neck, will have their own story to tell.

"Then most of the so-called genteel persons won't wear flannel next to the skin. Why? Because their waists will look too large, and it is the style to be as near in shapeliness to that delightful and lovely insect, the wasp, as humanity can be forced. Thinking on these things, I sometimes wonder if women really like to ache and groan, and to be laid aside every few days with agonizing headaches or panting, laboring hearts?

"Strange, if true."

SOCIAL PURITY

WHAT MY LITTLE BOY TAUGHT ME.

"Tommy, come to mamma."

A sullen little face, with scowling brow and pouting lips, appeared at the door. "Why, what is the matter, dear?"

"I know I've got to stay in bed all day." And with the words Tommy jerked off his jacket, and kicked one boot across the chamber floor.

"What naughty thing have you been doing?"

"Spoiling the calla lily."

The words, tone, and manner of the little boy of six were so hard and defiant that a vague alarm seized me, and I said gently,—

"Come here, my poor little laddie, and get into mamma's bed. You look very cold."

The downcast eyes were lifted in a strange, glad surprise, and the remaining garments were laid aside softly. Slowly, shyly, and questioningly, the little fellow crept into bed and lay quite still.

"Now, Tommy, tell mamma all about it."

"I only just pinched the littlest whitest leaf. I wanted to see what it was rolled up so tight for. There's ever so many more."

"Yes, Tommy, but no more like this one. All the year you have seen these little rolls unfold into broad, glossy green leaves; but this one, Tommy, this white one—was a bud. If you had watched without touching it, you would have seen it grow larger and lighter in color, until some bright morning you would have run down stairs to shout and clap your hands over the most beautiful flower you ever beheld. It would have looked up lovingly into your face from its heart of gold, and its pure velvet lips would have smiled upon you for letting it live and bloom. I am so sorry you hurt the dear little bud, that now can never be a flower."

"Can't it be mended, mamma?"

"No, dear."

"You mended the cup I broke."

"Yes, darling; a broken china cup may be made whole again, but a sweet little bud, waiting to become a rich, golden flower, pinched and torn by cruel fingers, can never be restored."

"And cannot God restore it, mamma?"

The penitence, pathos, and despair of the child's face were indescribable. I drew the little form to my breast in silent awe.

"I'm almost as bad as Cain, mamma," he said, sobbing heavily.

"How is that, dear?"

"I've killed something. But, mamma, I did n't mean to, truly. I did n't know I was hurting the little bud. I'll never touch a plant again—only look at it, mamma, and love it, and wait for the morning when it'll be a great beautiful flower."

Precious little teacher! What a lesson for us mothers! In the hurry and worry of this toiling world, are we not in momentary danger, as we walk in the garden of our homes, of pinching, if not killing something? Think how it would be if, in our haste and heedlessness, we should crush and destroy the bud of tenderness,—so full and bursting in the heart of a child,—and give to society a callous, unfeeling man or woman! There are such in every community. Did the good God, whose name is Love, make them so? And where shall we be found in that great and awful morning when the Lord of the garden shall demand the full and glorious flower which was to have been developed and perfected from the sweet little bud given unto the bosom of father and mother?—*Home Guardian*.

MANY women are sighing for far-away missions, while negligent and ignorant of their true mission to their own families. Is it not just as worthy a field of work to educate a half dozen healthy, well-developed boys and girls into Christian manhood and womanhood as it is to go to some distant land and win half a dozen heathen for Christ? I am not decrying the work of the foreign missionary; I am

only trying to emphasize the great need of faithfulness to the duties nearest one's hand and to magnify the office of motherhood. No class of individuals suffers from another as do the children from the bad example and bad training of their elders. Yet it is a fearful thing to make these little ones stumble, either physically or morally, and one day an account must be rendered for it.—*Kate Lindsay, M. D.*

BAD NEWSPAPERS.

A CORRESPONDENT of the *Cultivator and Country Gentleman* writes under the above heading an indignant protest against the circulation of the mass of vile and worthless papers whose influence upon the young is so demoralizing. We quote largely from the communication, and trust that other publications may do likewise. This is a subject which every clean paper in the country ought to take up, in the interest of pure morals, until public opinion is so roused that the government will be obliged to notice it officially, and take steps to cause the stoppage of such worse than worthless trash through the mails:—

“At the present day, it has become more of a study how to keep improper reading out of the hands of the young than to put proper reading into them. The country is flooded with a class of cheap so-called ‘newspapers’ that are more thoroughly poisoning the minds of children than did the ‘yellow-covered’ trash of a few years ago.

“It was a mystery, until recently, how the proprietors of these papers secured the addresses of so many children and young people, passing by all the older ones, for the reason that adults are supposed to be too wary to bite at the offered bait. A little thought and examination have revealed some of the tricks of the trade. It was noticed that a schemer had got an advertisement in a semi-respectable agricultural journal stating that he would send, free, a ‘solid rolled-gold’ ring to any person who would give him the addresses of ten young persons of his or her acquaintance. The names were forwarded, and in return came a ring, sure enough, but of a class that can be purchased at wholesale for about three cents a dozen. This schemer collected many thousand addresses in this manner, put them in print, and then sold them by the thousand to other schemers, at \$2 a thousand.

“And now the latter get in their nefarious work. It comes first in the form of a ‘newspaper,’ ostensi-

bly. The paper always bears some familiar title in which the words ‘Hearth,’ ‘Home,’ ‘Farm,’ ‘Household,’ ‘Fireside,’ ‘Golden,’ and other similar expressions are used. It lays great stress upon its literary (!) character and large circulation. Children believe it, because they are not judges. Come to turn its pages, to the experienced eye, the ‘cloven foot’ stands out in plain view with its grim nakedness. About one fourth of the matter is made up of reprints of silly stories, and the other three fourths are advertisements of the rankest quackeries and humbugs, interspersed with disreputable pictures and goods. Much of the advertising space is devoted to lauding the wares of the proprietor of the paper. Many of the advertisements are headed ‘free,’ in large, full-faced type. This attracts the young, who usually have little money to spare. But come to read further, it is learned that ten or twenty-five or fifty cents must be sent ‘to pay postage and packing.’ The child is captivated, and runs to its little ‘safe’ or ‘bank’ for the sum, if he has it, and if not, the father or mother is teased for it; the child meantime keeps its own counsels, for when the ‘valuable present’ comes, he wants to surprise the whole family.

“But what does he get?—Nothing but worthless trash. Young people should learn that strangers do not give away anything. They sell at their own price, and get the best end of the bargain every time. . . . These disreputable and harmful papers, in very many instances, displace respectable papers that would be of service to families. . . .

“How shall the evil be remedied? I am trying a new plan. As fast as such papers come, I mark and forward them to the postmaster-general, and accompany them with a written complaint. If a considerable number of persons will do this, the government will make an investigation after awhile, and forbid postmasters to forward them.”

CONDITION OF GIRLS IN FACTORIES AND WORKSHOPS.—A writer in an Eastern journal, in a timely article concerning the condition of girls who are obliged to work in factories and workshops among men and boys, calls attention to the moral as well as physical atmosphere surrounding them in many places. He affirms, also, that girls, being in the minority as to influence and likewise numbers, must suffer these things in silence, as any protest will un-

doubtedly entail added insult, or loss of situation, or both. He says:—

“Girl book-keepers and typewriters are generally in the office with their employers and exempted from the coarse language of the men in the shop, but their more unfortunate sisters, in most cases, are obliged to stand or sit among men and boys, where, if the air is not tainted with tobacco smoke, it is with the vilest slang and gross jokes.”



AN EXPERIENCE WITH KEELEY.

We quote the following from the *Weekly Medical Review*, written by one of Keeley's victims, under date of Dec. 6, 1891:—

“Being a graduate, and having taken an *ad eundem* degree at the noted institution at Dwight, Ill.,—the Mecca of inebriates,—I would like to tell of an interesting experience and the doctor's views of alcoholism and dipsomania.

“About two years ago, before Dwight had become so generally known, and had the (false) reputation of curing inebriates, I thought I would visit it, as my desire for drinking was somewhat expensive.

“Having arrived, Dr. Keeley began with a hypodermic injection into the left arm, of the mysterious pink liquid which constitutes a part of the cure. Later, I was given a bottle labeled No. 1. Directions: Teaspoonful in wine-glass of water every two hours. This continued for three weeks, when I was discharged as cured.

“I left, and with the same desire as when I arrived. I wrote Dr. Keeley, telling him I was no better, and he advised me to return for ‘reinforced’ treatment. The second trip was made, and he confidentially suggested me to say I had returned for neurasthenia, as it would prejudice his patients to see me return.

“I suffered my arm to be jabbed four times daily for another three weeks (until it swelled to three times its normal size) with his aniline-colored solution of atropia and strychnia, to the same effect. He enjoined me to abstain from coffee, tea, carbonated waters, spices, etc., then to ‘crystallize’ in my cure, and I would be entirely well in one year.

“Some business affair called me to Chicago, and I met several of his old ‘cures’ with the familiar salutation from them to join in a sociable drink. I inquired of several, and learned of none that had ‘stuck’ for three months.

“In this city I know of fifteen cases, all graduates, and not one has been deprived of his desire for strong drink.

“The treatment is said by most of the old residents of Dwight, to have been originated by a chemist in Chicago, named Hargrave, formerly of Dwight.

“A reputable physician of Chicago informed me that Hargrave denies the presence of gold in the nostrum, but says it contains the red bark of cinchona, and tincture *nux vomica*, combined with other bitter tonics for the alcoholics, and the same with the addition of Jamaica dogwood for the opium habitués.

“For the opium habit he substitutes the alkaloid of codeia, with a large dose of *sulfonal*, at bedtime, when not having given full dose of codeia.

“The institution admits that about five per cent of the patients do not remain cured. I have failed to see *one permanent* cure from the number of cases that have come under my observation.

“One morphine patient, after having left, received a letter from Dr. Keeley asking him if he had any desire for morphine. He told him in reply that he had not the slightest desire for the cursed drug. Ten minutes previously he had borrowed my hypodermic needle and took eight grains. He was not falsifying, as he had all he required at the time of writing.

“Quite an amusing incident occurred during my last visit. Mr. O'B., of a small town in Iowa, was so enthusiastic about his remarkable cure that he published in an Eastern paper about his ‘crystallization,’ and felt confident in its permanency. He was elected president of the Keeley B. C. of G. Club. Several days after the publication, Mr. O'B. came to town ‘loaded’ in company with his brother, whom he had brought for treatment. Dr. Keeley was very much excited, and lost no time in hustling him off on the first train. This fact had been

discovered by some of the patients, who left very shortly afterward.

"To conclude, I believe that confinement would have the same effect in three weeks as the double chloride of gold and sodium.

"The Doctor's theory of the hallucinations and delusions accompanying alcoholism is that the con-

tracting pupil acting as a lens to the micro-organisms in the humors of the eye causes the patient to see snakes, etc.

"Gold, he says, has a powerful affinity for the nerve-centers, according to Paracelsus. And he, like Paracelsus—only in the nineteenth century—is practising and advertising a fraud."

BROMIDE OF POTASH AND THE LIVER.—A large share of the patent medicines, advertised in the newspapers and offered for sale in drug stores as "nervines and sleep-producers" contain, as their principal ingredient, either opium or bromide of potash; the least harmful owe their efficiency to the last-named agent. The temporary benefit derived from these nostrums, leads many people to become habitual users of them, taking bottle after bottle of somebody's "nervine" or "sleep-producer," with no appreciation of the possible harm which may arise from the long-continued use of cheap but powerful drugs which the nostrum may contain; and their half paralyzing influence in lessening the activity of the brain, weakening the memory, and lowering the nerve-tone to such a degree as to produce unsteadiness of gait, is known. It has recently been shown by MM. Hare and Herber, of Paris, that when this drug is administered for a long time, it accumulates in the liver so that its poisonous principles are concentrated upon this organ.

This explains how the habitual use of one nostrum creates a demand for another. The long-continued use of a medicine containing bromide of potash, after a while renders the liver so inactive that somebody's patent "liver-regulator" must be resorted to, to stimulate the feeble organ to greater activity. Thus one mischief leads to another.

THE ELECTROPOISE DISSECTED.—Some time ago, a committee of intelligent gentlemen made, with the assistance of a skilled and experienced electrician, a careful dissection of the electropoise, some specimens of which we have in our possession. The results of this investigation, which were publicly stated before some scores of people by the chairman of the committee (one of the leading physicians of Alabama) agreed entirely with the statements which we had previously made respecting this toy; namely, that notwithstanding the assertions of its makers, it was absolutely inert as a remedy for disease.

The inventor and first manufacturer of the electropoise was Dr. H. Sanche, whose claims respecting it we published and exposed some years ago. In a

book published by Sanche, it is distinctly claimed that this invention was an electrical apparatus, as one would naturally be led to conclude from its name. It was also maintained that it produced an electrical current. Our exposure of the fallacy of Dr. Sanche's claims, in which we showed that it was in no sense an electrical instrument, has led the manufacturers to change their base of operations somewhat, so that they now assert that the instruments which they advertise under the name of "Electropoise," "neither generate electricity, nor is it conducted from them to the person under treatment." (National Electropoise Co., Chicago.) In a pamphlet circulated in New Orleans by the "Gulf Electropoise and Thermo-Electrical Battery Co.," of New Orleans, it is distinctly stated that "there is no current, nor way to produce one." The same pamphlet states: "This art and the instrument by which it is applied, are the result of a life study, and long series of experiments into the causes, prevention, and cure of disease, by a physician" (Dr. Sanche).

THE KEELEY CRAZE.—The astonishing eagerness with which the medically ignorant public run after every *ignis fatuus* launched by pretentious charlatans, is a source of a sort of grim amusement to educated medical men. No better illustration of popular gullibility ever occurred than in the present popularity of the scheming Keeley, of Dwight. The ignorance of the man is aptly displayed in a recent article published in a Chicago journal, in which scientific terms are treated in a most reckless manner, and in a way calculated to excite the derision of every reader having a modicum of scientific knowledge. A few weeks ago the sage of Dwight made the ridiculous assertion that 15 grains of asafetida would cure any case of *la grippe*, and the demand for asafetida pills straightway became enormous. In the course of a few weeks the present mania will be recovered from and then a new one will break out.

A CANADIAN paper advertises a patent medicine as "Dr. Gull's." The name is probably appropriate.

GOOD HEALTH

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

BATTLE CREEK, MICHIGAN.

BOGUS HEALTH-TEACHING.

THE greatest obstacle to progress in the diffusion of scientific information upon the subject of health among the people at the present time, is the fact that a great number of irresponsible, ignorant, and often unprincipled persons have set themselves up as health teachers, and for the sake of filthy lucre are engaged in palming off upon the public the most erroneous teaching, and in many cases the most palpable nonsense, under the name of "hygiene."

One of the best illustrations of this class of health teachers is to be found in a periodical which occasionally comes to our table, the name of which we consider unworthy to appear in these pages. The following is a sample of the teaching of this journal, the history of which we have watched with some interest through its various mutations during the past few years. Concerning the use of coffee, which is now almost universally admitted to be bad by scientific physicians, this self-constituted authority on health questions asserts: "The custom which prevails in New Orleans and generally throughout the South, of taking a cup of strong, black coffee in the early morning, is an intelligent one; . . . another cup of coffee at four in the afternoon is sufficient to keep the energies unflagged for many hours thereafter."

In another issue, the same journal gives a recipe for making "good tea."

It is not surprising to find in such a publication, such assertions as the following: "Absolutely pure air may be found to be as fatal as sewer gas, and perfectly pure water, worse than whisky." And again, that "nature has undoubtedly adapted the surroundings of man to his conditions, and it is to be presumed that he is not yet enough angelized for perfectly pure food, air, and water. Were it possible for him to procure these in his present state of physical imperfection, they would probably cause him to become an angel prematurely."

Pursuing the same line of false teaching, a former editor some time ago recommended corset-wearing as a means of preventing consumption, and commended wine-drinking as a practice necessary for people advanced in years. We think it quite probable that he practiced what he preached, in this particular at least, as he fell dead upon the streets from apoplexy, a result which we have frequently pointed out as likely to occur in elderly people who indulged freely in the use of wine.

We found the same journal, some time ago, ridiculing the idea that free ventilation of sleeping rooms is necessary, and maintaining that an ordinary sleeping room contains air enough to last a man at least a month. Here is the line of argument: Air contains one fifth oxygen. A sleeping room twelve feet square, ten feet high, will contain nearly 1500 cubic feet of air, 300 cubic feet of which is oxygen. The average individual uses but one cubic inch of oxygen at each breath, and breathing twenty times a minute would consume each hour about two thirds of a cubic foot of oxygen. At this rate, 300 cubic feet of oxygen would last a person just 450 hours, or forty-five nights of ten hours each,—more than six weeks,—so our philosopher recommends that we avoid the great danger of breathing night air. The windows of sleeping rooms should be open during the daytime and tightly closed at bedtime, when one should slip quickly in, close the door tightly and seal himself up in the apartment until morning, entertaining no fear, since even a small bedroom contains oxygen enough to supply more than two score of persons for so short a time as a single night.

The reader doubtless recognizes that the fallacy of this teaching exists in the fact that the consumption of one cubic inch of oxygen at each breath is not the cause which creates the necessity for fresh air and ventilation, but the poisonous matter which is thrown out into the air in place of the one cubic

inch of oxygen consumed, which not only takes the place of the oxygen used, but also poisons and renders unfit for further use all the oxygen contained in three cubic feet of air. It thus appears that when a person enters a closed room containing 1500 cubic feet, instead of finding an air supply sufficient to last him for a month or two, he will, after he has breathed but 500 times, requiring only twenty-five minutes, be compelled to breathe a poisoned and disease-producing atmosphere the balance of the time he may remain incarcerated in his air-tight cell.

This is a fair specimen of the ignorance displayed by the editorial corps of what we might term a most ridiculous publication.

A circumstance which strikes us as being remarkable to say the least, is the fact that such a journal should be anywhere or by anybody accepted as a teacher of health principles. Nevertheless we find one of our Western contemporaries advertising a clubbing arrangement with the journal above referred to, and what still more astonishes us is to find a religious journal, the managers of which are supposed to be uncommonly scrupulous, aiding the circulation

of this worthless periodical, the religious tendency of which may be correctly judged from the following paragraph which we quote from its columns:—

“Were there no criticism to tell us that the Bible is not infallible, to tell us of the natural origin of all religions; were there no criticism to tell us of the natural origin of creeds; were there no science to tell us that the old conception of the universe was as a baby’s playhouse compared to the infinite majesty of what we know to be true, to tell us that man has been on this planet hundreds of thousands of years; had it not been demonstrated that man has been developed from lower forms of life,—were these things all unknown, the growing civilization of the world, the goodness of the human heart, would have made it impossible for the world any longer to believe in the cruel Egotist sitting on the throne of the universe, and governing all merely for his own glory. The world is too good for that kind of a God any longer.”

In the name of Hygeia we protest against such ignorant, blasphemous pretenders being recognized as standard authorities on hygienic subjects.

EATING AIR.—According to a missionary in the East Indies, the native of Hindustan recognizes as one of the differences between a dog and a man, the superior breathing capacity of the latter; for example: We say in English, “A dog walks out,” and “A man walks out;” but in Hindustanee the expression is, “A dog walks out,” and “A man goes forth eating air.” The expression is said to be three thousand or more years old, and so its origin must be lost in obscurity, nevertheless it is significant as expressing the importance of air in the maintenance of human life. In a certain sense, air is food; it is indeed the most necessary of all substances required by the body. A man can live a month, or even two months, without solid food, and a week, or perhaps eight days, without drinking, but the vital processes are suspended within a few minutes when the supply of air is cut off.

EAST INDIAN FASTERS.—When Dr. Tanner, some years ago, fasted forty days, without food or other sustenance than air and water, the feat was considered almost miraculous, though he has since been outdone by Dr. Griscomb, who fasted forty-two days, and by an Italian who extended his fast to sixty days. The *Times*, of India, recently contained an account of the “Jains,” among whom fasts of thirty days were not uncommon. Among this class, it is inter-

esting to note that in addition to fasting, the release of cows and other animals from a slaughter-house was considered a meritorious act by these vegetarian Jains. The vegetarian East Indian entertains for the sheep or ox suffering in durance vile until the hour of its execution arrives, much the same sentiment which the people of the Northern States felt respecting their friends and relatives who were incarcerated in Southern prisons, often in hourly expectation of being shot down by the cruel guards who surrounded them. Is not this a lesson to us civilized Americans, who delight in our magnificent *abattoirs* of great cities, where whole communities of men, and through them their wives and children, are brutalized by the bloodshed and the horrid sights and sounds of the slaughter-pen? The East Indian outdoes us, not only in his ability to abstain from food, but also in his humanitarian sympathy for the dumb brutes over whom God made man the master, without giving him the license to become a tyrant and a devourer.

ANOTHER TOBACCO SUICIDE.—The *Pharmaceutical Journal* credits the *Utica Herald* with the following comprehensive and exhaustive treatise on the evil effects of tobacco-using:—

“Thomas Delany, of Albany, aged 19, thought nothing of smoking five or six packages of cigarettes a day. His funeral took place Saturday.”

THE GROWTH OF GLUTTONY.—We read with something of horror, of the gastronomic feats of the Emperor Maximus and some of his imperial predecessors; nevertheless, the fact must be admitted that the modern glutton outdoes all his predecessors, if not in the quantity of his eating, at least in the variety of his comestibles, and the unwholesomeness of the culinary compounds which his palate craves. The ancient Briton was satisfied with a handful of acorns or ground-nuts, except on special occasions when he regaled himself upon a spare-rib out of his enemy. The dietetic habits of the modern Briton, until within very recent times, excepting the aristocratic classes of the great cities, have been nearly as simple and almost as wholesome as those of his ancient progenitor, the cannibalistic instinct breaking out only now and then at hearty dinners, barbecues, and on similar occasions. The lower classes of most civilized nations, in fact, at the present age, are satisfied with a "square meal" consisting of two or three substantial dishes; but the well-to-do usually add two courses, a soup at the beginning of the meal and a dessert at its close, the first ostensibly to stimulate the appetite; the second to help digestion. The first, it must be admitted, usually succeeds, and, unfortunately, too well, the appetite being goaded to repletion; but the second utterly fails of its mission, since the ordinary dessert not only does not help digestion, but adds, in many instances, to an already overloaded stomach an indigestible mass of sweets or other palate-tickling but dyspepsia-producing comestibles.

The modern banquet cannot be regarded as other than an exercise in gluttony; there must not be less than nine courses, besides the various punches, coffees, and other things sandwiched between, and each course not infrequently affords enough for a hearty meal at least, if the character of the articles eaten is taken into consideration.

SMOKING TO KILL GERMS.—The newspapers are publishing the fact that a professor in the University of Pisa has discovered that tobacco is an antiseptic, that is, that tobacco-smoke kills germs—at any rate that it kills cholera and typhoid-fever germs, and discourages the growth of other germs. We are surprised that the learned professor should have taken the trouble to make this matter the subject of a serious investigation. Everybody knows that tobacco will kill rattlesnakes and every other living creature. Darwin, the famous propounder of evolutionary theories, proved, many years ago, that tobacco smoke and nicotine are exceedingly destructive of

plants. Belonging to the great family of plants, the professor ought to have known beforehand, without extended research, that tobacco is a germicide. But why should smoking or tobacco-chewing be recommended on this account? Sulphur fumes are a still more efficient germicide and disinfectant than tobacco fumes. Old smokers on this account take kindly to inhaling the fumes of burning sulphur or brimstone. Coal-tar is another good disinfectant, as well as many of its products. Then why not smoke bits of paper saturated with coal-tar, creosote, or carbolic acid?

Tobacco does not enjoy a monopoly of germicidal properties. There are any number of germicides far superior to the filthy weed. Why not use them, then, instead of tobacco, especially since they would be less offensive to many good people who keep themselves in so wholesome a condition that it is not necessary to establish a perpetual fumatory in their mouths in order to prevent their being overwhelmed with germs? A man whose mouth is in so vile a condition that it needs to be fumigated to keep him from getting typhoid fever or cholera, ought to use a tooth-brush or some other efficient means of removing the colonies of germs which have taken possession of him. A tooth-brush with plenty of pure water and a little good soap or tooth-powder will serve a much better purpose as a means of cleansing the oral cavity, than tobacco-smoke, and will at the same time be vastly less offensive to those whose instincts are opposed to tobacco fumigation.

Anything that will kill germs will kill men. If tobacco is a germicide, that is a good reason why men should let it alone, unless they have occasion to resort to its use as a means of destroying noxious reptiles or vermin.

MICROBES IN MILK.—According to the *New York Pharmaceutical Journal*, a microscopist has been making a study of microbes in milk, and he finds them in such large quantities that in one cubic centimeter (about 20 drops), there are not less than two or three million microbes, which would be about 100,000 microbes for each drop. A French scientist has found that that is the hourly increase of microbes after the milk leaves the cow.

LIFE insurance agents assert that the best risks are not the robust men, but those who while without serious organic disease, are not vigorous and appreciate the necessity of taking good care of their health.

ARSENICAL WALL-PAPER.—Prof. Charles V. Chandler, the eminent New York chemist, delivered before the Academy of Medicine of New York, an address entitled, "Arsenic in Common Life," in which he pronounced the popular fear of poisoning through its action on paper, as a myth, claiming that the idea was based on the most flimsy foundation. He had experimented in his laboratory, by passing air over sheets of paper coated with Paris green, some of the papers being moistened and some dry, and had never been able to find even a trace of arsenic in the air. The professor has evidently no faith whatever in the notion that poisoning may occur through wall-paper figured with arsenical colors, and believes that the excitement on this subject, which prevailed some years ago, was wholly without foundation.

TUBERCULOSIS IN PRISONS.—A German authority has recently investigated the remarkable frequency of consumption, or pulmonary tuberculosis, among prisoners. It was found that nearly one half of all the deaths which occur among the inmates of German prisons is due to tuberculous disease, the mortality from this disease, between the ages of 20 and 40 years, being five times as great as among the general population. Doubtless the disease exists prior to confinement in many cases, but the conclusion is irresistible, that in a great majority of cases the disease is contracted by infection from cells which have not been properly disinfected.

FLIES AND GERMS.—Dr. Maddox, of England, has shown by carefully conducted experiments in feeding insects, that cholera germs and other microbes may pass alive through the digestive canal of flies, and that these creatures may thus become a means of disseminating disease. In view of this fact it is evident that the greatest care should be taken to prevent contact of flies or other insects with food. Food which has been visited by flies should be sterilized before being eaten.

SMALL CHANGE AS GERM-CARRIERS.—The rough surface of a coin affords an excellent opportunity for the lodgment and retention of germs, and the frequency with which these coins may be supposed to come in contact with diseased mouths and hands is good ground for the suspicion that contagious disease is not infrequently propagated in this way, a fact to which we have several times before called attention. We quote the following paragraph from the Bulletin

of the Iowa State Board of Health, which well sets forth the danger of rinsing coins in the mouth:—

"As we were coming down Sixth Avenue on an electric car, a few days since, we noticed an aged and infirm colored man who was seated opposite, take from his mouth a silver 'quarter,' covered with saliva. He rubbed it on his pants, turned it over, rubbed the other side and handed it to the conductor to pay his fare. Now, as he was enfeebled by age, he was peculiarly liable to contract some infectious disease, had the money been in the hand or mouth of some one so diseased. We noticed, also, that he had very badly decayed teeth, covered with tartar, which, doubtless, were the habitat of bacteria, some of which may have been disease-producing. There is no telling what delicate lady's mouth this same 'quarter' may have gone into that same day. Now, some of the pathogenic or disease-producing germs are exceedingly tenacious of life. They will bear freezing or drying, and may preserve their vitality for months—even for years. We do not wish to cast any reflections upon the fair sex, but for some reason or other, ladies, much more frequently than men, make pockets or purses of their mouths, since it is not the fashion to have pockets in their dresses. We suggest that it is neither elegant nor safe for a lady to subject her mouth to such vile usage."

A SENSIBLE VERDICT.—The London *Lancet* gives an account of a judicial verdict recently rendered in an English court which involves more justice than is generally obtained in suits brought to secure punishment for the violation of a sanitary law. The plaintiff, it seems, had for some days occupied a room in a hotel at a health resort, when he was told that the apartment had been let, and he must take another. He was put into a damp room, and in consequence of exposure to a damp bed, he contracted disease and was put to large expense. He brought suit against the landlord to recover damages, which were granted him by the court. If every itinerant clergyman or school-teacher "boarding round," who has suffered injury from being put into a damp bed, should bring suit for damages, the courts, of this country at least, would be quickly flooded with cases. We fear, however, that so just a decision as that granted by the English court would rarely be given. In our opinion, no reason can be shown why a hotel proprietor should not be held responsible for injury resulting from a damp bed, as well as from damage resulting from an elevator out of order, neglect to light halls, or any other negligence imperiling the life or limbs of his guests.



REGIMEN FOR RHEUMATISM.

ACUTE rheumatism is generally due to bad regimen. Occasionally the disease may be the result of infection by some specific germ, but as a rule it is due to bad hygiene, and in most instances, to neglect to maintain a healthy condition of the skin, and infraction of the rules of dietetic hygiene. Neglect of the bath, overeating, and particularly the excessive use of nitrogenous food substances, such as meats, fish, and fowl, are unquestionably the chief causes of this disease. The system becomes clogged with poisons which the liver is unable to transfer, and the kidneys cannot throw off. In consequence, the delicate serous membranes of the body are irritated and an inflammation occurs. Good humored nature, in order to save the sinner's life, first sacrifices to the disease the serous membranes lining the large joints, as the knees, ankles, elbows, and wrists; and in extreme cases the disorder may extend to the delicate membranes covering the lining of the heart, covering the lungs, and lining the chest, or even the membranes of the brain; but the last-named organs are usually saved by the fact that the disease expends itself upon the large joints. A person can get along after a fashion without legs, but it is quite impossible to live without heart or lungs, or with these organs seriously disabled.

An attack of rheumatism must be regarded as an effort of nature to remove, in an unusual way and by a special effort, poisonous substances which the system has failed to throw off by ordinary and normal methods.

With this thought in mind, it must be clear to the reader that a regulation of regimen must be among the most important measures of treatment for acute rheumatism. A considerable experience in the treatment of this disease has taught us that the following measures are of essential importance, and when they

are faithfully carried out, little else will be found necessary in the great majority of cases:—

1. Diet: The patient should eat nothing for the first day or two, and, in fact, the majority of patients, especially those who have been high livers, will do well to fast for two or three, or even four or five days. At the end of that time the diet should consist of fruit, fruit juices, and such preparations of grains as gruels, boiled rice, grits, parched corn, granola, gofio, and other similar light and digestible foods.

2. In place of food, while fasting, the patient should take great quantities of water. Half a glassful or a glassful every hour is the quantity which we habitually recommend. The water is better taken hot, but if hot water is obnoxious to the patient, he may take it cold. The purpose of the water-drinking is to aid the elimination of poisonous matters from the body. Free water-drinking stimulates the action of the skin, liver, bowels, and lungs. The work of all the excretory organs is facilitated, and thus all excretions are increased in quantity.

3. Profuse sweating is, perhaps, the most efficient of all means of treatment which can be administered in acute rheumatism. This fact was long ago determined by experiments at the Bellevue Hospital, where it was at one time the fashion to keep patients suffering from acute rheumatism in a sweating pack for twenty-four hours at a time, and not infrequently the patient was kept in a state of profuse perspiration almost constantly for several days in succession. The free water-drinking is conducive to profuse perspiration, and when necessary, this may be stimulated by the employment of bags filled with hot water, hot bricks dipped in hot water, then wrapped in flannels, and by such other means as are generally used for producing a dry or sweating pack.

A SIMPLE WAY TO REDUCE HERNIA.—There are many thousands of persons in this country alone who are suffering from hernia, and obliged thereby to wear constantly some sort of truss. Doubtless a large share of these persons might be radically cured by means of an operation, which, under antiseptic precautions, is not dangerous, and does not involve any considerable amount of suffering; but the popular dread of surgical procedures is so great that only those who are put to great inconvenience by failure of the truss to support the hernia, or from some other cause, are likely to avail themselves of the means of radical cure afforded by modern surgery. As trusses are constantly getting out of place, so that those who wear them not infrequently find themselves suffering in consequence of inability to replace the prolapsed intestine, it is worth while to have a knowledge of the best means of reducing a hernia. In the old method, that known as taxis, in which the patient lies with his hips elevated and knees drawn up, a physician or assistant manipulates the hernia in such a manner as to press the hernious sac and its contents back into the abdomen. Considerable skill is required to perform taxis in such a manner as to accomplish the result desired without injury to the tissues, and not infrequently the best directed efforts fail.

A French physician has recently called attention to the fact that even in cases in which taxis fails, the rupture may generally be reduced by a most simple procedure. He simply places one hand upon the hernia, supporting it and pressing it inward, and at the same time makes the patient cough as violently as possible. Coughing has the effect of enlarging the opening through which the bowels escaped, and thus to facilitate the return of the intestine to the abdominal cavity. He has employed this method in a large number of cases with almost uniform success, and has found it equally satisfactory in both inguinal and femoral hernia. If hernia is not reduced within four or five hours, and is swollen and painful, a skillful surgeon should be called at once so that the condition may be relieved by a proper operation before the tissues have become gangrenous, or firm adhesions have taken place. This operation, formerly considered very serious, is now a comparatively safe one, if undertaken by a skilled surgeon and under aseptic precautions.

FIRE-PROOF CLOTHING.—In the interest of human life-saving, the wearing of fire-proof clothing is, under many circumstances, a matter of great importance. A recent number of the *Scientific American* publishes

the following formulæ for fire-proof fabrics, which have been abundantly tested. Various tissues have been rendered fire-proof by means of the following formula, and have been exhibited at the Berlin Exhibition:—

1. For thin fabrics, 8 lbs. ammonium sulphate, $2\frac{1}{2}$ lbs. ammonium carbonate, 2 lbs. borax, 3 lbs. boric acid, 2 lbs. starch or $3\frac{1}{4}$ oz. gelatine, and 100 lbs. water. Mix together and heat to 86° F. Soak the material well with the solution; wring out and dry; then iron as usual. One quart of the mixture costing three or four cents, is sufficient to make fire-proof sixteen square yards of material.

2. For curtains, wood, and furniture, the following mixture is employed: A quantity of chloride of ammonium is mixed with a sufficient amount of floated chalk to give it the consistency of paint. It is then heated to about 120° F., and the material to be fire-proofed then receives one or two coats of the mixture applied with a brush. This material costs about four or five cents a pound, and one pound is sufficient to cover five square yards.

3. For wood rope, straw matting, etc., the following mixture is employed: 15 oz. ammonium chloride, 6 oz. boracic acid, 3 oz. borax. Dissolve in 100 oz. water. The material is placed in solution, and kept at a temperature of 212° F., for from fifteen to twenty minutes; then squeeze out and dry. A quart of this mixture costs about five cents.

4. For paper, whether printed or blank, the following is employed: 8 oz. ammonium sulphate, 3 oz. boric acid, 2 oz. borax, dissolved in 100 ounces of water, and employed at a temperature of 120° F.

DIET IN KIDNEY DISEASE.—Prof. Dujardin Beaumetz, the leading physician of Paris, writes thus in *La Gazette Medicale* respecting diet in disease of the kidneys. We translate freely, omitting some paragraphs, but taking care to preserve the sense of the original:—

“The following, according to my idea, is the bill of fare most suited not only to patients suffering from Bright's disease of the kidneys, but in all cases in which the function of the kidneys is disturbed.

“Two indications must be met: First, to prevent the development of poisonous substances in the digestive canal, and this object is attained by antiseptics, as has been pointed out by Prof. Bouchard; whether through the stomach or through the rectum is a matter of little consequence. Secondly, to reduce to a minimum the poisonous substances which are sometimes found in foods, and to that end to allow

the patient only such foods as are as free from poisonous matters as possible.

"Patients must be forbidden to eat flesh which has been kept long after the animal was killed, and certain fishes. It is also well to interdict shell-fish; that is, oysters and clams, and fish having an ammoniacal odor indicative of putrefaction, and similar foods.

"Cheese with strong odor [what cheese has not?] must equally be forbidden. If meats are eaten at all, they should be well cooked, as prolonged cooking seems to lessen the danger of poisoning from the products of putrefaction.

"A vegetarian *regime* is particularly appropriate for patients suffering from deficient activity of the kidneys. The food should consist almost exclusively of eggs, farinaceous substances, green legumes [peas, beans, and lentils], and fruits.

"The eggs should be cooked sufficiently to coagulate the albumen. The green vegetables should be taken by preference in the form of *purée*. Beans, potatoes, lentils, and preparations of milk and farinaceous foods are appropriate. Gruels of different grains; as wheat, rice, barley, corn, oatmeal, panadas, macaroni, and similar foods are indicated, as also both fresh and well-cooked fruits. No alcohol should be taken. Milk, either fresh or boiled, may be used freely.

"By these means, together with proper hygienic care, such as proper attention to the bowels, function of the skin, and other hygienic conditions, the lives of patients may be prolonged, and a cure effected, even though they may have been given up as lost."

IVY POISONING CONTAGIOUS.—The *Medical News* has recently published correspondence from a number of physicians, which goes to show beyond a shadow of doubt that the inflammation of the skin produced by exposure to this poison, may be transmitted by contact to persons who have not been in contact with the plant, or in its vicinity. This fact should be borne in mind by those who have the care of persons suffering from ivy poisoning.

DRINKING MILK.—One should not drink milk, but should eat it. But it may be asked, "How can one eat liquid?" By taking it in small sips or bites, chewing at the same time some hard food substance, such as a crust of bread or a cracker; by this means the milk is mixed with the saliva as perfectly as food which requires mastication to enable one to swallow it. A gentleman once complained to the writer that he could not take milk. He had on one occasion nearly died in consequence of drinking two or three

glasses of milk in rapid succession when very thirsty. An hour or two after drinking the milk, he experienced great distress at the stomach. After suffering a while in this manner, he experienced a choking sensation in his throat which he could not relieve, and soon discovered a mass of some sort of substance projecting into his mouth, which he seized, and to his great astonishment pulled out a cylinder of milk more than a yard in length. The milk had been swallowed so rapidly that it had coagulated into a solid mass. This is likely to occur when milk is swallowed in the manner in which one takes water or other drinks. The digestion of such a mass must be extremely slow, as the gastric juice can only act upon the outside, whereas, if the milk is taken in small sips and thus mingled with the saliva, its digestion is facilitated by the stimulating effect of the saliva upon the stomach, causing it to secrete gastric juices freely; by this means the milk coagulates in soft, small curds in the stomach, instead of remaining there in solid masses.

FOR AN ACUTE COLD.—One of the best remedies for an acute cold in the head attended by sneezing and a watery running at the nose, is the use of a spray of albolene or oil of petrolina containing 10 grs. each of menthol and oil of eucalyptus, and 5 drops each of the oil of wintergreen and oil of turpentine, per ounce.

GERMS AND BALD HEADS.—What is the cause of baldness? is a question constantly asked physicians by patients who have lost the capillary covering of their heads, or are in danger of doing so. Ten years ago all sorts of speculations were offered in reply to this question, but at the present time a definite answer can be given, as the bacteriologists have solved the problem. It has been found by the researches of modern *savants*, that baldness is a parasitic disease, or rather, is the result of the growth of vegetable parasites upon the scalp. These parasites find their way into the hair follicles and destroy the roots of the hair, or weaken them so that the hair falls out and ceases to grow. Dr. Saymomme, who claims to have discovered the bacillus, recommends the following as a remedy for baldness: "Two parts each of cod liver oil, and the expressed juice of raw onions, and one part of the mucilage or yolk of egg. Mix well, apply to the scalp, and rub in well, once a week."

We think it might be expected that the remedy recommended would not only drive away the parasites, but one's friends and neighbors as well.

ANSWERS TO CORRESPONDENTS.

TO QUIET THE NERVES.—J. A. asks for the best remedy to quiet the nerves.

Ans.—Fomentations or hot sponging of the spine, is one of the best means of quieting a nervous person. Sometimes rubbing the limbs or the head has an excellent effect.

DIET AND ERYSIPELAS—CRAMPS IN TEETHING.—Mrs. A. G., Iowa, is greatly troubled every winter with erysipelas. Uses very little meat and no butter, and in summer is out in the open air a great deal, and does not have it then. She wishes to know: "1. What is the cause of erysipelas? 2. Has the diet anything to do with it?" She would be grateful for advice as to treatment. She also asks, "3. Does teething induce cramps in a child?"

Ans.—1. Germs. 2. Yes; a gross diet renders the system more susceptible to the attacks of germs. It is not possible to prescribe a panacea for erysipelas. The treatment depends much upon the special form assumed by the disease, which appears in many varieties in different cases and under different conditions. 3. Yes.

REDUCTION OF MUSCLE—PIN WORMS, ETC.—"A New Subscriber" asks the following questions: "1. Can a muscle be reduced in size by means of compression and alkaline baths? 2. Is there any other way? 3. Is there any quick, permanent, and harmless cure for pin worms in adults?" He also adds, "I understand that a piece of sterilized sponge placed in the cavity from which a tumor has been removed, will be replaced by solid flesh," and asks "4. Would the same thing happen if the sponge were placed in any incision made in any portion of the body?"

Ans.—1. Compression is a good means of reducing the size of muscles, as is well illustrated by the average American woman, who reduces to almost total inefficiency the muscles of the waist by this means. We cannot imagine, however, any circumstances under which it would be necessary to resort to this method of destroying muscular tissue. We need more muscle, not less. 2. Yes; neglect to use the muscle will cause it to diminish in size. 3. Yes; fluid extract of quassia seems to be a specific for the treatment of pin worms. Put four ounces of fluid extract of quassia in a gallon of water. Empty the bowels thoroughly, first by a dose of castor oil or seltzer, then by a large enema, placing the body in

the knee-chest position so as to allow the whole colon to become filled with water. As large a quantity of water as possible should be used, and it should be retained fifteen or twenty minutes, if possible. After the bowels have been thoroughly evacuated, inject one quart of the quassia solution, in the knee-chest position, and retain for fifteen or twenty minutes, if possible. Repeat this treatment every day, or every other day, for one or two weeks, if the worms do not disappear before. 4. A sponge in an incision acts like a foreign body and prevents union of the tissues. It also usually has the same effect when buried in a wound.

SHINGLES.—Mrs. J. T., Mich., inquires, "What is the disease called shingles? the cause and the remedy?"

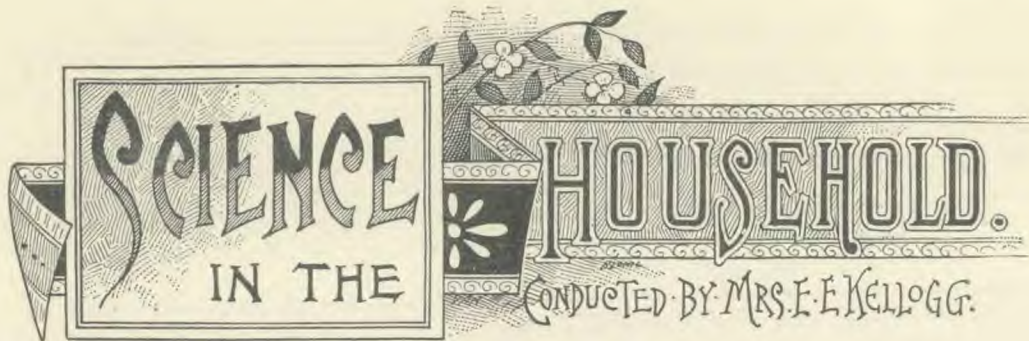
Ans.—Shingles is a nervous disease of the skin, technically termed *herpes zoster*. The eruption always follows a nerve trunk. The best remedy during the onset of the disease, and until after the eruption becomes dark in color, and the vessels dried, is simply powdered starch or subcarbonate of bismuth. The powder should be applied freely, and the parts covered with cotton. When the eruption has disappeared, the neuralgic pain which is usually left behind is best relieved by means of fomentations and the application of menthol liniment.

DIGESTIBILITY OF CUCUMBERS.—M. W., Pa., asks, "Is there any way by which fresh or salt cucumbers can be rendered as digestible as any other vegetable? If so, please give method of preparation or cooking."

Ans.—Cucumbers either salt or fresh are easy of digestion when cooked. Pickled cucumbers are exceedingly indigestible.

NUMBNESS AND TINGLING OF ARMS AND HANDS.—H. T. P., Minn., writes concerning his wife, who is a hard-working woman of fifty-one years. She has been troubled for some time with her arms and hands "going to sleep,"—often the fingers become quite numb. At other times, spots on the flesh of her arms will sting and tingle as if they had been struck a sharp blow.

Ans.—These symptoms are usually the result of nervous exhaustion. They are generally relieved by fomentations to the upper part of the spine and vigorous rubbing of the arms and hands daily. Electricity is also a useful agent in these cases.



SCIENCE
IN THE
HOUSEHOLD.
CONDUCTED BY MRS. E. E. KELLOGG.

SYSTEM IN HOUSEWORK.

THE following paragraphs upon this subject which we find drifting about among the unidentified items in newspaperdom are so thoroughly true and withal so good and timely that we gladly make for them a place in our columns:—

“At the bottom of all the headache and heartache caused by modern housework, there usually lies only one trouble,—want of method. Only within the last hundred years has there been any effort made to train woman. She was regarded as a being to be governed by instinct or intuition, and all her work was expected to be done by some sweet haphazard method which should make itself right in the end by some rule unknown to every law of nature. The one who suggested direct rules of doing housework was held up to derision as eccentric. Cooking was like a game of chance, and success and failure were looked upon generally as matters of luck. The breadmaker who measured the ingredients for her bread was looked upon as little less than daft. The natural result of want of method in breadmaking at home, was the coming in of the foreign baker, whose loaves, though inferior in every way to a good home-made loaf, could always be depended upon to be of uniform quality. The baker produced loaves which were always the same size and quality, while the domestic loaf, though delicious at times, was often a failure, owing to the want of method.

“When home methods become systematic methods, then the home baker may come into active competition with the professional baker. Though there are thousands of women who could bake better bread than the tradesmen bakers, and would gladly earn the money by so doing, they have not been able to gain any considerable market, because they cannot be depended on for a positively uniform result. Whenever a woman conducts the work of baking on purely business methods, bakes her bread by strict, uniform

rule, as a baker does, and charges only the regular price for it, she finds a remunerative market at once for her work.

“From remote generations men have been taught to do their work by rule. No man hires a laborer without engaging his time for a certain number of hours. The man servant knows distinctly when and what time he must devote to his work. The female servant alone is expected to do her work in a happy-go-easy way. At one time she is seriously reprimanded for what is overlooked at other times. The trouble with servants is largely due to want of order in laying out their work and making them adhere rigidly to it. The average maid-of-all-work has some reason in rebelling against her position when her work depends, as it often does, upon the whimsical fancies of a mistress who drives her from one thing to another without system or order.

“Strange as it may seem, it is yet true that there are no housekeepers who have so little trouble with their help as those who exact to the uttermost that which is required, but who do not break into the routine of work by ordering all manner of unexpected and unnecessary drudgery. The secret of peace in the household, of freedom from the thousand and one petty worries induced by domestic mismanagement, lies in one brief word—method. When women are trained to do their household work as craftsmen do theirs, when the head of a house manages her help with the same exactness that the master workman manages his men, making sure that every stroke of work tells toward the end, then we shall begin to see a solution of the problems of domestic service. These problems present themselves on every side, and have even now reached a point at which they threaten to turn our homes into vast hostleries, to be managed on the co-operative plan.”

SOME SEASONABLE RECIPES.

RYE PUFFS.—Beat together until well mingled, one pint of thin cream and the yolk of one egg. Add gradually, beating meanwhile, four cups of rye flour. Continue to beat vigorously for ten minutes, then add the stiffly-beaten white of the egg, and bake in heated irons.

BOILED APPLES WITH SYRUP.—Halve and remove the cores of a half dozen nice apples, leaving the skins on. Boil till tender in sufficient water to cover them. Take out with a fork into a glass dish. Add to the juice three or four slices of a large lemon; boil for ten or fifteen minutes; sweeten to taste; then pour over the apples, and cool.

CREAM GRAHAM ROLLS.—To one half cup cold cream add one half cup of soft ice water. Make into a dough with three cups of Graham flour, sprinkling in slowly with the hands, beating at the same time, so as to incorporate as much air as pos-

sible, until the dough is too stiff to be stirred; then knead thoroughly, form into rolls, and bake.

CREAM CRISPS.—Make a dough of one cupful of thin cream and a little more than three cups of Graham flour. Knead until smooth, then divide the dough into several pieces, and place in a dish on ice for an hour, or until ice cold. Roll each piece separately and quickly as thin as brown paper. Cut with a knife into squares, prick with a fork, and bake on perforated tins, until lightly browned on both sides.

ORANGES AND APPLES.—The mild, easy-cooking, tart varieties of apples make an excellent sauce stewed with one third sliced oranges, from which the seeds have been removed. Pare, core, and slice the apples, and cook gently so as to preserve the form of both fruits until the apples are tender. Add sugar to sweeten, and if desired, a very little of the grated yellow of the orange rind.

THE *Jewelers' Circular* gives the following directions for cleaning silver:—

“Take either a small sponge, a piece of flannel, a piece of chamois, or a clean and dry silver brush; rub all the articles which have bad spots with salt. This removes the spots more quickly than anything else. The simplest method is to place a little prepared chalk in a saucer with water, of which make a thick paste, and add a few drops of ammonia. In place of ammonia, the chalk can be prepared with alcohol or simply with water. This paste is to be brushed or rubbed carefully over the article.”

If the wick of a lamp does not move easily in the holder, draw out one or two threads from one side. The wick should be as large a one as the holder will receive.

TIN vessels rust and are often worthless in a few weeks, because, after washing, they are not set on the stove for a moment or in the sun, to dry thoroughly before they are put away.

No cooking vessels are really fit to be used for boiling or stewing vegetables, stewing fruit, etc., except those which are of granite ware or porcelain-lined.

To clean black cloth or silk, sponge with warm water or coffee and a little ammonia; iron on the wrong side; if the silk is thin, add a little sugar to the water or coffee.

To clean men's clothing, mix two parts alcohol and one part ammonia; rub vigorously with a sponge or woolen cloth, using a cloth of the same color as the garment. This is good to clean all kinds of woolen goods or carpets.

HOUSEWORK AS AN EXERCISE.—To keep the complexion and spirits good, to preserve grace, strength, and agility of motion, there is no gymnasium so valuable, no exercise more beneficent in result, 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 open air, will do more for a woman's complexion than all the lotions and pomades that were ever 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 living, and makes things seem really worth while.—*Medical Record*.

LITERARY NOTICES.

THE *Arena* for March is sufficiently varied to interest all lovers of serious literature. Rev. Minot J. Savage contributes a paper on psychical research. Prof. Joseph Rhodes Buchanan writes on "Full-orbed Education," Henry Wood on "Revelations through Nature," and Gen. J. B. Weaver on "The Threefold Contentions of Industry." Hon. Walter Clark, LL. D., Associate Justice of the Supreme Court of North Carolina, furnishes a masterly argument in favor of governmental control of the telegraph and telephone. But this is scarcely more than a hint at the contents of this exceedingly strong and brilliant issue of an always vigorous review. *Arena* Publishing Co., Boston.

THE papers on Paderewski, in the *Century* magazine for March are parts of the musical series now being published by that monthly, and the frontispiece is an engraving from a photograph of the famous Polish pianist. The essays on poetry, by Mr. Edmund Clarence Stedman, are begun in this number. Mrs. Schuyler Van Rensselaer has an article brilliantly illustrated, on "St. Paul's Cathedral," and Prof. Boyesen tells of "An Acquaintance with Hans Christian Andersen." The poets of the number are Thomas Bailey Aldrich, Mrs. James T. Fields, Charlotte Fiske Bates, Alice Williams Brotherton. In "Open Letters" are discussed "The Numerical Strength of the Confederate Army," "The Illinois of Lincoln's Time," etc. The *Century* Publishing Co., New York.

THE publishers of the *Century* magazine have issued a pamphlet entitled, "Cheap Money," containing the valuable articles on Cheap-Money Experiments which have been appearing in "Topics of the Time" of the *Century* during the past year or more. Single copies cost 10 cents each, postpaid. The pamphlet will be supplied in packages, by the hundred, at 5 cents each, for distribution where they will do most good.

"LESSONS LEARNED FROM OTHER LIVES."—By B. O. Flower, editor of the *Arena*, with portrait of the author. This volume contains short biographical sketches of fourteen eminent personages, written especially for the young, in a manner as fascinating as fiction, while necessarily proving very instructive. Price, paper, 50 cents; cloth, \$1. *Arena* Publishing Co., Boston.

Scribner's Magazine for March contains the widely announced last poem of James Russell Lowell, entitled, "On a Bust of General Grant." It includes a *fac simile* of one of the stanzas, showing the author's interlineations. An article of widest interest in view of the rapidly increasing commercial importance of Chicago is, "The Water Route from Chicago to the Ocean," by Lieutenant Charles C. Rogers, U. S. N., connected with the Naval Intelligence Office in Washington. Of the greatest practical importance is the group of short articles on "Speed in Locomotives," by M. N. Forney, editor of the *Railroad and Engineering Journal*, Theodore N. Ely, General Superintendent of Motive Power of the Pennsylvania Road, and H. Walter Webb, Third Vice-President of the New York Central. There is other interesting matter in plenty. Charles Scribner's Sons, New York.

THE Cassell Publishing Co., New York, have in press "Across Thibet," by Gabriel Bonvalot, author of "Through the Heart of Asia," who has already achieved a high reputation as a Central Asian explorer. The book is recommended alike by the character and literary skill of the explorer, and by the interest and novelty of the regions which he took in on his way. It contains upwards of one hundred illustrations, made principally from photographs taken by Prince Henry of Orleans, who was one of the exploring party.

THE *Cup Bearer* is a new illustrated monthly for young people, filled with bright, original stories, poems, games, etc. A special feature for parents is a department devoted to a review of children's books. This magazine will aim to see how delightful, interesting, and profitable literature for the young may be made, without slang, excitement, or startling plots. Send 5 cents for a sample copy, or \$1 for a year's subscription. New Era Publishing Co., 358 Burling St., Chicago.

THE March *Pansy* opens with "A Happy Little Girl," which we find suggestive of many other happy girls and boys who will read this admirable number. The stories by Pansy and Margaret Sidney move along in that excellent and enjoyable fashion which marks the writings of these authors, and its shorter stories, sketches and verse, well sustain the opinion always expressed whenever the *Pansy* magazine is spoken of. Price \$1 a year; 10 cents a number. D. Lothrop Company, Publishers, Boston.

PUBLISHERS' DEPARTMENT.

ATTENTION.—Look at the little yellow paster on the outside of cover, or on the wrapper, and note whether or not your subscription has expired, or is about to run out. If time for renewal has arrived, do not delay the matter on any account, but send the publishers at once a postal note, or P. O. order for \$1, and secure this excellent journal for another year.

* *

We call attention to the advertisement on another page of the Sanitary Supply Company. In the list of articles handled by this company are many which are indispensable in the care of invalids. Quite a share of them are so valuable for use in the common illnesses which are likely to occur in every family, that they ought to be found in every home. From a personal knowledge we can recommend these articles as exactly what they are represented to be. Any one who deals with the Sanitary Supply Company is certain to be well pleased with his purchases.

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FOR twenty-six years GOOD HEALTH has made its regular monthly visits to every State in the union, and to many English-speaking foreign countries besides. There is scarcely an inhabited corner of the earth where it has not found its way. Hundreds of thousands of people have read its pages, and it is to be hoped have been, to some extent at least, influenced by its teachings. Thousands have expressed themselves as believing that the journal was as good as it was possible to make it, nevertheless, we believe that each year has added something to its value, and we hope for 1892 that we shall be able to furnish our readers with a more excellent journal than has ever before been produced. This is our constant aim, and no expense or pains is spared to attain this result. If you wish the journal for 1892, now is the time to arrange for a renewal of your subscription, if you have not already done so.

* *

THE Sanitarium is fuller than ever before at this season of the year. The huge main building is full—overflowing, in fact, as quite a number of cottages have been occupied within the last two or three weeks, for lack of room in the main building. There is probably no similar institution in the country, the success of which has been more marked than that of this Institution. Although managed philanthropically, annually giving away thousands of dollars, the Board of Directors have managed to save enough from its yearly earnings to meet accruing obligations, and to add to the original equipment from time to time, until at present the entire investment aggregates many times the original amount. The prices charged at this Institution, in harmony with its philanthropic purposes, are less than those of other institutions which present only a moderate share of the advantages afforded by this establishment. Its financial growth has not been the result of high prices, but the great amount of work which has been done at low prices. At the present time the entire family of the Institution numbers between 500 and 600 persons, yet everything goes on with all the smoothness and regularity of a well-ordered household. Nothing of the bustle and confusion of a hotel or place of public resort is witnessed at the Sanitarium, but a quiet, cheerful, and home-like atmosphere is maintained, which serves to put a patient at his ease and to surround him with such influences as will be in the highest degree conducive to contentment, and consequent recovery. The present prospect is that the patronage of the Institution during 1892 will be greater than at any time in its history.

A SANITARY Convention will be held under the auspices of the State Board of Health, at Holland, Michigan, Thursday and Friday, March 3 and 4, 1892. These conventions are of immense practical value to the people, and the sanitary influence left behind wherever they are held results in the saving of many lives annually. The Secretary, Dr. H. B. Baker, has, as usual, prepared for this Convention an interesting program, which includes such practical subjects as "The Germs of Disease," "The Water Supply of Holland," "Restriction and Prevention of the Dangerous Communicable Diseases," "Alcohol and Narcotics in Health and Disease," "Disposal of Excreta and Waste in Holland," and "School Sanitation." We trust the people of Holland and vicinity will have a sufficient appreciation of such a convention to insure a good attendance at each session of the Convention.

* *

SUBSCRIPTIONS for GOOD HEALTH are pouring in from all parts of the Union. We have been agreeably surprised to note the success of our agents in introducing the journal in the States bordering on the far West. So many accounts of hard times in this section of the country have reached us, that we have hardly expected more than a moderate degree of success, but at the present time at least, Nebraska takes the front rank in the introduction of GOOD HEALTH. Our general agents in Iowa, Tennessee, Michigan, Illinois, Indiana, Minnesota, Wisconsin, Missouri, New York, Massachusetts, Vermont, California, and in fact almost every State in the Union, are helping to swell the list which it is proposed shall reach 100,000 by the first of January, 1893. We shall not be overwhelmed with disappointment if we do not quite attain the figures proposed by our enthusiastic agents, but we feel sure that there are more than 100,000 men and women in the United States who would be glad to welcome such a journal as GOOD HEALTH to their homes if it were brought to their notice.

* *

THE publishers of GOOD HEALTH are anxious that their patrons whose subscriptions are about expiring shall not put off renewal until after their names have been dropped from the regular mailing list, rendering necessary the double work of removing the name and restoring it again. Every intelligent person who has read this journal during the last year must have felt that he received more than equal value for the money invested in a year's subscription. The price at which GOOD HEALTH is furnished is less, for the size of the journal and the character of the matter furnished, than that of any similar periodical published, and every person who is interested in the subject of health must appreciate the high character of the matter with which its columns are filled. GOOD HEALTH is not a scrap-book, neither does it contain a single page of "filling." Even its advertising pages are carefully scrutinized and made conducive to the interests of the subscriber by the exclusion of every article which is not believed to be exactly as represented. The publishers of GOOD HEALTH never admit to its columns anything or anybody in which or in whom they have not confidence, feeling to the highest degree responsible to their patrons for everything which enters into its make-up. We shall be glad to send the journal to each of our 20,000 subscribers during the entire year of 1892, and the present prospects are excellent that the number of readers will be double 20,000 before the year closes.

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If you want to go to any point in Michigan, or from anywhere in Michigan to any point in the East, South, or West, you will almost invariably find the direct route to be the Michigan Central, whose numerous branch lines traverse the State in every direction, and whose great main line is "The Niagara Falls Route," between Chicago and Detroit, and New York, Boston, and the East.

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For any specific information desired, address JOSEPH S. HALL, Michigan Passenger Agent, Jackson, Mich.

* *

THE Sanitarium patients appreciate highly the pleasant entertainments organized for their benefit by a committee of the Sanitarium patients every Saturday evening in the parlors of the Institution. The program is always a pleasant one, including music, and not infrequently recitations and readings, affording a most enjoyable means of recreation and entertainment. The Managers also take pains to secure evening entertainments for patients in the parlor or the gymnasium.

The *Owosso Press* recently published the following mention by a Sanitarium correspondent, of two lectures to which the Sanitarium patients listened within the last month:—

"Rev. W. H. Poole, LL. D., the well-known Methodist minister of Detroit, who has devoted so many years to investigations as to the origin of our English tongue, lectured here last Wednesday evening. His book, 'Anglo-Israel,' which is designed to prove that the Germans, Danes, Swedes, and Saxons are the lost ten tribes of Israel, has reached its fourth edition. Whether or not the English, and with them of course the American nation, is the 'mother of nations' referred to in prophecy, it is certainly incumbent on us as Christians to send the blessed gospel message to earth's remotest bounds.

"But of all our recent lecturers, Mrs. Annie Jenness-Miller, the beautiful apostle of dress reform, was greeted with the largest audience. She is a brunette, above the average size of women, symmetrically developed in physique, and from her constant attention to physical culture, every movement of her well-trained muscles is a line of grace and beauty. Her gowns were elegant,

though some of them very simple, and she aims to show the ultra fashionable women, 'who would rather die than not look like other women,' that they can look like other women and not die. She defines the main essentials of correct dress to be these:—

"The points which I insist upon, every thoughtful woman will admit as reasonable. They are, freedom at the waist line, freedom for the legs in walking, freedom for full, natural respiration, and freedom for the arms so that they can be lifted and swung above the head with ease. With these essentials secured, the rest may please the individual taste of the woman, who may make it as artistic or as near like fashionable modes as she may desire. It is impossible for a woman to poise, stand, or sit well without freedom at the waist line. It is not necessary to spread out like a peasant, and if one learns to raise the chest and stand well, this will not happen. However, nine tenths of the women stand with chests flattened, spine straightened, and abdomen protruding, and over such a figure no style of garment can be draped artistically. A good many people are exercised over the question as to the origin of the species—whether or not we once went on all fours. Be that as it may, it is only a question of time *until we shall all go on all fours* unless the prevailing style of dress is changed. Thousands and thousands of women say now that they cannot hold themselves up unless they have the support of a corset. I believe, however, that the good sense of American women will assert itself, and they will rise from their physical degeneracy."

* *

SANITARY WALL COATINGS.—Q—Does the Bible have anything to say regarding sanitary walls?

A—Read Leviticus, 14th Chap., verses 38-41.

Q—What do modern sanitarians say?

A—That wall paper and glue kalsomines are directly responsible for much of the sickness ignorantly attributed to other causes.

The Chicago *Inter Ocean* in an article on papering walls, under the caption, "Nasty Practice," has this to say: "Our health officer, Dr. De Wolfe, says, 'The free passage of air through walls of living rooms is an important element in proper ventilation. The practice of repapering rooms by layer upon layer of wall paper, made adhesive by glue or paste, which adds a decomposing material to the nasty practice, can receive nothing but condemnation from the sanitarian. The perfect wall for domestic habitation is of material which resists decomposition in every form, and which permits the free passage of air. It seems to me that Alabastine is admirably adapted for the purpose.'"

The Doctor agrees with the *Inter Ocean*, that a special law should be passed to prevent the practice of pasting repeated layers on the walls.

Write the Alabastine Co., Grand Rapids, Mich., for supplement from the report of the Michigan State Board of Health, entitled, "Sanitary Walls and Ceilings."

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DR. GEO. B. HOPE, Surgeon Metropolitan Throat Hospital of New York. "Some Clinical Features of Diphtheria and the Treatment by Peroxide of Hydrogen." *N. Y. Medical Record*.

DR. J. MOUNT BLEYER, of New York. "Some Practical Hints in connection with Intubation of the Larynx and a resumé of 206 cases of Diphtheria operated on from 1886 to 1888." *N. Y. Medical Journal*.

DR. DAVID PHILLIPS, of New York. "Hydrogen Peroxide in Diphtheria." *N. Y. Medical Journal*.

DR. G. F. ADAMS, of Pulaski, N. Y. "Hydrogen Peroxide in Diphtheria." *Medical Era* of Chicago, Ill.

DR. W. F. WAUGH, of Philadelphia, Pa. "Scarlatinal Diphtheria." *The Times and Register*, Philadelphia, Pa.


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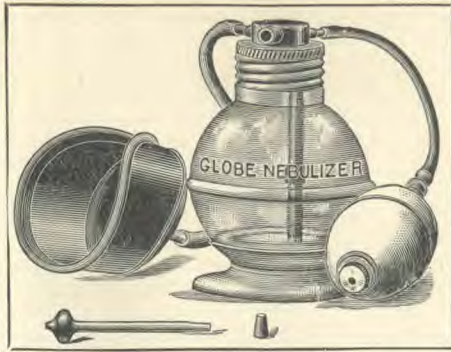
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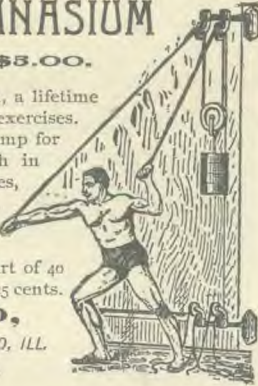
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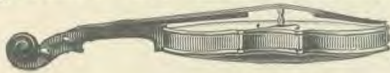
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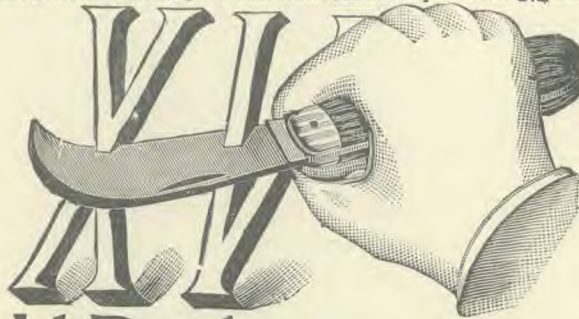
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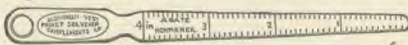
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Chicago & Grand Trunk R. R.

Time Table, in Effect Dec. 6, 1891.

GOING WEST.				STATIONS.		GOING EAST.			
pm	am	pm	pm			am	pm	pm	pm
3 00	9 00	7 00		.....	Boston.....	6 15	9 50	9 25	7 30
5 00	6 30	8 00		.....	New York.....	9 55	7 40	6 07	10 10
am	am	pm	pm	.....	Buffalo.....	am	pm	am	pm
6 20	6 30	1 00		.....	Niagara Falls.....	8 40	5 30	4 20	9 00
am	am	pm	pm	.....	Boston.....	am	pm	am	pm
7 45	8 00	2 45		.....	Montreal.....	8 15	9 50	.....	7 35
				.....	Toronto.....	8 20	7 40	.....	7 40
				.....	Detroit.....	am	pm	pm	pm
				.....	.....	9 25	7 45	9 25	11 50
Day	B. C.	Lima	Pacific	Pacific	Mail	Lima	Alto	Day	P.H.
Exp.	Pass.	Exp.	Exp.	Exp.	Exp.	Exp.	Exp.	Exp.	Pass.
am	pm	pm	pm	pm	am	am	am	pm	am
3 44	10 10	8 40	7 20	6 04	Dep.	Port Huron	Arr.	pm	am
6 50	3 40	12 35	8 40	7 20	.....	Port Huron Tunnel.	.....	9 55	12 25
8 05	5 10	1 40	10 07	8 51	7 29	.....	.....	.....	8 50
8 35	5 47	2 08	10 45	9 35	8 1	.....	Lapeer.....	.....	8 15
7 10	4 30	11 40	8 25	8 25	7 10	.....	.....	.....	7 30
7 55	5 15	12 18	9 00	9 00	7 55	.....	Bay City.....	.....	8 45
9 05	6 50	2 35	11 20	10 30	9 30	.....	Saginaw.....	.....	8 00
10 02	7 55	3 20	12 15	11 30	10 35	.....	Durand.....	.....	6 20
10 25	8 30	3 45	12 46	12 05	11 15	.....	Lansing.....	.....	5 10
11 15	9 25	4 30	1 35	1 0	12 25	.....	.....	.....	4 30
11 53	pm	.....	2 20	1 48	1 08	.....	Charlotte.....	.....	3 25
.....	.....	.....	.....	.....	.....	.....	Battle Creek.....	.....	8 20
.....	.....	.....	.....	.....	.....	.....	Vicksburg.....	.....	2 33
.....	.....	.....	.....	.....	.....	.....	Schoolcraft.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	Cassopolis.....	.....	1 29
.....	.....	.....	.....	.....	.....	.....	South Bend.....	.....	12 45
.....	.....	.....	.....	.....	.....	.....	Valparaiso.....	.....	11 10
.....	.....	.....	.....	.....	.....	.....	Chicago.....	.....	8 40
.....	.....	.....	.....	.....	.....	.....	.....	.....	3 00
.....	.....	.....	.....	.....	.....	.....	.....	.....	5 15
.....	.....	.....	.....	.....	.....	.....	.....	.....	11 25
.....

Where no time is given, train does not stop.
 Trains run by Central Standard Time.
 Valparaiso Accommodation, Battle Creek Passenger, Port Huron Passenger, and Mail trains, daily except Sunday.
 Pacific, Limited, Day, and Atlantic Expresses, daily.
 Meals served in C. & G. T. Dining Cars on all through trains.
 W. E. DAVIS, Gen. Pass. and Ticket Agt., Chicago.
 A. S. PARKER, Ticket Agt., Battle Creek.

MICHIGAN CENTRAL

"The Niagara Falls Route."

Corrected Jan. 31, 1892.

EAST.		†Mail.	†Day Express.	*N. Shore Limited.	*N. Y. Express.	*Atl'ntic Express.	†Eve'g 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 20	7 00
Niles.....	10 20		pm 12 43	2 52	5 50	1 45	am 12 25	8 25
Kalamazoo.....	12 00		2 20	3 55	7 04	3 37	2 00	am 7 10
Battle Creek.....	pm 12 55		2 59	4 25	7 37	4 29	2 45	pm 10 05
Jackson.....	3 05		4 30	5 32	8 52	6 25	4 20	9 45
Ann Arbor.....	4 42		5 25	6 22	9 45	7 45	5 43	10 55
Detroit.....	6 15		6 45	7 20	10 45	9 20	7 15	am 12 10
Buffalo.....	am 6 50		am 3 00	am 3 00	am 6 25	pm 5 05	pm 5 05	pm 8 15
Rochester.....					5 50	9 55		10 00
Syracuse.....					8 00	12 15		am 1 00
New York.....					pm 3 45	pm 8 50	am 7 00	7 45
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 30	6 00	9 15		
Syracuse.....			pm 7 30	11 37	am 2 10	am 7 20		
Rochester.....			9 35	am 1 25	4 20	9 55		
Buffalo.....	pm 11 00		11 00	9 20	5 30	11 50	am 8 45	
Suspension Bridge				3 15	6 25	pm 12 50		
Detroit.....	am 8 20		am 7 40	9 05	pm 1 20	9 15	pm 4 45	pm 8 00
Ann Arbor.....	9 35		8 40	9 59	2 19	10 32	5 52	9 18
Jackson.....			11 25	9 40	10 58	3 17	12 01	7 15
Battle Creek.....	pm 1 00		11 12	pm 12 02	4 25	am 1 20	8 47	am 12 05
Kalamazoo.....			2 17	11 55	12 39	5 00	2 22	pm 8 30
Niles.....			4 15	pm 1 12	1 48	6 17	4 15	7 40
Michigan City			5 37	2 14	2 48	7 20	5 35	4 30
Chicago.....			7 55	5 55	4 30	9 00	7 55	11 15

*Daily. †Daily except Sunday. ‡Daily except Saturday.
 Accommodation train for Jackson and all intermediate points leaves Battle Creek at 6.15 P. M., arriving at Jackson at 7.55 P. M., daily except Sunday.
 Accommodation train for Niles and all intermediate points, leaves Battle Creek at 7.53 a. m., arriving at Niles at 10.05 a. m., daily except Sunday.
 Trains on Battle Creek Division depart at 8.03 a. m. and 4.35 p. m., and arrive at 12.40 p. m. and 7.00 p. m., daily except Sunday.
 O. W. RUGGLES, General Pass. & Ticket Agent, Chicago.
 GEO. J. SADLER, Ticket Agent, Battle Creek.

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.. A HEALTHFUL FOOD ..

An Invalid Food prepared by a combination of grains so treated as to retain in the preparation the HIGHEST DEGREE OF NUTRIENT QUALITIES, while eliminating every element of an irritating character.

THOROUGHLY COOKED AND PARTIALLY DIGESTED,

This food preparation is admirably adapted to the use of all persons with weak digestion, defective assimilation, general or nervous debility, brain workers, feeble children, and invalids generally, as well as travelers and excursionists, who often need to carry the Largest Amount of Nutrient in the Smallest Bulk, which is afforded by Granola in a pre-eminent degree.

ONE POUND MORE THAN EQUALS THREE POUNDS OF BEST BEEF,

In nutrient value, as determined by chemical analysis, besides affording a better quality of nutriment. Thoroughly cooked, and ready for use in one minute.

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	Cts. per lb.		Cts. per lb.		Cts. per lb.
Oatmeal Biscuit	12	White Crackers	10	Wheat Granola (bulk 10)	12
Medium Oatmeal Crackers	10	Whole-Wheat Wafers	10	Avenola (bulk 10)	12
Plain Oatmeal Crackers	10	Gluten Wafers	30	Granola (bulk 10)	12
No. 1 Graham Crackers	10	Rye Wafers	12	Gluten Food No. 1	50
No. 2 Graham Crackers	10	Fruit Crackers	20	Gluten Food No. 2	20
Plain Gr'h'm Cr'kers Dyspeptic	10	Carbon Crackers	15	Infant's Food	40

Sample Packages containing Specimens of each of our Foods sent postpaid for 50 cents. Selected Samples, 25 cents.

All grain preparations can be supplied in large or small lots, as we keep a fresh supply constantly on hand of goods, which are largely made expressly for us, of a superior quality of grain. Address—

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BATTLE CREEK, MICH.

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Of All Descriptions,

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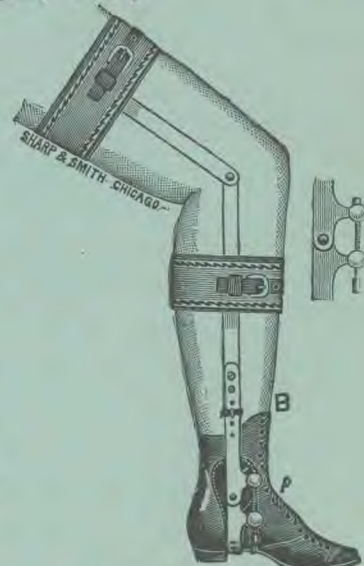
Trusses,

Shoulder Braces, Etc., Etc.

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Brace for Lateral Curvature of the Spine.



Gunn's Apparatus for Club Feet.

Surgical and Veterinary Instruments.

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Incurable and Offensive Patients not received.

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