GOOD HEALTH.

A JOURNAL OF HYGIENE.

MENS SANA IN CORPORE SANO.

VOL. 19. BATTLE CREEK, MICH., MAY, 1884. NO. 5.

DANGERS IN DIRT.*

BY J. H. KELLOGG, M. D.

(*Concluded.*)

IN this glass I hold a quantity of perspiration which exuded from the skin of a patient undergoing a Turkish bath. On applying the test, we see the same result, proving the presence of a large quantity of this organic matter. When left long in contact with the skin on which it is deposited, a considerable portion of this noxious substance is undoubtedly absorbed back into the body, contaminating the life current, and defiling all the tissues. A man who resided not half a hundred miles from Pontiac, objected to taking the warm bath which I prescribed for him a few years ago, declaring that a drop of water had not touched his back in forty years. What must have been the condition of his system, leaving out all æsthetic considerations? and what must have been the condition of the great unwashed multitude of Europe during the thousand years when the bath was absolutely unknown? In cold weather, this potent poison, or the moisture in which it is dissolved, may be seen condensing upon the window panes, sometimes forming a dense layer of frost, and often woven by the mysterious fingers of nature's silent workers into the most fantastic designs, sometimes presenting views of startling beauty, as if thus designing to conceal the deadly agent of disease and suffering hidden within its sparkling folds.

A few weeks ago I stepped into an unventilated railway car when the thermometer was several degrees below zero outside, and found the accumulation of this frozen filth upon the windows nearly an inch thick. Did it ever occur to you that the same condensation is constantly taking place upon the walls and ceilings of our homes? A layer of frost, such as covers the windows in a cold day, would also be visible upon the walls were it not for the fact that our walls are porous, and absorb the filth as fast as it condenses, thus preventing its visible manifestation. The accumulation goes on in a house, the rooms of which are not freely exposed to the disinfecting influence of air and sunlight, until the plaster and paper covering its inner walls are completely saturated with decomposing filth, which pours out continually upon the occupants of the house a stream of noxious gases and other forms of dirt. But the lungs and the skin are not the only sources of gaseous and organic filth; the cesspool, the gutter, the vault, the neglected cellar, the wood-box, the back yard, the stable, the pig-sty, the garbage barrel,—all these and a hundred other sources constantly pour out a deadly stream of poisonous gases and organic filth.

Air is not the only nor even the chief medium through which danger from organic filth is incurred. Water is the favorite vehicle by which it finds its way into the human system. The water may be clear, sparkling, and in no way repulsive to the taste or smell, and yet harbor the seeds of disease and death which have found their way into it from a neglected vault, a cess-pool, a barn-yard, or even a heap of garbage upon the surface. The fluids from these sources, percolating through the soil, find their way into the underground rivulets which furnish our

* A paper read by request before a sanitary convention held at Pontiac, Mich., under the auspices of the State Board of Health.

water-supply, and thus the work of mischief is done. The idea that the earth disinfects everything that passes through it, is a mistaken one. Earth chiefly absorbs and holds the filth which comes in contact with it, the proportion of filth destroyed being very small. The first portion of water passing through may be disinfected, but the second will be pretty certain to pass unchanged if impure, or to be contaminated if pure.

I have here two portions of fine earth, one of which has been used as a filter for contaminated water. To all appearance they are exactly alike, no difference in color or odor being distinguishable. I will place each upon a filter, and pass a little water through. You observe the water runs equally clear from both; but let us apply the same test which we applied to the breath a few moments ago. Adding to each a portion of this purple solution, drop by drop, we find that in one the color is retained, increasing in density as each drop is added; while in the other the color temporarily produced by each drop disappears before another is added, proving the presence of organic matter.

This experiment teaches us three lessons: 1. That earth is not a disinfectant in the sense in which it is usually supposed to be, that it does not destroy, but simply absorbs and conceals organic filth; 2. That earth which is thus saturated may appear to be innocuous when really filled with the most concentrated poison; 3. That water containing a considerable quantity of organic matter, may so closely resemble pure water that it cannot be distinguished by its physical properties. These are three important, practical points which ought to be indelibly fixed in every mind. Who cannot recall dozens of instances in which the family water-supply of a village or community has been so located as to make the well a veritable cess-pool, draining through under-ground channels, the garbage heap, the privy vault, the depository of house slops and kitchen waste, perhaps a barn-yard and a pig-sty? All of the filth is apparently upon the surface, and in the estimation of most persons is productive of no greater harm than a bad smell; but a porous soil makes an immediate connection between the deposits of filth upon the surface and the water-supply many feet away, and deep below the surface of the ground, converting the fountain of life into an agent of disease and death.

Hundreds of epidemics of typhoid fever have been traced directly to contaminated well-water. Indeed, so constant is the connection between the disease named and a polluted water-supply, that every intelligent physician looks at once to the well as the cause when he discovers a case of typhoid fever; and a form of malady has even received the name of "cess-pool" fever, so obvious is the connection between the disease and its cause. We might with equal propriety name individual cases of the disease "barn-yard" fever, "garbage-heap" fever, "pig-sty" or "hen-coop" fever, etc., according as the source of filth may be.

The most dangerous of all forms of dirt still remains to be considered, namely, that form known to scientists by the term *germs*. These microscopic organisms were first discovered by the father of microscopy more than two centuries ago. Their discoverer did not appreciate, however, their significance, and had no conception of the immense rôle which they were to play in the economy of nature. Indeed, it has only been in the most recent times that the investigations of scientists and the observations of physicians have developed what is known as the germ-theory of disease, and revealed the true nature of these minute objects so insignificant in appearance, and yet so infinitely potent for harm.

Most important of all the numerous classes of microscopic beings are the bacteria. The smallest of all living things, mere specks of life even when viewed by the aid of the most powerful microscope, these infinitesimal creatures are responsible, according to the most recent researches of European savants, for more disease and death than all other enemies of the race combined. Commissioned by nature to the work of scavengering, removing the dead bodies of plants and animals, they are always present where decay is taking place, performing their part in executing the sentence of the Almighty, "Dust thou art, and unto dust shalt thou return." Every decaying vegetable, every decomposing carcass of man or brute, every form of fermentation or decay, is the scene of the activities of these little creatures; and if we could see with our unaided eyes their operations, we should behold in every speck of putrescent matter, millions of bacteria holding high carnival, feasting like vultures upon the dead bodies of the slain after a recent battle. So long as they confine themselves to their legitimate business, they are harmless,—yes,

even benefactors, since they help to clear away the rubbish of one generation to make way for the succeeding. But, unfortunately, like hungry wolves, ever voracious and unsatiated, and emboldened by the magnitude of numbers or the advantages of opportunity, they often seize upon us before Nature's summons for us to "go the way of all the earth" has been properly served, and subject us to a premature execution. Ever watchful for a favorable opportunity, they attack us in our weak moments, when, overcome by fatigue or weakened by excess, nature is off her guard, and capture the citadel of life almost before the doctor has time to make a diagnosis of diphtheria or typhoid fever, or epidemic dysentery, or yellow fever, or as some will now say, of consumption or scrofula.

A few years ago the health officer of the city in which I reside, brought me a specimen of water from a well which was very extensively used, and which supplied the water for drinking and cooking purposes to a large eating-house. Within a few months, seven cases of typhoid fever had occurred among the regular patrons of the house. An examination of the premises developed half a dozen old privy vaults within an area of half a dozen rods, and the whole soil for many rods about was completely saturated with excreta. On making an examination of the water, chemically and microscopically, I found all the evidence of a high degree of contamination. Germs were abundant and lively; and the only wonder was that all who partook of it had not succumbed to its noxious influence. I might detail many similar cases, and cases innumerable might be cited from the medical and sanitary literature of the day.

Germs and noxious gases are almost always associated,—a fortunate fact, since it enables any one whose olfactory sense is not too obtuse to detect the dangerous proximity of these enemies to life without the aid of a chemical or microscopical expert. Nature has placed at the threshold of danger a bad smell as a signal to warn us of impending evil. An odor of putrescence says to those who are wise in a sanitary sense, "Look out for germs," and the friendly warning should be instantaneously heeded. With every breath drawn in such an atmosphere, millions of these voracious creatures are carried down into the lungs, where they are brought into almost immediate contact with the blood, into which they readily find their way, and begin their work of devastation.

I want to say just one word more about another source of air contamination by which both gaseous and organic filth are projected into the unwilling nostrils of thousands of people every day. I refer to the tobacco habit. We hear much about the opium habit and the liquor habit, and now and then a word about the tobacco habit, but the most that we hear about the latter is respecting the baneful effects upon the user of the filthy weed. I mention it in company with other causes of a bad smell, as a nuisance. What greater right has any man to poison and render nauseous and repulsive the air which I breathe more than to poison or contaminate the water which I drink? In this republican country, we hear a great deal about the "inalienable rights" of human beings; and not many years ago there was a fierce political contest over the question whether the negro should be allowed to enjoy his inalienable right to vote. Which is more sacred and more important for a human being, the right to cast a bit of paper into the ballot box, or to breath the free air of heaven in the same state of purity in which the Creator prepared it for man? Who has ever been granted the right by act of Congress or otherwise, willfully to pollute the life-giving oxygen made free for all? Did any of you smokers ever attempt to imagine the felicity of a lady or gentleman to whom the odor of tobacco is sickening and most repulsive, following in your wake on a still summer evening, while you puffed with self-complacency and intense satisfaction the (to you) fragrant Havana? Or did you ever endeavor to picture in your own imagination the delightful sensations which must be experienced by a sensitive man or woman who has never offered incense to the smoky god, when compelled to ride in a close cab on the seat opposite or beside you while you rolled between your lips the stump of a cold cigar? Please put yourself in that man or woman's place, and see if you will not decide with unhesitating promptness that the tobacco-user is a nuisance which should be abated.

Tobacco smoke is excellent in its place, like other forms of dirt. I set an old smoker agoing in our conservatory the other day with good effect. Every living thing that was able to travel left for parts unknown, and the few that were unable to get away died of nicotine poisoning,—all except the smoker himself, who was

tough and nicotine-proof. I can recommend tobacco to kill vermin of all kinds except a kind of parasite that breeds in bar-rooms and billiard halls, and may often be seen adhering to lamp posts, hovering around street corners and railway stations, or paying his respects to the aboriginal smoker that stands in effigy before the door of every first-class tobacco emporium, inviting these students of archeology to walk in and repeat the experiment described by Christopher Columbus when he wrote in his ship journal, "We saw the naked savages twist huge leaves together, and smoke like devils,"—a not very interesting experiment it would seem, but one which possesses such a strange fascination, that, since this description by Columbus, nearly the whole civilized world have been following the example of those naked savages.

But I must forbear, lest I wound the sensibilities of some of my brother sanitarians, who regard fumigation as one of the best means of preventing the spread of small-pox contagion, especially when performed by means of cigars of choice brands, stimulated in their combustion by persons who have been well vaccinated. Personally, however, I must confess a preference for an occasional exposure to small-pox rather than perpetual fumigation with nicotine. Science, as well as common sense and an unperverted olfactory sense, says tobacco is not only unnecessary, but positively harmful, and I doubt not that the sanitarian of the future will as soon think of inhaling the fumes of assafetida or coal-tar as the smoke of tobacco leaves.

HIGH HEELS.

Since the high heel made its appearance, medical men have more than once borne witness to its bad effects. The late Mr. Hilton condemned it. Others have done the same. Of late years, public opinion has done away with certain of the long-established extravagances of dress, and has given rise to methods more agreeable to the symmetrical development of the body. We hope that in the process of reform the feet, in which too often vanity pays a price which is dangerously expensive, will not escape notice. The evils of the high-heeled boot or shoe are due to the fact that it is an essentially badly fitting article. It is made in defiance of the relation which it ought to bear to the anatomy of the foot, and to the direction in which the pressure of the body weight falls upon the latter. Hence the peculiarly cramped walk of ladies of the present day. Any one may observe the consequences of the "advanced position," nearly under the instep, and the increased hight of the heel in the substitution of a forward inclination of the body, and a trip suggestive in a measure of the stumbling gait for the upright carriage and the free and graceful swinging movement natural to the leg in walking. These matters, as far as they are merely relative to deportment, do not strictly concern us, but there are attendant circumstances which deserve comment.

The boot or shoe, in order that it may not shift on the foot, which has lost much of its usual purchase of direct downward pressure, must hold it firmly and even tightly, and in particular it is necessarily constructed so as to hold with undue firmness just above the back of the heel. With some persons, perhaps, no inconvenience results; with others who have fine skins, chafing is readily produced. This is in itself a trifle, and is presumably altogether too inconsiderable to affect the will of fashion, but it may nevertheless be the slight beginning of graver troubles. Probably there is no practitioner sufficiently long acquainted with town practice who cannot recall a case or cases in which extensive inflammation of the leg, with abscess formation, has followed even such a slight abrasion, and the exciting cause, when looked for, was discovered in the patient's shoe. There have even been instances, fortunately rare, but still occasional, where abscesses arising round some neglected trifle of this kind have ended fatally.

These are facts which cannot be denied, and should not be overlooked; but even if they could, is there any woman with a mind of her own who will say that the dainty step so much desired by some, bought as it is at the cost of healthy muscular exercise, is not overvalued? We rather hope that the honest feeling and the sound judgment which have guided that sex in many better purposes will ultimately overcome the false sentiment which now leads certain of its members to support an unbecoming and injurious custom.—*Lancet.*

Dirt, debauchery, disease, and death are links of the same chain.

OUR CHILDREN'S BODIES.

BY WM. BLACKIE.

[THE following excellent article on a timely topic appeared in *Harper's Monthly* for November, 1883.—ED.]

We spend annually upon our schools eighty million dollars. The school plant of the country is valued at nearly two hundred million. Attendance at school of all children between certain ages is compulsory in many of the States. Libraries, private, circulating, and public; books by the million, the standard works of other lands reprinted here, and sold for a few cents a copy; periodicals by the hundred thousand; a billion five hundred million newspapers each year, with almost hourly word from every civilized corner of the globe,—all add their quota to aid the vast army of faithful teachers who are giving their best years and efforts to the great work of national (mental) education.

And what are we doing for our bodies? Who educates them, builds houses, spends money, trains teachers, gives time and thought and labor to equip every boy and girl, or every man and woman either, with a vigorous and efficient body, one which will serve its purposes well when the wear and strain of the real work of life comes?

Why, we leave that branch to the boys and girls themselves. And they make just about as good headway at it as they would with their mental or moral education, if this also were left wholly to their own management.

"Well," says the father, "I spent my youth on a farm, was up early to milk, mowed all morning, raked and pitched and made hay all the afternoon, and housed load after load up in the hot barn toward night, until the water ran off me in streams; hoed corn and potatoes, dug ditches, built stone fences, swung ax and spade and bar, and tugged and lifted and carried, and did the thousand other things every active, live farmer so well knows. Was not that enough?"

It was, indeed, a grand experience, and it laid up for you a stock of sturdy health and vigor on which you may draw almost with impunity down all your after-life.

But has your city-trained son any such out-door training? Can he cut a swath at all, or even swing a scythe without endangering his legs and any others near by? Have you never wondered why he is so indifferently built, when you at his age were so tough and strong and sinewy?

But our boys play all the afternoon, will not that do?

Watch them an hour and see. Is there anything especially invigorating in snapping a marble or spinning a top? Is there anything in most of their games which calls for any strength or endurance, or which a weak boy cannot do almost if not quite as well as a strong one? You will be astonished, too, to see how much of the hour is devoted to standing or sitting about, and how little to real, downright work of the sort that tells, and especially how idle the left arm is in almost every known pastime.

Well, there's the gymnasium, does not that fill the bill?

What is a gymnasium? A large room with bars, vaulting horses, dumb-bells, ladders, clubs, ropes, and other appliances to be used in bodily exercise. Fit up now a school-room with desks, blackboards, books, maps, and the other things which experience has found useful. Send the boys there, and tell them to educate themselves.

But where's the *teacher?*

Teacher! what do they want of a teacher? The youngest boy in that school-room knows in a moment that there will not be much progress made without the trained head. And just as much will be made in a headless gymnasium,—a sort still far too common in our land. Instead of any steady, well-directed work, there will be mere desultory play, generally accompanied by an endeavor on the first day to do from one to a dozen feats which they have seen the trained gymnasts do, and which should have been preceded by at least several months of judicious preparation. Of course, the natural result of these rash, unguided efforts will be lame muscles, and the boy need not be much surprised if he manages to inflict some injury on himself which will not heal, perhaps, in weeks or months. Were he sick, you would hardly let him go into a drug-store, and, unaided, choose his own medicine. But this is practically the way you let him build up his strength in a gymnasium.

Well, look at the greatly increased interest in athletics. Surely this must have told most beneficially on our boys and girls.

But these athletics are not for boys and girls at all. They are rather for young men; and the percentage even of young men who take part in them is not only very small, but includes many of those

who need them the least. If, then, most city boys and girls take practically no part in athletics, do not attend the gymnasium, and in their play get no sensible physical education at all, where do they get it? At some manual labor? Not one in fifty of our school boys and girls does a day's manual labor the whole year round; indeed, the majority of them never did one in their lives. They grow, but they do not develop.

But we do not want our boys prize-fighters, go-as-you-please runners, demon bowlers, Græco-Roman wrestlers, champion oarsmen, wasting their time, and devoting all their thought to some feat of athletic prowess. But does every one who builds up his body by sensible daily exercise run off to these extremes? To which of these classes does Professor Elliot, of Harvard, or Professor Agassiz, belong, or Dr. McCosh, or Mr. Gladstone? Yet the former two did excellent work in their university boat. Princeton's famous president, if our information is correct, rowed in the Dublin university crew, and the British Prime Minister can now at seventy-three, probably cut down more trees in a day than any merchant, banker, or professional man of his age in the city of New York, yet finds time to grapple with the most intricate and difficult problems of a territory twice as vast as the whole United States besides. Gluttony is hurtful, but rational eating is beneficial, indeed necessary. Overexercise is hurtful, but rational exercise is beneficial and necessary to real health.

The results of this utter neglect of any sound system of physical education, stand out in almost every city home in America. Not one boy in five is well built, or, unless he is fat, measures within an inch, often three inches, as much about the chest or thigh or upper arm, or weighs within ten pounds as much as a well proportioned, vigorous, properly-developed boy of his age should do. Scarcely one girl in three ventures to wear a jersey, mainly because she knows too well that this tell-tale jacket only becomes a good figure. Yet the difference in girth between the developed arm which graces a jersey, and the undeveloped one which does not, in a girl of the same hight and age, is seldom more than two inches, and often less than one; while the well-set chest outgirths the indifferent one by seldom over three inches.

Among girls, running is a lost art. Yet it is doubtful if an exercise was ever devised which does more to produce grace and ease of movement. There are probably not ten girls in any class of fifty in one of our public schools who could run a mile, even if they got a dollar a foot for it. Or twenty boys out of any fifty either. Most girls have weak arms. If they doubt it, let them try with one hand to push up once, high over their heads, a dumb-bell weighing a quarter or even a fifth of their own weight. Or with both hands catching hold of a bar or the rung of a ladder, as high up as they can reach, let them see if they can pull slowly up until their chin touches the hands even once. Yet a moderately strong man at dumb-bells will push up one weighing over half his own weight, and some men have managed to put up more than their own weight; and as to pulling up, a girl with developed arms can do it five or six times with comparative ease, and a boy with thoroughly good arms two or three times as many.

But the fore-arms and the upper-arms of most girls are not as large by an inch as those of well-built girls of their hight and age are. Yet in any well-regulated gymnasium we will find youth adding in one year an inch, and even two inches, to the girth of each upper-arm, and half as much to that of each fore-arm; while a gain of from three to five inches around the chest is nothing rare, and all this simply by less than an hour's daily work, yet which, besides expanding the lungs, calls the various muscles of the arms, shoulders, chest, and of the greater part of the body into vigorous play. Professor Farrow, at West point; Professor Andrews, of the Gymnasium of the Young Men's Christian Association at Brooklyn; Dr. Sargent, of the Hemenway Gymnasium at Harvard University; and Archibald Maclaren, of the Gymnasium at Oxford University, in England, all find no difficulty in adding in one year from an inch to an inch and a half to the fore and upper arms, and three inches to the girth of the chest, of pupils under their charge. Would not that tell in a jersey? And while these results are accomplished by work nearly all muscular, instances are becoming frequent of persons enlarging their chests even more rapidly, and not by exercise of the muscles of the arms and shoulders, but simply by daily deep, slow breathing. Combine now the two causes of gain, especially under the care of a judicious teacher, and the effect, particularly on a small-lunged, weak-chested, or indifferently built person, who has always inclined to be delicate, must be

highly gratifying; while the new strength and vigor which accompany this marked gain in size, cannot fail to be of great value.

Would not some physical education which included exercise like this, prove an inestimable benefit to almost every child in our city schools, and to at least a large minority of those in the country as well? With strength comes the ability to endure; and so closely allied to these is the priceless boon of health, that Maclaren defines health to be "the power to work long, to work well, to work successfully hereafter." And who is the more likely to have this power, he who from disuse of his muscles lets his body get into a lax condition, so that he can scarcely endure at all, or he who first builds his body up to vigor and efficiency, and then, like Gladstone, or Bryant, or Bancroft, by abundant daily vigorous exercise, keeps it, as the good engineer does his engine, in thorough working order?

The lack of physical development, and of the vigor which usually attends it, is more general among city boys and girls than many persons imagine. In the city of New York, for instance, the Board of Education, in a recent annual report, showed that the whole number of scholars taught in the public schools of that city, deducting those in the normal, nautical, and corporate schools, was 240,162; but the average attendance was only 119,288, or somewhat less than half. Thus a well-known city teacher says: "Our school children lose half their school time by absence, and three-quarters of this from sickness." The *New York Herald*, speaking editorially in an article headed, "Give the Boy a Chance," after saying that the wits of the millions of our boys in our cities are being forced to their utmost capacity, whether they are taught in the school, the shop, or the street, asks, "But what is being done for their bodies? The answer may be obtained by standing at the door of almost any public or private school or academy at the hour of dismissal. The inquirer will see a crowd of under-sized, listless, thin-faced children, with scarcely any promise of manhood about them."

Does it not look as if there was room here for some rational system of bodily education, and as if at once would be the best time to begin?

The faithful mother will stay up night after night, if need be, at the bedside of a sick child, will attend his every want with the most solicitous care, will do all that devotion and self-denial, and her most earnest prayers will do to help bring him back to health and a longer lease of life. But after he has once regained his health, does she actually do one solitary thing to keep it for him, and make him reasonably assured of its continuance throughout a natural life?

(To be continued.)

AN EVIL HERITAGE.

WHEN remonstrating with men and women against their bad habits of various sorts, we are often met by the remark, "It is nobody's business what I do with myself. I have a right to eat, drink, and act as I please." The fallacy of this reasoning is most clearly shown by the sad effects of perverted tastes and tendencies fostered until so impressed upon the constitution as to become transmissible to posterity through heredity. The following instructive facts and statements bearing on this subject are from the pen of Dr. Nathan Allen, a wise and well-known writer:—

In the second report of the Board of Charities, it was stated that one of the primary sources of pauperism is an "inherited organic imperfection of the body, a vitiated constitution, or, in other words, poor stock." Since that statement was made, our conviction of its truth has been confirmed more and more by careful inspection and inquiry among the inmates of the State institutions. While many of these persons, by indolent and vicious habits, have contributed to their own degradation, still there were predisposing causes in their constitutions which had a powerful influence in the same direction. Many inherited feeble bodies and weak minds, with strong propensities. They commenced life amid circumstances most unfavorable for developing the better qualities of their natures. In attempting, therefore, to ascertain everything that has formerly contributed to make these persons paupers, criminals, or lunatics, we must take into account not only their own agency, but must consider well the nature and the amount of capital which they had to start with in life.

No fact in science is better established than that there is a most intimate mental as well as physical relation between the

parent and the child—between each generation and the succeeding one. This relation has been well expressed in the proverbs, "What is bred in the bone cannot be whipped out of the flesh," and "Like begets like." The hereditary relation has, we believe, a far greater agency in producing social evils than has generally been conceived. This relation extends, by transmission, not only to the form of the body and the features of the countenance, but to every part of the system,—to the quality of the blood, and especially to those vital organs which give stamina of constitution, and beget mental predispositions. Whatever agencies, therefore, are calculated to injure the body or deprave the mind, to incapacitate an individual for self-support, or to make him a corrupter of others, should certainly be exposed by the guardians of public charity.

Among the most mischievous agents operating injuriously upon the human system, is alcohol; and whether we consider the extent of its abuse in various forms, or the terrible effects which it produces, it certainly stands foremost as a cause of pauperism and other evils. It poisons the blood, and produces a diseased or morbid condition of almost every organ of the body. It affects the brain, impairs the intellect, perverts the moral sentiments and the will, and increases unduly the activity and strength of the worst propensities. It prostitutes the higher to the lower nature of man, changing what should be the true aims and objects of life to those of a low animal nature.

Closely connected with the alcoholic poison is another, which, though not so manifest in its effects, has a most destructive influence upon human welfare. This poison arises from habits of licentiousness, and its evil effects do not cease with the living, but extend through successive generations. The syphilitic poison operates on the human system in so covert a manner, and in such a variety of ways, that it is sometimes found difficult to trace out all these effects; but the more thoroughly the pathological and morbid conditions of the body are brought to light by modern science, the more extensively are discovered the mischiefs which this poison has wrought. If the amount of vice, disease, and pauperism produced from this source alone could be made known, it would surprise people. In some respects this poison is more destructive of health and life than the poison of alcohol.

But there are other modes of abusing the reproductive organs which injure most seriously both body and mind. A careful inspection of the inmates of our almshouses and hospitals will show a vast amount of suffering from this abuse. It is the hereditary effects of these evils that make them especially significant in the production of pauperism and insanity. To aggravate the matter, their effects are communicated in an intensified form, from generation to generation, and it is very difficult to check or eradicate them either by human means or through the recuperative powers of nature.

Besides these two poisons, there are other agencies that injure the body and enfeeble the mind, such as narcotics, stimulants, over-medication, etc. Then come irregular habits, want of proper nutrition, and a train of diseases which either destroy their victims or make them helpless and dependent. When the physical system is impaired or broken down, the mental faculties frequently become enfeebled and depraved, so that not only poverty and temporary dependence, but habitual indolence and shiftlessness also ensue. Such a state of things makes paupers, who, by natural association, form social and domestic relations with each other. The more such persons become associated together, either in families or communities, the more unfavorable is the influence of one upon another, the whole tendency of things being to sink them lower and lower in the human scale. Worst of all, whatever offspring these persons have, are pretty sure to be impregnated with vice, pauperism, and crime by the law of inheritance as well as by the habit of association. A careful inquiry into the origin, history, and character of the inmates of our public institutions will abundantly prove and illustrate these statements.

So important was this subject deemed by the Senate and Assembly of New York, that an inquiry into the causes of pauperism was ordered in 1873, which has recently been completed and its results made public. The inquiry seems to have been thoroughly made by the Secretary of the Board of State Charities, occupying his time, more or less, for several years. Over 12,000 persons, scattered in the town, city, and county almshouses of the State, were examined with reference to the leading facts connected with their pauperism. Of these, 6,566 were foreign, born in the almshouse; 3,106 could neither read nor write; 6,133 had been intemperate. Of the 4,147 chronic insane, 44 per cent had been intemper-

ate. Of the whole 12,000, 2,030 were homeless children, 1,750 of whom had pauper fathers and mothers. The average stay of all the paupers in the almshouses was 4.88 years—almost five years' residence. More than 30 per cent of the paupers had intemperate parents; many had a large circle of relatives who had been or were then in the almshouses. Few persons were found to be paupers by their own misfortunes in business, or sudden loss of property. The dependence of most paupers was induced largely by immoral and sensual habits, long indulged, or by habits of idleness and shiftlessness, which in many cases might have been early arrested by proper measures.

As one of the results of this inquiry, the New York Legislature passed a law directing that children found in the almshouses of the State should be removed, and discontinued thereafter the entrance of children into such institutions, intending to provide for them in asylums, or find them homes in private families.

While this inquiry was going on, the New York Prison Association provided for a careful investigation into the causes of crime and pauperism among the inmates of the jails and prisons of the State. Among the results of this investigation, the history of a remarkable family is given under the name, "The Jukes," extending back six generations, where, from one bad woman, nearly a thousand persons, by birth, relationship, and association, became paupers or criminals. This history shows the great power and influence of heredity and early association in the production of pauperism and crime, more forcibly than ever before.

It demonstrates that the seeds, or primary causes, of these evils are connected with the great laws that govern human life farther back than has been generally supposed. This family history brings up, also, the relations between "heredity and environment," and suggests means or agencies which may be employed to prevent or check the miseries originating from these two sources. The more this whole subject is investigated, the more evident it becomes that in order to check the increase of pauperism, crime, and insanity, the remedy must be applied to their primary sources. It will be found, too, that these are, to a great extent, under the control of human agency.

A careful examination of all the facts shows that, in addition to the hereditary influence, ignorance, idleness, intemperance, and prostitution are prime factors that enter into the complex product of pauperism and crime. The hereditary agency precedes these personal factors, and predisposes to their activity and control. It is evident that the germs or predispositions originate in physical organization and development. These secondary agencies would not be called out, or would have but little influence, if the right kind of material for their operation had not been provided. This proposition may be more clearly illustrated in the case of disease and insanity. It is found, as already said, that by a thorough and systematic application of sanitary science about one-third of all disease may be prevented, and human life much prolonged. At the same time, inherited imperfections, weaknesses, and predispositions to disease already existing in the human body, stand in the way and prevent the full benefit of sanitary agencies. These hereditary predispositions, or liabilities to disease are, however, very much alleviated, if not checked in their operations, by hygienic means; but if they did not exist, how much less disease would call for treatment, and how much more success would attend well-chosen measures!

Now, disease itself among the poor, especially where there is not much native energy and perseverance, is a primary cause of pauperism; and if disease become chronic or organic, its influence is still greater. It is not the cost of illness (though this is no small item) so much as its effects in disabling the body for work, and breaking down the mental energies, which does the mischief. And to make the matter worse, the seeds of disease are communicated to offspring in an aggravated or intensified form. Besides, the preliminary stages of illness among these classes being often neglected, and the recuperative powers of nature very small, diseases of all kinds, and especially those of a scrofulous nature, are quite sure to have their run, and become chronic. A constitutional disease, becoming chronic and combined with scrofula, is a powerful factor in the production of pauperism. The fact is, hereditary influences, in a great variety of ways, enter largely into pauperism. Thus, the more extensively sanitary science can be applied among the poorer classes, in the prevention and cure of disease, the more it helps to diminish pauperism. In this way, boards of health become public benefactors, and legislatures should pro-

vide most liberally for their support.

In the history of the insane, the deaf and dumb, the blind, the idiotic, and feeble-minded, hereditary influence is still more apparent. It is well known that these defective classes afford a large number of paupers. In regard to the insane the fact is pretty well established that the malady in fully one-half of the cases may be traced, directly or indirectly, to hereditary influences, and that in the other defective classes a still greater proportion can trace the origin of their troubles to this source. In the case of other paupers, it is more difficult to follow hereditary influences; but the better the laws of descent are understood, the more significant become the indications of heredity in pauperism. It should be borne in mind, that it is not the mere form of an organ or similarity of construction that is transmitted by parents, but the peculiar uses to which the organs are applied, or rather the habits and character of the individual. Let those portions of the brain which officiate as the organs of the lower propensities be more active than those connected with the intellect and the moral sentiment, and kept continuously so for years, and a predominance of the animal nature is sure to be transmitted from the parent to the child. The same law holds good as to all parts of the brain or other organs of the body. Let selfishness, laziness, and sensual habits control the parents, and their offspring will surely partake of the same character, provided surrounding associations do not prevent.

TEA, TODDY, AND TOBACCO.

In a paper entitled, "Felicity as a Sanitary Research," read before the Sanitary Congress, Dr. B. W. Richardson presented the following among other interesting facts:—

There are substances which, taken into the body, produce strange contrasts in respect to felicity and depression. Foods well cooked, foods carefully selected, foods supplied in sufficient quantity to sustain the body equably in all its parts, but so moderately as never to oppress the nervous digestive powers, conduce to felicity in the most telling manner. As a rule, all agents which stimulate—that is to say, relax—the arterial tension, and so allow the blood a freer course through the organs, promote for a time felicity, but in the reaction leave depression. The alkaloid in tea (theine) has this effect. It causes a short and slight felicity. It causes in a large number of persons a long and severe and even painful sadness. There are many who never knew a day of felicity, owing to this destroying cause. In our poorer districts, among the poor women of our industrial populations, our spinning, our stocking-weaving women, the misery incident to their lot is often doubled by this one agent.

There is another agent more determinate in its effects and contrasts than tea, and that is wine. I am a total abstainer, but I am, I trust, an honest observer also, and I confirm from direct observation the old saying that "wine maketh glad the heart of man." If it did this and no more, I should say, Let the felicity of wine remain to the world. Wine, like the alkaloid in tea, relaxes, lets loose the channels of the blood, gladdens like the ascent of the mountain side, gladdens like the gentle atmospheric pressure which forces more blood on to the internal parts. But —and here, alas! is the rub—carried a little beyond the right mark, the felicity from wine passes into folly, the folly into feebleness, the feebleness into stupor, and the stupor into a depression the reaction from which is the bitterest, the most persistent. Tobacco is another of the substances used to produce abeyance of anxiety. It is said to soothe irritability without stimulation, but it leaves in many persons long depression, coupled generally with an appetite for a renewed indulgence, in it which becomes intense. The confirmed smoker who can stand out against indirect effects, whose taste for food and whose digestive endurance are little injured, is kept during the whole time he indulges in a state of suspension. He does not enjoy felicity, but for the time experiences a relief from infelicity. My own experience, on the whole, is opposed to the indulgence, and I tasted it for a long period of my life, as well as observed the effects of it on others. To the aged it gives, I confess, a negative existence, which, when the mind is not filled with choice or refined or cultivated pleasures, makes time less wearisome. To a man who engages in work of great excitement and of a mental kind, it brings a joyless repose. But, on the whole, it is a bad and sometimes a fatally bad indulgence.

I once knew a man who died directly from its effects; and how many I have seen injured I cannot say, but a large number. Again, I have seen many much depressed by it; so that I dare not put it

forward at its best as a promoter of felicity. The world, I must conclude, would be happier if tobacco were unknown or unemployed. The habitual use of opium for the obtainment of felicity is of the same erroneous character. The opium-smoker, the opium-eater, tells us of certain dreams and phantasies, which are for a moment felicitous wanderings of the mind. I have visited the opium dens to see the effects, and whatever the dream may be subjectively, it presents to the observer no sign of felicity. The expression of the opium-smoker is one of restless and intense anxiety. He looks like a man in a dream of misery. His eyes are joyless, his features contorted, his skin colorless or dark, his pulse slow and laboring, his breathing hard and heavy; and when from the half-struggling consciousness he wakes to reason, the dream he describes is too confused to be accepted as a dream of felicity. Then he falls into dejection, which deepens and deepens until the desire to return to the cause of the dejection is too overpowering to be resisted. To opium-eating and to the subcutaneous injection of morphia, the same description, with some modifications on which I need not dwell, is perfectly applicable. From the use of such an agent as opium there can be no result of human felicity. There could soon be produced, by an extention of the use, a madder world than now exists, a more miserable,—a happier, never! And this saying, according to my knowledge, extends to all narcotic substances. There are some, like methylic ether and nitrous oxide gas, which produce for the moment infinitely more refined felicity than those I have specifically named, but in the end the results are the same.

ABOUT PILLS.

[We commend to our readers the following advice which is far more profound in wisdom than the majority of advice offered in popular magazines.—Ed.]

There is small doubt but that almost everybody with an ache or a pain, everybody who feels strange in her legs and queer in her back, affects some favorite drug and panacea, takes excursions into the valley and shadow of pills as a short cut to health, from which she emerges, if she does emerge, bolstered up for the nonce, and going about recommending her precious nostrum to all inquiring minds and sour stomachs; and this in the face of the fact that when we wish to say the bitterest thing againt another, we call him a pill. Many who nourish themselves upon this fare, thinking to be able to abandon it at any convenient season after having built up a creditable constitution, discover, perhaps too late, that this valley is full of snares and pitfalls for the unwary. One dose demands another; the liver, which may be, "like a Greek verb, irregular to the verge of impropriety," becomes demoralized when regulated by a drug, and finally will do nothing without assistance.

But most people seem to hug their chains; they discover a new medicine with all the elation and celebration becoming the birth of a new planet, and the failure of the last to effect a cure does not in the least intimidate them or diminish their hopefulness. It sometimes seems as if they would regret a perfect restoration to health, which would exclude them from the good offices of powder and pellet, and rob them of an occupation. They love to extol the virtues of their bitters and acids, and give them credit for picking them up; they love to compare notes with fellow-sufferers, like careful housewives exchanging recipes; their lives might be said to be divided into epochs, corresponding to the kind of medicine to which they have at different times committed themselves, as the bitters, the pills, the bismuth, or the cod-liver oil periods.

Who does not know those who have taken all these doses for the same affection, or rather because of their own affection for drugs, and have been benefited by each one, but who are yet looking for more medicines to follow?—people who find a pleasure in recommending and administering them to others second only to taking them themselves; who dislike to dwell in the valley and shadow of pills and potions alone, and are always willing to share their draughts with friend or foe, although they are sensible of a medicated atmosphere while encamping in these lowlands, soothing to the nerves and invigorating to the imagination? But as a health resort this valley is growing more or less unfashionable every year, given over to the uncultivated and unscientific, while the "best families" the enlightened, are emigrating to the broad table-land of diet.

—*Harper's Bazar.*

More people are killed by too much medicine than are allowed to die for want of it.

TEMPERANCE AND MISCELLANY.

Devoted to Temperance, Mental and Moral Culture, Social Science, Natural History, and other Interesting Topics.

Conducted by MRS. E. E. KELLOGG, Superintendent of Hygiene of the National W. C. T. U.

NEVER MIND.

SHOULD your heart grow sad and weary
At the ills of life you find,
Smile upon them—it is better:
Pass them by, and never mind.

If the burdens should be heavy,
Don't be peevish and unkind;
They'll be lightened soon or later;
Bear them all, and never mind.

Clouds of sorrow sometimes gather,
And with heart-aches are combined;
Meet them calmly, meekly, bravely;
Weary not, and never mind.

Though this world seems dark and dreary,
Look ahead and not behind;
For a crown of glory waits you
In the future; never mind.

Things are not as we would have them;
To your faults be never blind;
Live uprightly, truthful, honest;
Praise the Lord, and never mind.

There is one thing to remember:
Christ was perfectly resigned
When upon the cross he suffered
For us all; so never mind.

God is good and ever gracious,
Mercy's free for all mankind;
Let your thoughts be all on heaven;
Trust in Him, and never mind.

—*Selected.*

SKETCHES OF TRAVEL, NO. 13.

BY MRS. E. E. KELLOGG.

THE PANTHEON.

THE most perfectly preserved monument of antiquity in all Rome is the Pantheon, the great temple of all the pagan deities. It was erected twenty-seven years before the birth of Christ, as an inscription above the entrance tells us, by Agrippa, son-in-law of Augustus Cæsar, both of whose colossal statues once adorned its portico. The building is a circular structure, surmounted by the most magnificent dome in the world, and adorned in front with a portico fourteen yards deep, upheld by a colonade of sixteen Corinthian columns of granite, thirty-nine feet high and thirteen feet in circumference. The walls of the building, which are constructed of brick-work, are twenty feet in thickness, and were originally covered with marble and stucco.

By a strange freak of architecture, the interior of the building is a perfect circle, one hundred and forty feet in diameter; and what is still more curious, the central hight and the diameter are also equal, so that the interior of the building is almost an exact hemisphere. The surface of the walls are broken by seven niches, in which used to stand the statues of the gods worshiped by pagan Rome. Rare marble and beautiful statuary then adorned the walls, and the ceiling of its dome was decorated with gold-leaf.

The Pantheon has no windows, but is lighted from above by a circular opening twenty-eight feet in diameter in the center of the dome, through which the sunshine or the rain descends, according as nature smiles or weeps.

The simplicity and grace of form of this ancient temple, together with the effect of its single central light upon its rare marble and gilded decorations, must have rendered it a place of surpassing loveliness. Although despoiled of its pristine beauty, it still presents a strikingly imposing appearance.

In 609, A. D., the Pantheon was consecrated as a Christian church, and so, on our early morning visit, it seemed not strange to see, kneeling before its ancient altars, scores of devout Catholics, telling their beads and saying their prayers.

Like many other European churches, the Pantheon, since its consecration to Christianity, has been converted into a burial-place for the illustrious dead. Here sleeps, behind an altar, in a vault covered with funeral wreaths and insignia of royalty, the late king, Victor Emanuel. Here, too, is the tomb of the great artist, Raphael, and near by a statue of the Madonna, executed by Lorenzetto in accordance with his last will. The Pantheon is also the last resting-place of Balthazer, Peruzzi, and many other celebrated artists.

THE SCALA SANTA, OR SACRED STAIRS.

On our round of sight-seeing among the many objects of interest which make Rome a many-leaved picture-book to the tourist, we stopped one afternoon to see, under a portico near the church of St. John Lateran, a marble staircase of twenty-eight steps, which, as tradition states, and every good Catholic believes, are the identical ones by which Christ descended from the judgment seat in the house of Pontius Pilate. They were brought to Rome in 326 A. D., by the Empress Helena, mother of Constantine the Great, and are held so sacred that human feet are never allowed to touch them, all persons ascending on their knees, repeating an Ave, or prayer, at each step. There are stairs parallel with the holy ones by which the devotees may descend. At the top is a private chapel of the popes, said to contain a painting, attributed to St. Luke, of the Saviour when twelve years of age. We did not see it, as we were not permitted to make the ascent, though we counted a score of devotees of all ranks and ages toiling up the steps with tears and devotions, just as did Martin Luther centuries ago, when light flashed upon his questioning mind in the words of inspiration, "The just shall live by faith." The stairs are kept protected by a casing of wood, lest the marble should be worn away, on account of the great concourse of pilgrims constantly ascending them, as an act of penance for themselves or their friends; for, according to the pope's decree, every one who ascends these steps on his knees, kissing through the apertures cut in the wooden casing, the spots that mark drops of the Saviour's blood on the stairs, can obtain for himself nine years' indulgence for each step, or may shorten the stay in purgatory of some beloved friend already deceased, two hundred and fifty years for each ascent.

THE CHURCH OF THE CAPUCHIN MONKS.

From our first arrival in the city, we frequently met these monks, whom we at once recognized by the pointed hood, or cowl,—not unlike in shape, the ornamental hood of a lady's circular cloak,—attached to their long butternut-colored gowns, unconfined save with a loose cord or rope at the waist, from which hung their cross and rosary, and reaching to their feet, which, either bare or strapped to wooden sandals, appeared beneath it. We were told that they obtained their living by begging from door to door, the people feeling bound to give them something because of their sacred calling. We fear their example is more closely followed in this respect than in any other, at least begging seems to be the chief occupation of the largest share of the inhabitants, if we may judge from the crowds of beggars that swarmed about us or our carriage at every stop we made, begging for a *centimissi*, and were only made to desist in their protestations by the vociferous threats of our gentlemanly Italian guide.

The church of the capuchin monks contains Guido's famous picture of the Archangel Michael trampling upon the devil, the fiend's face being a portrait of Pope Innocent X., for whom the renowned artist had a great aversion. Other fine pictures on scriptural subjects, the work of celebrated artists, adorn the gloomy walls of the not otherwise interesting interior. The building is of stone, dimly lighted, and with such an atmosphere of chilly dampness pervading it, that, as the wooden sandals of the monk, who acted as an escort, clattered over the stone pavement, and resounded with a hollow echo through the building, we felt more as if we were visiting a prison than a church.

Following our guide, we descended a flight of narrow stairs to the curious cemetery beneath the church, where are kept the remains of four thousand dead friars. It is divided into four recesses, open on one side to the corridor, which is lighted by grated windows. The walls of these recesses are decorated in a ghastly manner with the dismembered bones of the departed monks arranged in geometrical figures, festoons, crosses, columns, altars, and even as lamps which hang from the ceiling. A few disinterred skeletons which have been allowed to remain intact,—the reason for this special promotion we did not learn,—dressed in their friar's robes, are placed in niches faced with bones, and held in an upright position by a cord knotted about their waist, and secured to a hook behind.

In each recess is a grave of sacred earth brought from Jerusalem, in which, as they died, each monk was permitted to slumber twenty-five years, or till a tomb was needed to inter some other deceased monk, then the longest buried was disinterred, and his skeleton used whole or in pieces, as authority might direct, while the recently departed took his place, so that, as a writer aptly says, "Each good friar in his turn enjoys the luxury of a consecrated bed, attended with the slight draw-

back of being forced to get up long before day-break, as it were, to make room for another lodger." We were told, however, that the present city authorities have forbidden the further continuance of these strange burial customs.

HARBINGERS.

ONLY a violet here and there
Throws its scent on the rushing air,
Hiding its face
In a warm green place;
But the hope of the summer is everywhere.

Only at times is the old earth gay,
When the clouds are swept from the skies away,
And the sun is strong,
And the birds have song;
But the hope of the summer is every day.

Now and then do the soft winds blow,
And the opals shine in the western glow;
But the gladdening lights
And the swift delights
Are the earnests of joy that we yet shall know.

A little sunshine to cheer the hours,
A burst of singing, a few sweet flowers,
Tell us of gladness
To chase the sadness
Coming for aye to this world of ours.

A little love for the longing heart,
A little ease for life's ache and smart,
A little rest
In a sheltering nest,
To give us courage to do our part.

These are the things that we have to-day,
They make us stronger and bless our way,
They give us relief,
But their reign is brief;
They visit our homes, but they may not stay.

They come as heralds. O heart, be glad!
There is a future in beauty clad,
That drawing nearer
And growing dearer,
Shall cheer thee ever, nor make thee sad.

Let us be glad that the world grows fair,
That there is some warmth in the east-sent air;
There's enough of spring
To make us sing,
And the hope of the summer is everywhere.

—*Marianna Farningham.*

—No one's life can possibly be changed after death. To transmute an evil life into a good one, or the life of an infernal being into that of an angel, is utterly impracticable beyond the grave.

—Stillest streams oft water fairest meadows; and the bird that flutters least is longest on the wing.—*Cowper.*

WHO WAS TO BLAME?

JENNIE CHANDLER'S coming into the world was not a matter of rejoicing. Mr. Chandler, though a hard-working man, had not yet amassed even a small fortune; and there were already enough young mouths to make the filling of them with bread and butter a subject of constant thought and labor. It is no small affair to provide a family of six with the necessaries of life. As for Mrs. Chandler, life had long ago resolved itself into one endless washing and ironing and baking and cleaning day, with making and mending and taking care of babies as a sort of "knitting work," to fill up the odd minutes. There seemed no room in the little house for another, no time to attend to its wants, no means to supply its needs.

Nevertheless, welcome or unwelcome,

> "Out from the shore of the great Unknown,
> Blind, and wailing, and alone
> Into the light of day"

came the frail little body; and with the first feeble wail of greeting for the mysterious life which had been forced upon her, Jennie found her way into the mother's heart to go no more out forever. And as the months went on, father, brothers, and sisters all united in pronouncing her the sweetest baby in the world. Her first tooth, her first step, her first word, were household events, received with due wonder and admiration. Then a little brother took her place as pet and plaything of the household, and Jennie was merely "one of the children."

She had pretty ruffled dresses, and white aprons, and tucked skirts—Mrs. Chandler always managed to keep her children as stylishly dressed as any of their playmates. Because Mr. Chandler was a clerk on fifty dollars a month was no reason why the family should not keep up appearances.

Mr. Monroe, over the way, was a well-to-do merchant; Mr. Smith, next door, owned a large amount of real estate; Mr. Shipman, around the corner, was a banker; their wives all kept competent help in the household, besides employing seamstresses at pleasure.

"But that makes no difference to me," said Mrs. Chandler, with spirit, "my children shall dress as well as their playmates, as far as *I* am able to go. Of course we can't buy as expensive material as some of our neighbors do, and that makes it all the more necessary that I should take a little pains in making up."

Of course, with so much work on her hands, Mrs. Chandler could not spare time to spend in a leisurely way with her children,—time to read story books, and take walks, and play games, and listen to their foolish plans.

Jennie used to come into the house sometimes with an old bird's nest; or a bunch of meadow flowers, picked with very short stems, and huddled together in a queer, childish way; or a lot of dandelion curls.

"What are you bringing that stuff in here for?" her mother would exclaim sharply. "When I have just put the rooms in order, you are sure to come in with some trumpery or other. Take it away, quick! You children worry the life out of me! Pretty looking house you'd make of it!" Then the child used to worry her mother with questions: "What do they make square boards out o' round trees for?" "What makes the bleed be so red when we cut us?" "How does the water get up into the sky before it rains?" If her mother had stopped to answer any of these silly questions, there is no telling how long Jennie would have kept on; and there was cake to be made for tea, and Alice's white dress to iron, and Neddie's pants to mend, and some of the canned fruit was "hurting," and the parlor curtains needed washing,—clearly there was enough to do without listening to a child's chatter.

"Do keep still!" she would say to Jennie, "I can't work when you are talking to me. I wish you wouldn't bother so. Run away and play." And Jennie obeyed. Kittie Gray and Mamie Black were ever so much nicer to talk to than mamma was. And in the course of a few years, Jennie was effectually cured of running to her mother with every little thing.

In school she proved an apt pupil, and mastered her lessons with little apparent effort. Mr. and Mrs. Chandler glanced at her school reports with pride and satisfaction. Jennie was learning other things, too, of which no reports were given. She was taking lessons of life from her teachers whose only recommendation was their readiness to impart such knowledge as they had gained; and while she was becoming well versed in orthography and syntax and the products of the isles of the sea, she was learning to look at all the sweet and holy mysteries of existence from the standpoint of the ignorant and vicious. She exchanged love-notes and tokens with school boys, and carried next her heart a lock of brown hair or of black, as her fancy swayed her for the time being. She spent nights with bosom friends sworn to eternal secresy and fidelity. She was a voracious reader, and among all her reading, nothing suited her so well as where the noble and princely Adolphus clasped the fragile form of his adored Gwendolen to his heart, and rained down burning kisses upon her ruby lips and alabaster brow.

Jennie was a pretty girl, fair-skinned and slender-waisted, with lively ways and a coquettish manner of speech which was quite bewitching. To see her at sixteen, tripping along in her French-heeled boots, her hair banged and frizzed all over her white brow, and her dress a marvel of shirring, and knife-plaiting, and piping, and looping, and draping, was a sight full of prophetic meaning for such as have eyes to see. At this age she had no lack of attentive adorers, and from among these had already made her choice.

"I do wish you wouldn't always be gadding about," said her mother, as she comes into the family room, just as the lamps are lighted, equipped for departure. "You seldom spend an evening at home. And running around with that Fred Adams! Trundle-bed trash, both of you!"

"Fred is nineteen!" retorts Jennie, "and lots of girls are married before they are as old as I am! Trundle-bed trash, indeed!" buttoning her glove around her slender arm; "I think I am old enough to know how to take care of myself!"

"Where are you going to-night?"

"To Jessie Maddock's, and don't worry if I stay all night."

"Oh, yes, stay all night, of course! You don't care anything for your own folks. You never sit down, and spend a quiet evening with us at home!"

"It's too stupid! You always sew or knit, and father reads, and if I try to have a little fun with Art, father looks as if he'd like to take my head off, and growls about the noise. I'm bound to have a little fun while I'm young!"

"Maybe you'll find out there's something in the world besides fun before you are many years older. I declare, there isn't one of my children that cares the least in the world for me,—and after all I've done for them!" Mrs. Chandler bursts into tears as Jennie slams the street door after her.

She is not so busy of late. The older girls are gone,—Kate married, Alice dead;

Ned and Will are away at school; only Jennie and fourteen-year-old Artie are at home. Mrs. Chandler has time to think, time to hunger for her children's love and sympathy, and shed hot tears over the barrenness of the harvest tide which has come to her.

"Who and what is Fred Adams?" she inquires of her husband that evening, as they sit in their warm, lonesome sitting-room. Mr. Chandler glances up from his paper.

"Fred Adams?" he repeats absently, "Oh, I don't know much about him. Shiftless fellow, I guess," and he reads on contentedly.

"I am anxious about Jennie," ventures the mother after awhile. "There's no telling what the child might take in her head to do!"

"Jennie! What do you mean?" asks Mr. Chandler, somewhat impatiently, but with a little show of interest.

"I don't like her running around with Fred Adams so much."

"You don't think Jennie cares anything for the fellow?" exclaims he, letting his paper fall, and speaking sharply.

"I have my fears."

"Where is she to-night? With him?"

"I don't know," replies the mother wearily.

"Probably you are tormenting yourself about nothing," remarks Mr. Chandler, picking up his paper. "Women have a faculty for borrowing trouble. Why, there's three or four young fellows spooning around. No girl would take Fred Adams when she could get John Shipman or young Barclay. But I'll say a word to Jennie about the matter. It's well to take time by the forelock. I'll give the girl to understand that Fred Adams can't have my daughter."

"Be careful how you speak about it," says Mrs. Chandler, with an anxious look on her thin face. "You might do more harm than good."

"Never you fret! I'm not afraid to tell a sixteen-year-old daughter of mine what she shall or shall not do!"

Mr. Chandler resumes his interrupted reading. His wife's hands lie unbusied in her lap, while her troubled eyes gaze steadily into the fire. Not far away Jennie is walking with her boy lover, under the starry skies, exchanging vows of deathless love and loyalty.

"What is that Fred Adams hanging around here for?" begins Mr. Chandler at the dinner-table not many days after.

Jennie butters her bread in silence, but the hot blood, rushing to her cheeks and brow, tells a startling story.

"If you have taken a notion to the young puppy," says the father, his voice rising angrily, "the sooner you put it out of your head the better. I won't have him coming here; and if you don't tell him, I shall. There's no use of making many words about it. If you've been encouraging him in any way, now is the time to stop! You understand? I think I have been plain enough, and have said all that is necessary. And I always mean what I say, as it will be wise for you to remember!"

No word has come from Jennie's lips. However it may be with her mother, with her father she has never dared to take any liberties of speech. Dinner is finished in silence, and Mr. Chandler departs to his business. Mother and daughter make no mention of the subject to each other. If Mrs. Chandler's heart aches and yearns as she glances at her child's sullen face, some strange fear fetters her tongue, and Jennie has never learned to tell her troubles here. So the two go their ways in a silence which is never to be broken.

(*Concluded in next number*)

A SALOON-KEEPER of questionable honesty went to a lawyer to consult him about commencing an action for defamation against a fellow-townsman. "The scoundrel," said he fiercely, "has robbed me of my character." "Ah, has he? Are you sure of that fact?" replied the attorney. "If so, for heaven's sake let him go; for it is the luckiest thing that ever happened to you."—*Sel.*

—A liquor-seller presented his bill to the executor of a deceased customer's estate, asking, "Do you wish my bill sworn to?" "No," said the executor, "the death of the deceased is sufficient evidence that he had the liquor."

—A Newport snob recently went rowing with a small poodle. The boat capsized, the snob was drowned, and the poodle swam ashore; and we are longing to know if this is a case of the survival of the fittest.

—Circumstances form the character; but, like petrifying matters, they harden while they form.—*Landor.*

Popular Science.

—It has been estimated that the force which the human heart expands in twenty-four hours is about equivalent to lifting 217 tons one foot.

—In the Isle of Wight a spider was observed dragging two or three leaves to the water. It fastened them together with a web, then launched the raft, and sailed away. It darted off after insects upon the water, and returned to the raft to devour them.

—Rabbits have been born with one ear, and stags with one horn; the rattlesnake has but one lung; both eyes of the flounder and halibut are on the same side; the claws of the lobster differ, and the valves of the oyster are unequal, yet all the animals and their organs are perfectly symmetrical in the embryo state.

—Luminous harness is the latest device used in England to make the dark horse visible at night. A phosphoric paint applied to the blinkers, collar, and other prominent parts of the trappings, is used to bring about the result, and the night trotter, thus prepared, is said to resemble chain lightning, as he plunges into the darkness of the country side.

—California physicians who have attended various cases of trouble arising from the poisonous properties of bisulphide of carbon, have become satisfied that the inhalation of the vapor of this substance will produce insanity. The bisulphide is used in Los Angeles County to prevent the spread of the grape disease, phylloxera. Several strong and healthy men who have been exposed to the fumes of the vile stuff have become insane. It may be a subject worthy of investigation whether deleterious gases may not in like manner affect the human brain.

Antiquity of Ropes.—Among the relics of the ancient Egyptians have been found sculptures illustrating the process of rope manufacturing four thousand years ago. The first ropes were doubtless made from the fibres of the inner bark of trees and from the hides of animals, though some of the oldest records show that flax and the fibres of the date-tree were also employed for that purpose.

FIRE-PROOF FABRICS.

MUCH interest has been shown of late years in the invention of processes for rendering fabrics fire-proof. The *Popular Science News* gives the following summary of the most approved methods:—

Among the means recommended for this purpose, we may, in the first place, mention one of exceeding simplicity, applicable to muslins, and all dresses which are starched after washing. It is merely necessary to mix the starch with sal ammoniac and plaster-of-Paris. The goods thus dressed may certainly be set on fire by the flame of a match; but the fire does not extend. The inventor of this first process afterward recommended—

Borax	12 parts.
Epsom salts	9 "

Dissolved in 80 parts warm water.

The tissues to be prepared are dipped in the solution till thoroughly saturated. They are then pressed, wrapped in a cloth, wrung again, laid between cloths, and passed through a mangle, after which the articles are ironed while still damp. The necessary quantity of starch can be stirred into the saline solution.

Vogt dissolves—

Sublimed sal ammoniac	2 parts.
Sulphate of zinc	1 part.
Water	15–20 parts.

The starch or other ingredients required for stiffening or finishing are added to the solution. The fabrics are steeped in the mixture till thoroughly saturated, pressed well out, and dried. According to Siebrath, a good result may be obtained by steeping the dresses in a solution of five per cent alum and five per cent phosphate of ammonia. Tissues so treated are said not to burn, even if previously rubbed with gunpowder. The powder deflagrated, but left the tissue unburnt.

Among other agents proposed for the same purpose are soluble glass, tungstate of soda, ammonia alum, and hyposulphite of soda. According to Versmann and Oppenhiem, phosphate of ammonia is mixed with half its weight of sal ammoniac, and a twenty per cent solution of the mixture is used. Tissues which are intended to be ironed are afterward treated with a twenty per cent solution of the tungstate of soda.

The "phœnix essence" of M. Pereles consists of a mixed solution of tungstate, silicate, and phosphate of soda.

Nicol proposed a bath of—

Alum	6 parts.
Borax	2 "
Tungstate of soda	1 part.
Dextrine dissolved in soap-lye	1 "

The dextrine is said to cause the salts to adhere better to the fibre.

The following recipe is given in a recent German journal:—

Sulphate of ammonia	8 parts.
Carbonate of ammonia	2½ "
Boracic acid	2 "
Borax	1¾ "
Starch	2 "
Water	100 "

The dresses or other tissues are taken through this mixture boiling.

Another recipe is as follows:—

Boracic acid	5 parts.
Sal ammoniac	15 "
Potash felspar	5 "
Gelatine	1½ "
Starch paste	50 "
Water	100 "

This mixture is applied with a brush.

GOOD HEALTH.

BATTLE CREEK, MICH., MAY, 1884.

J. H. KELLOGG, M. D., EDITOR. TERMS, $1.00 A YEAR.

THE HYGIENIST ABROAD.

THE BATHS OF LEUK.

AT the head of the narrow valley of the Dala, a tributary of the Rhone, nearly surrounded and sometimes overhung by the steep walls of the Gemmi, rising perpendicularly a hight of more than 2,000 feet, lies a curious nest of odd brown houses, known as *Leukerbad*. Nestled down here amid some of the grandest scenery of all Europe, at an altitude of 4,600 feet above the sea, close by the lofty Torrenthom, whose snowy peak rises more than 5,000 feet higher still, this ancient little hamlet, with its roaring torrent, its green meadows,—a sort of oasis in a desert of bare rocks and snow-clad peaks,—and most of all its renowned springs and curious baths, has for two centuries or more attracted annually thousands of visitors during the few weeks of its short summer.

Out of the mountain-side gush innumerable springs of every possible flavor, most of them icy cold, but a few with a temperature of 117° to 124° Fahrenheit. The hot springs number about twenty, but only three or four are used for bathing purposes. There are several bath-houses, all of which are built after the same plan. On one side of a long hall, perhaps thirty feet wide and nearly as high, is arranged a series of little dressing-rooms, each provided with a stool on which to sit while dressing and undressing and a peg on which to hang clothing, but without other furniture. On the other side of the wall is a promenade eight or ten feet in width. The intervening space is a large tank, not unlike a fish pond in a fish-breeding establishment. The tank extends the whole length of the room, and occupies about two-thirds of its width. It is divided into several departments by partitions, on the top of which is a narrow walk constituting a bridge, by which the bathers may cross from the dressing-rooms to the promenade on the opposite side. From each dressing-room a pair of stairs leads down into the tank.

At five o'clock in the morning the bathers descend into the steaming vats,—a mixed multitude of all ages, sizes, sexes, and nationalities, clad alike in loose woolen gowns. They remain in the water from five o'clock to ten in the forenoon, and from two to five in the afternoon, making eight hours per day for the full regimen. Breakfast is taken in the bath, on little floating tables, which the bathers push around before them, and on which they also play cards, write letters home to their friends, and drink beer and coffee at their leisure. The odd appearance of half a hundred human heads floating about upon the steaming pool, some chatting, laughing, making grimaces, and others looking stolid as statues, patiently enduring the tedious hours of waiting for the magic influence of the all-healing waters to charm away their dire disorders, can be better imagined than described.

Water is especially recommended for skin disorders. It is chiefly applied externally, although dyspeptics are expected to take copious quantities of hot water direct from the springs, one of which, the St. Lawrence, the largest of all, is located in the very center of the town, and provided with facilities for drinking. The water in the soaking vats is said to be changed once a day, but whether or not the tanks are ever cleansed or disinfected is a question upon which we could obtain no authentic information. Our observation would incline us to the belief that sanitary measures are not very much thought of in these regions.

From three to six weeks is the time usually considered necessary to effect a cure of ordinary cases, though on what principle a cure is effected we were unable to learn, unless, as a visitor to the baths suggested, it might be that explained by an Irish bathman in a Hydropathic establishment. "You see, sir," said he, "that the shock of water unites with the electricity of the system, and explodes the disease." As the visitor referred to remarked, the shock of one's feelings of decency and cleanliness at these baths ought to be sufficient to explode any disease in Europe. If there is truth in the theory held by some of the old-fashioned doctors of by-gone days, that one disease sometimes neutralizes another, it might be conceived that the apparent good effects of these baths result rather from the miscellaneous mingling of maladies than from any peculiar potency of the water.

When we entered the bathing apartments, one

great tank had just been emptied of its occupants, who had been macerating since early morning, and had just gone out for their noon-day rest. As we peered into the clouds of odorous vapor, arising from the huge steaming vat, our imagination easily pictured ghostly shapes of exorcised diseased demons of every description, misshapen, distorted, pain-racked, rheumatic phantoms, mingled with the lank, sallow, woe-begone imps of chronic dyspepsia, the ruddy-nosed, rosicund, wine-bloated ghost of gout, and the scaly, fidgety, ever-scratching ghost of some loathsome skin disease.

We arranged for a bath in a tank containing water fresh from the spring, yet, as we entered to try the novel experience of a bath in this modern Bethesda, our uncomfortable imagination made us experience strange crawling, tingling, and rather curious sensations, as though we were being attacked by all the belied, diseased entities which the waters were supposed to have extracted during the eight or ten generations since the baths have been in operation. We soon succeeded, however, in quieting our morbid sensibilities, and really had a very enjoyable bath, occupying a part of the hour we spent in the bath in writing a letter home on one of the little wooden tables, several of which floated about in each tank, for the accommodation of the bathers.

After the bath, we had a shampoo *à la Leuk*, a style of shampooing different from anything else we encountered in any of the bathing establishments of Europe. We were taken from the large bathing room to a room in the upper story, the temperature of which would be barely comfortable with the clothing on, and for one clad only in a wet sheet it was decidedly uncomfortable. After being deprived of even the small comfort of our dripping covering, we were made to take hold of an iron bar, supported about four feet from the floor, and instructed to brace ourselves firmly and hang on tight, the necessity of which we very soon discovered as a large stream of water spurted upon us from the rear, and struck us with such force between the shoulders that we should have been thrown to the floor without the aid of our support. Our attendant directed the stream by means of a nozzle which he held in one hand, and at the same time, with the other hand, vigorously rubbed and kneaded the muscles in such a manner as to prevent the severe shock which we expected to experience from the contact with the cold water. Instead of being thoroughly chilled, as we expected, we found ourselves, at the conclusion of the bath, in a warm glow, and feeling quite renovated from the effects of a week's riding and climbing among the steep Alpine peaks.

After doing up the day's soaking, the bathers stroll about the various pleasant mountain paths in the vicinity of the village. One of the most romantic and interesting leads off to the south down the Dala. For about a mile the path lies through a lovely mountain meadow. Innumerable springs are found bursting out from the ground by the road-side, and running across or under the pathway, and gurgling down the hill-side to join the gushing Dala, which here finds its source. Mountain flowers of every description grow in abundance among the scattered rocks, which from time to time have fallen down from the precipitous mountain-sides. Another half mile through a natural growth of evergreens completely overshadowing the pathway, brought us to a place known as the *Ladders*, of which we caught a glimpse from the other side of the valley, as we were approaching *Leukerbad*. At this point the rocky wall is nearly two thousand feet in hight, and slightly overhangs the valley below. On the top of the cliff is located a little village known as *Albinen*, the only direct communication to which is by a series of ladders set up against the rocky wall, and fastened in a most astonishingly careless manner.

Accompanied by a young friend who had joined our party for a trip through the Alps, we undertook the ascent of this unique pathway, first divesting ourselves of all superfluous clothing and encumbrances. The first two ladders brought us to a little cave, excavated in the face of the rocky wall, to furnish travelers over this novel road a place of retreat from the winter storms. Another ladder brought us to a landing-place which consisted of the tap-root of a stunted tree. The upper end of the ladder rested upon this, with a foot or two of rock surface, where rested the foot of the ladder next in the series. Ascending this ladder for a short distance, we found two or three rounds broken, but managed to clamber to the top, where we found the ladder fastened to the wall by a green withe nearly worn in two. As we clambered on, we found one or two ladders so old and rotten as to be barely able to sustain the weight of the body, and some were supported only on one side, and threatened constantly to turn out of their places, and precipitate one into the abyss a thousand feet below. All of the ladders were shockingly insecure, and very different from what one would expect to find in such a perilous position.

Half way to the top our curiosity was entirely satisfied, and when we turned to descend, for a moment we grew dizzy and slightly faint, as we gazed down into the rocky bottom, hundreds of feet below, and imagined our ladder slipping away from its frail hold upon the bare granite wall, and plunging down upon the rocks below. Turning our eyes steadily upward, we clambered down, and drew a long sigh of relief when at last we reached the foot of the last ladder, well satisfied with our experience in ladder climbing, and concluded that we were better at home or elsewhere than in the lonely village just beneath the rocky cliffs at the top.

This ladder road is in winter the only means of communication between *Albinen* and the outer world; and at all times it is the only means of reach-

ing *Albinen* from *Leukerbad* except by a very long and circuitous road down the valley and up a rugged mountain path; and, notwithstanding its perils, in summer-time it is in constant use by the natives of *Albinen*, who carry on their backs their milk, butter, cheese, and garden produce down the ladders, bringing back from *Leukerbad* the merchandise for which it is exchanged.

The bathing season of *Leukerbad* is only for a few weeks during the middle of the summer. During the rest of the year the hotels are shut, and the few inhabitants hiberinate in their little brown houses, almost entirely secluded from the rest of the world.

SANITARY NOTIONS OF A THEOLOGIAN.

AMONG the most eminent theologians of the period of the Reformation was Erasmus. This learned man seems to have been as observing and practical as he was profound in philosophy and scholarship. During his time, a terrible plague known as "the sweating sickness," prevailed in England, undoubtedly as the result of the terrible neglect of sanitary measures, which was at that time universal there. The English were as famous then as now for their robust appetites and excessive consumption of meat. The following is an extract from a letter written by Erasmus to the physician of Lord Wolsey containing some advice which might be accepted with benefit by not a few dwellers in cities at the present time:—

"I am frequently astonished and grieved to think how it is that England has been now for so many years troubled by a continual pestilence, especially by a deadly sweat, which appears in a great measure to be peculiar to your country. I have read how a city was once delivered from a plague by a change in the houses, made at the suggestion of a philosopher. I am inclined to think that this also must be the deliverance for England. First of all, Englishmen never consider the aspect of their doors or windows; next, their chambers are built in such a way as to admit of no ventilation. Then a great part of the walls of the house is occupied with glass casements, which admit light, but exclude the air; and yet they let in the draught through holes and corners, which is often pestilential, and stagnates there. The floors are in general laid with white clay, and are covered with rushes, occasionally removed, but so imperfectly, that the bottom layer is left undisturbed, sometimes for twenty years, harboring expectorations, vomitings, ale-droppings, scraps of fish, and other abominations not fit to be mentioned. Whenever the weather changes, a vapor is exhaled which I consider very detrimental to health. . . . . I am confident that the island would be much more salubrious if the use of rushes was abandoned, and if the rooms were built in such a way as to be exposed to the sky on two or three sides, and all the windows so built as to be opened or closed at once, and so completely closed as not to admit the foul air through chinks; for, as it is beneficial to health to admit the air, so it is equally beneficial at times to exclude it. The common people laugh at you if you complain of a cloudy or foggy day. Thirty years ago, if ever I entered a room which had not been occupied for some months, I was sure to take a fever. More moderation in diet, and especially in the use of salt meats, might be of service; more particularly were public ediles appointed to see the streets cleaned, and the suburbs kept in better order."

A NUISANCE WHICH SHOULD BE ABATED.

ACCORDING to the *Cincinnati Times*, a citizen of that place recently fell dead in a street car, being poisoned by the dense fumes of tobacco smoke with which the car was filled. "He was an occasional sufferer from heart disease, and the trouble was so aggravated by the suffocating smoke of the car that he died after breathing it a few minutes. The car in which he rode had only one compartment for men, women, and children, and the smokers were allowed full sway in it. Two other passengers were overcome by the tobacco fumes."

Every non-smoking traveler constantly encounters this same nuisance in railway cars, omnibuses, street cars, hotels, and

wherever he goes. The universal presence of the sickening vapor of this vile weed is one of the characteristics of civilization. If human beings possess one inalienable right more sacred than any other, it is the right to breathe the atmosphere of heaven pure, free, and unadulterated. No man has any better right to puff tobacco smoke into the air I am about to breathe than to sit down beside me at a hotel table, and sprinkle upon the food I am about to eat, vile and loathsome substances, obnoxious to the senses and deleterious to health. If smokers will persist in defiling themselves, and in spoiling the pure air, adulterating its life-giving oxygen with a deadly vapor, offensive to the natural instincts of man and beast, let them be compelled to indulge their precious poison by themselves, apart from the rest of human kind. Let them together enjoy the pleasures of the pipe, cigar, and cigarette. Perchance this plan might result in the annihilation of the whole race of smokers, and rid the world of a vice which originated among savages, and is worthy only of an uncivilized and barbarous race.

A COOKERY EXHIBIT.

VIENNA has been running wild over a cookery exhibition. The following is an extract from a letter to a newspaper from a foreign correspondent:—

"One hotel disguises its game pies, fish, and cakes in various shapes,—a Roman emperor, Gothic buildings, Chinese towers, fortresses, Greek temples, and ships. A beefsteak is decorated with bulls' heads,—small masterpieces of plastic art. Pies show their contents by having heads of pheasants and grouse upon them. Two sucking pigs dance upon their hind legs on either side of a pie over which a fluttering hen seems to protect the eggs under her, which are already made into a savory dish. A very remarkable object is a large wild boar, whose skeleton is exhibited side by side with it. Pheasants, peacocks, and game of all kinds are shown in their natural form, yet ready to be served."

All the streets leading to the exhibition are said to have been blocked with people crowding to see this display of culinary ingenuity, the chief feature of which seems to have been the effort of the cooks to outvie each other in making their viands as repulsive to good taste and unperverted sensibilities as possible. We can easily picture the occasion,—three thousand beer-drinking Germans, gazing with wistful eyes and watering mouths upon that vast array of dishes, prepared from every form of animal life, and made to present as life-like an appearance as possible, like the lions and tigers in a menagerie, who eye with such intense interest the well-filled cart of the keeper at the hour of feeding. We do not hesitate to venture the assertion that in all that vast display there was not one single article presented for commendation on account of its healthfulness.

The account reminds one of the bills of fare presented at the bacchanalian feasts held by some of the old Roman Emperors, who were equally remarkable for great capacity of stomach and small proportions of conscience. The old Roman gluttons showed a degree of wisdom in one respect, however, which, so far as we know, was quite unique and wholly original with themselves. They evidently ate simply for the pleasure of tasting; and recognizing the fact that their viands were not suitable for food, and were certain to prove injurious if retained in the system, they constructed in close proximity to their great feasting halls, little stalls, called *vomitoria*, to which each feaster might withdraw when he found his stomach full, and using a prompt emetic, disgorge himself, and return to the feast prepared to continue his gluttonous enjoyment with comparative impunity. When looking over the ruins of the palaces of the old Cæsars in Rome, last summer, we noticed several of these *vomitoria* which gave evidence of abundant use, and attested to the truth of the statements of historians who have told us of the vices and follies as well as the virtues and noble deeds of their heroes.

A DUTCH DOCTOR'S VIEWS OF CHOLERA.

A WRITER in *Good Cheer* tells a quaint story of an old Dutch doctor on whom he called for advice about a friend, as follows:—

Ah, mine vriend, pe seated. So? ah yes, your vriend has der Yankee cholera. Vell, it is not tangerous; he must rest a vew days, and eat very little; dat is enough.

Do you know vat I calls Yankee cholera? Vell, I tells you; you Yankees eats and trinks everydings, und pyeundpye der inflammation sets in, und bains come on, und der toctor says: "Ah, this is Asiatic cholera. Carry der man to der hospital;" und der man ties of fright.

You Yankees live too vell. Look at der Irish girl vat comes here. She never knows vat sickness pees. She lives at home on puttermilk und botatoes der year round. Vell, she comes here, und eats der meat und trinks der ice-water, und soon she feels sick und veak, und she say: "Oh, der chlimaat; it is killun me." Ah, ha! it is not der climate at all, it is der goot living. Let her eat nodings put puttermilk und botatoes, und all vill pe vell. Der American climate is der *pest* in der vorld.

The Prolonged Bath in Surgical Cases.—Dr. Sonnenburg, in a foreign medical journal, recommends the use of the prolonged immersion in surgical cases in which a dressing cannot be employed, as after an operation upon the rectum, uterus, or urethra, and in some cases of amputation of the extremities. Dr. Hamelton proved the efficacy of the prolonged bath many years ago, and we have known instances in which crushed limbs have been saved by this measure, which must otherwise have been sacrificed.

—A man in Long Island, who had been blind for years, was attacked by roughs, and received a severe blow upon the head intended to take his life, but which had the effect of restoring to him his sight.

Curative Value of a Bad Taste.—The native Burman takes no stock in tasteless remedies, "pleasant purgative pellets," and such trifles; he wants his medicines as nasty "as they possibly can be, as griping as a rat trap, as strong as a polecat, and as immediate in action as a poker applied red hot." In this respect he greatly resembles the average American quack-medicine crank. He values a nostrum chiefly by the strength of its nauseative flavor, and the length of the list of symptoms it is guaranteed to cure. The same might be said of the modern mineral-spring hunter, who assiduously searches every nook and corner of the country for a specimen of water with a taste more nauseous and an odor more villainous than any previously discovered. The more loathsome the compound of mineral elements derived from the miscellaneous store in the bowels of the earth, the more efficacious the liquid is considered to be. If a spring is discovered which is considered unfit for use, too brakish even for cattle to drink, so that they must be kept away by a fence, immediately some enterprising, conscienceless speculator puts up a bathhouse, bottles and barrels the vile stuff, spreads big advertisements in the newspapers, and soon carves a fortune from the childlike faith imposed by a large class of invalids and hypochondriacs in a foul smell and a bad taste.

Mineral springs and quack medicines may be called the foolometers of the present day, by which may be measured the stupendous folly and stupidity of thousands who annually bring their offerings to the shrine of these "all-healing," vile-smelling, money-catching mixtures of wind and moonshine.

Pneumonia a Germ Disease.—A German physician reports the discovery that pneumonia is a germ disorder. The germs were cultivated, and animals inoculated therewith, with the result of producing the disease in the form of lobar croupous pneumonia.

Pawnbrokers and Contagion.—Whenever scarlet fever, diphtheria, small-pox, or other contagious diseases are prevalent, pawnbrokers and second-hand clothing stores should receive a wide berth by those who wish to avoid the disease, as infected clothing or other articles are not infrequently disposed of by the brokers or dealers in second-hand clothing, and may be the means of communicating the disease to others. Even the rag-man should be suspected. Some years ago an epidemic occurred in a large city in this State, which was communicated by rags sold to the rag-man, and afterward disposed of to a lady for making into a carpet.

A Newly-Discovered Cause of Deafness.—A writer in the *London Medical Record* claims to have discovered that the common fashion of wearing a handkerchief tied about the head, so often practiced by ladies, or wearing a head-dress in such a way as to compress the ears, results in a closing of the external auditory canal, which allows an accumulation of ear-wax, and obstructs the entrance of waves of sound.

Oleomargarine Butter.— The Senate Committee on Public Health has been investigating oleomargarine butter, and some rather damaging facts have come to light. It appears that this compound is a "nasty mixture," and a very unwholesome one. One man testified that the liquor which runs from it "will eat through a pair of cowhide boots."

—Dr. Richardson, in a recent address before the British Medical Temperance Association, asserted that total abstainers eat less than moderate drinkers, citing his own experience since his family had become abstainers, as well as his observations during an extensive trip through Ireland. This seems to invalidate the argument that alcoholic liquors are in any sense a substitute for food.

—"An association has been formed in Paris to protest against the eating of American lobster, on the ground that the animal is tortured by being put into the pot to boil while it is alive. The badge of membership is worn on the arm, and is in the form of a lobster holding in its claw a card on which is displayed the word, 'Thanks.'"

The Frenchman does not need to visit America for examples of this sort of cruelty. His own treatment of snails is precisely similar. The many varieties of mollusks which abound in his vineyards are gathered in great numbers, and large heaps of these slow-moving and defenseless creatures may be seen upon the stands in every market-place. To prepare them for food, snails are thrown alive into a kettle of boiling water, which kills and cooks them at the same time. Let charity begin at home.

—Edinburgh has been having during the past winter a repetition of the series of popular health lectures which were so well received last year. This is just what every city in the world ought to have. When the people learn that it is *cheaper* to keep well than to get well, there will be a more universal demand for this kind of instruction.

—A Chinese doctor, L. Pa Tai, is said to have the largest practice of any physician in San Francisco. He makes his patients abstain from the use of fried meat, eggs, liquors, and watery vegetables. He claims to be ahead in the use of hot water, having prescribed it for his patients for more than thirty years.

—It is asserted that the Indians of Brazil employ ants instead of a surgeon in dressing wounds. The ants are made to bite the edges of the wound together, their heads being then cut off, the parts remain in place.

—18,457,990 bottles of patent medicines are sold in England every year.

DOMESTIC MEDICINE.

NASAL CATARRH.

Symptoms.—The symptoms of acute nasal catarrh, or cold in the head, are too familiar to most persons to require more than a very brief description. The usual symptoms are chilliness; lassitude; pain in the forehead; a watery discharge from the nose, which becomes yellowish and thick after two or three days; feverishness; coated tongue; and loss of appetite. The eyes are also frequently affected, being in most cases red and congested, and often suffused with tears. Frequently repeated acute catarrhs may finally give rise to chronic catarrh; however, the latter sometimes develops gradually without being directly traceable to acute colds in the head.

Chronic nasal catarrh, with which we are chiefly concerned, presents varied symptoms in its different stages. In the first stage of the disease, which is usually known as simple chronic nasal catarrh, the symptoms are similar to those experienced in the last stages of acute cold in the head. There is a more or less copious discharge from the nose, either through the nostrils, requiring the frequent use of the handkerchief, especially in the morning, or through the passage to the throat at the back of the nasal cavity, as indicated by a dropping at the back of the throat. The patient suffers more or less with a dull pain over the eyes, in the cheek bones, or at the back of the head, which is increased in damp weather or whenever a slight cold is taken.

After a time the heavy continued congestion and irritation of the nasal membrane gives rise to swellings and permanent thickening of the mucous membrane and tissues underlying it in various parts of the nose, in consequence of which the several passages through the nose are more or less obstructed, so that breathing is interfered with, especially during sleep. On falling asleep, the patient involuntarily opens his mouth, not being able to secure a proper amount of air through the obstructed nostrils without the aid of the voluntary effort which he habitually makes during waking hours. The obstruction of the nasal passages is also indicated by a decided nasal tone in the voice, or rather, absence of nasal resonance in the voice, giving the voice the peculiar qualities produced by speaking with the nose closed. A similar swelling and enlargement occurs in certain glands at the foot of the pharynx, or point at which the nasal cavity and the pharynx unite, known as the pharyngeal tonsil. This enlargement sometimes becomes so great as to almost wholly obstruct the passage between the nose and the throat. We have met with cases where the opening, which is usually capacious, was not much larger than a goose quill. These obstructions produce, especially during sleep, various abnormal noises in breathing. Snoring is always indicative of some obstruction of this sort.

Changes in the form of the nose also occur. The abnormal quantity of blood supplied to the mucous membrane lining the nasal cavity occasions an abnormal development of all the tissues; and an enlargement and thickening of the upper part of the nose occurs, and also, in many cases, the elongation of the septum of the nose, the cartilaginous extremity of which usually becomes turned to one side or the other. Very frequently, also, the central position of the septum deviates to one side, producing entire obstruction of the passage upon that side of the nose. Abnormal growths also appear in the nasal cavity, such as mucous and fibroid polypi, cartilaginous points, sometimes appearing as rounded proximities and in others as long ridges projecting from the vomer, either directly outward or downward. We have frequently met cases in which nearly the whole nasal cavity was an abnormal growth of this kind. At the time of this writing we have under treatment a patient from whose nasal cavity we have, within the past few weeks, removed eight polypi, most of which were of considerable size, and obstructed the nasal passages in such a manner as to make breathing through the nose impossible.

In many cases of catarrh, especially those in which the disease has advanced so far as to produce abnormal growths and permanent enlargement of the structures within the nasal cavity, the disease is accompanied by an offensive odor. The breath at times becomes very foul, and the patient may be easily led to believe that extensive destruction of the tissues in the nasal cavity is taking place. This is due to the accumulation of secretions in the nasal cavity, which, on account of the numerous obstructions, cannot be thoroughly cleansed, either through the ante-

rior or posterior openings, and in consequence of long retention the catarrhal secretions undergo decomposition, giving to the breath a peculiar and offensive odor, characteristic of these stages of the disease.

The state of things just described may continue for a few days or for a large part of a lifetime. Sooner or later, however, in the majority of cases, a still more advanced stage of the disease is reached, which is commonly known as dry catarrh. In this form of the disease there is a deficient activity of certain of the glands of the nose, due to atrophy or obstruction of the glands from long-continued pressure on account of the thickening and abnormal growths already described. There are two kinds of glands in the nasal mucous membranes, one variety producing a thick viscid mucus, the other, a liquid serum. The latter glands are destroyed first, so that the viscid mucus which is secreted is not sufficiently fluid to escape through the opening, and, adhering to the surface of the mucous membrane, quickly dries, forming scabs, which soon putrefy, and produce an exceedingly bad odor. In some cases the odor of the breath is so intensely fetid as to produce loss of appetite, and great impairment of the general health.

The patches of putrid mucus adhering to the mucous membrane produce excoriations, finally resulting in ulceration, which may often penetrate to the bony and cartilagenous structures of the nose, and thus occasion loss of the septum of the nose, and destruction of some of the bony prominences which project into the nasal cavity from the bones of the face. In this form of the disease, the patient usually experiences relief from some of the distressing symptoms suffered during the early stages of the malady. The obstruction to the nasal breathing is removed, and the various abnormal thickenings gradually shrink away, until the passage through the nose becomes so wide that the back of the throat can be easily seen through the nostrils. Patients of this class frequently remark that they suffered greatly with catarrh in early life, but have outgrown it, and wish treatment simply for the removal of the bad odor from the breath, to which their attention has usually been called by friends, it being generally the case that when the disease has advanced so far as in this class of cases, the sense of smell has been almost or entirely destroyed through the same destructive processes which have removed the thickening and swellings which occurred in the earlier stages of the disease.

The effects of nasal catarrh are not entirely confined to the nasal cavity. The irritating discharges dropping down into the throat occasion gradual extension of the disease into the pharynx, causing thickening of the mucous membrane of this part, hypertrophy of the tonsils, elongation of the palate, which produces irritation of the throat, unpleasant tickling sensations, and a variety of other sensations of an unpleasant character. It also extends further downward into the larynx, causing harshness and weakening of the voice, and occasionally its entire loss.

Painful Menstruation.—Dysmenorrhœa can generally be cured by the adoption of proper means, provided the real cause is ascertained; though when due to fibrous tumors of the uterus, the treatment often fails. The most that can be done, however, in the domestic treatment of the difficulty, is to palliate the symptoms at the time of the menstrual period. Curative treatment can be best managed by a competent physician. The patient suffering with any form of dysmenorrhœa should take care to keep the bowels quite free by a carefully regulated diet, and the use of the warm water enema when necessary. Laxatives and purgatives should be carefully avoided.

The patient should rest quietly in bed or upon the sofa for a day or two before the time for menstruation to begin. On the day it is expected, or as soon as the pain commences, the patient should take a hot full bath or a hot blanket pack, and should afterward be covered with warm woolen blankets, with hot water bags or heated bricks to the feet and back and over the lower part of the abdomen, and should be kept as quiet as possible. Severe pain, when not relieved by these measures, will often yield to hot fomentations over the lower part of the bowels, when thoroughly applied; or the application of the hot blanket pack. Especial pains should be taken to keep the feet and limbs thoroughly warm. The use of both faradic and galvanic electricity is in some of these cases very advantageous. We have often secured almost immediate relief from pain by their use. A large, hot enema will sometimes give relief. The water should be injected slowly, and should be retained for several minutes if possible to do so. In many cases, hot sitz baths give speedy relief. The hot bath was known to the ancients, and employed by them in these cases. It was highly recommended by Rhazes, an eminent ancient physician. Fomentations across the lower part of the back are also very advantageous.

We have found good results from the use of

hot water bags applied to the spine for three to five hours daily, and bags filled with ice or cold water applied over the lower portions of the bowels at the same time, the treatment being employed for some days before the menstrual period. The hot vaginal douche should be used daily, and may be employed at the time of the period in the variety due to congestion.

When the disease is due to anteflexion, which is according to our observation the most common cause of severe pain at the menstrual period, nothing will give permanent relief but a surgical operation. The operation will not always effect a cure; but out of more than fifty operations of the kind performed within the last three years, we have had not more than two or three failures, and those were cases in which the pain was probably due to other diseased conditions associated with the anteflexion.

Wet-Sheet Pack.—Two or three comfortables or thick blankets, one woolen blanket, and a large linen or cotton sheet, are the articles necessary. It is important to be certain that the sheet is sufficiently large to extend twice around the patient's body. More blankets are required in cool weather and by weak patients. Spread upon a bed or straight lounge the comfortables, one by one, making them even at the top. Over them spread the woolen blanket, allowing its upper edge to fall an inch or two below that of the last comfortable. Wet the sheet in water of the proper temperature, having gathered the end so that it can be quickly spread out. Wring so that it will not drip much, place its upper end even with the woolen blanket, and spread it out on each side of the middle sufficiently to allow the patient to lie down upon his back, which he should quickly do, letting his ears come just above the upper border of the sheet, and extending his limbs near together. Wrap the patient carefully first with the sheet and afterward with the blanket, taking care to exclude air.

Catarrh of the Mouth, or Stomatitis.—Remove causes of irritation. In cases caused by difficult teething, more harm than good is done by lancing. Use soothing lotions when there is much irritation, as slippery-elm and flaxseed tea, and rinse the mouth often with cool water. Avoid all hot drinks. The disease will usually speedily disappear when the cause is removed. When obstinate in the chronic form, rinse the mouth morning and night with a solution of carbonate of soda, a dram to the pint of soft water, or simply cool water. Cleanse the teeth and mouth thoroughly after each meal and before going to bed. If there is foul breath, use a weak solution of chlorinated soda as a gargle morning and night. For clamminess, chew a little piece of rhubarb just before retiring. It should be chewed some time, as its effects are wholly local.

Spectacle Peddlers.—We often meet people who are wearing glasses purchased of peddlers, or persons professing to be traveling opticians. We have rarely found that the glasses which had been provided were properly selected, and can indorse the following from the *Scientific American:*—

"Any peddler of an average intelligence can sell you a pair of spectacles which, upon the first instance, would suit your eyes well; but it takes a good knowledge of the eye and its defects to fit you with a pair of glasses that will really benefit you, and, what is more, do you no harm. There is a good deal of harm done by the injudicious wearing of glasses. Then, of course, there are people who do n't know what they want, or have no use for glasses, like that fellow in the old German story who could not be suited by any optician, because—he could n't read at all."

Cause of Nine-Day Fits.—This extremely fatal malady has long been a puzzle to the doctors on account of the difficulty in ascertaining its cause, and hence the impossibility of deciding upon a rational plan of treatment. Some years ago the eminent Dr. Sims suggested the cause of the malady to be pressure upon the brain by depression of the occipital bone. Dr. Hartigan, of Washington, D. C., has recently revived this theory, supporting it by many able arguments. It is suggested that the common practice of carrying children with the back of the head resting upon the arm, or supported by a hard pillow in a crib or baby carriage may be the cause of this disease in many scores of cases. The remedy suggested is compression of the sides of the head by pressure with the hands, and carrying the child upon the arm with the face downward.

Cinders in the Eye.—One of the most effective means of removing a cinder or a small particle of dirt from the eye, is said to be the introduction into the eye of one or two grains of flaxseed. The grain should be placed under the lids, and soon produces a mucilage, which envelops and drains away the foreign bodies.

Wheat Charcoal.—A medical contemporary recommends charcoal made from wheat as an excellent remedy for diarrhea due from indigestion, and in acid dyspepsia, and other ways in which charcoal is useful. We have employed bran charcoal for this purpose for some time with excellent results, but have no doubt that the wheat charcoal would be better. It should be finely pulverized.

Question Box.

All questions which are sent for answer in this department must be accompanied by the name and post-office address of the person sending the question. Otherwise they will receive no attention. It is necessary to insist upon the observance of this rule, as questions are sometimes received which should be answered, but cannot properly be noticed in these columns.

Painful Menstruation.—E. P. E. inquires for directions for treatment in case of painful menstruation.

Ans. This question cannot be answered in the brief space to which answers in this department are necessarily limited. An article on this subject will be found in the Domestic Medicine department of this number.

Rheumatism—Food for the Nerves—Hot Water.—A new subscriber says, "I would like to ask what would be the best hygienic treatment for a person who has had rheumatism in the shoulder and neck until it has created a trembling, and affected the nervous system very much. 2. What is the most strengthening food for the nerves? 3. Is drinking hot water good for nervous invalids?"

Ans. The trembling is probably the result of a loss of nerve tone consequent upon the long continuance of the painful disease. As a first step toward effecting a cure, the cause should be removed by the proper treatment for the rheumatic difficulty. Then the general health should be improved in every possible way, by careful attention to diet, and out-of-door life, and the employment of all measures calculated to improve the general health.

2. There is no particular article of diet which can be called nerve food. The nerves are best nourished by such food as is best for the body in general. Fruits, grains, and milk constitute the best diet. Meat should be taken sparingly by persons suffering with nervous disorders, as a rule, and especially where there is nervous irritability.

3. Hot water is not especially to be recommended for nervous people. It may be used, however, in case there are other indications which render its employment advisable.

Clay-Colored Stools—Irregular Bowels—Hemorrhage from the Lungs.—We reply to questions upon the above-named points from a consumptive as follows:—

1. Clay-colored stools are usually the result of an obstruction to the biliary passages, so that the bile does not enter the intestines. There is sometimes deficient secretion of bile by the liver. 2. The best remedy we have found is the drinking of hot water, eight to ten glasses per day. A copious hot enema daily, the water to be retained as long as possible, and hot fomentations over the region of the liver are beneficial. 3. Will find directions for treatment in case of hemorrhage from the lungs, in the department of Domestic Medicine in the next number.

Tetter.—E. T., of Texas, wishes directions for the treatment of a troublesome tetter on the face, of several years' standing.

Ans. Apply hot water to the face, either by sponging or by means of a light spray, two or three times a day for ten or fifteen minutes at a time. The water should be as hot as can be borne. Afterward bathe the parts with a solution of common baking soda, a teaspoonful to the pint of water. Try this treatment a month. If not better, obtain from a druggist an ounce or two of zinc ointment, and employ this once or twice a day in addition to the measures suggested.

Stomatitis—Tooth-brushes—Dentifrice.—We reply to questions on these points as follows:—

1. For best treatment of stomatitis, see department of Domestic Medicine in this number.

2. We know of no tooth-brush better than the soft bristle brush.

3. Precipitate chalk, containing about one-sixth part carbonate of magnesia, makes a thoroughly satisfactory powder for use in cleansing the teeth. Fine castile soap, or almost any one of the numerous tooth soaps sold by druggists, used with pure water, will be found satisfactory. "Fenow sodique," or carbonate of soda, used in a very diluted solution, is a very good preparation for cleansing and disinfecting the mouth.

Catching Cold—Saline Sponge—Oil Bath.—A correspondent inquires as follows: "1. When a cold is going in the air, is there any possible way to avoid catching cold? 2. What proportion of salt should be used in taking a saline sponge bath? 3. How should the oil bath be given?"

Ans. 1. It will not always be possible to avoid contracting a cold during an epidemic of influenza; but the liability will be greatly decreased by taking special care at this time, respecting changes of clothing and exposure to draughts, dampness, etc. A bad cold, when contracted, is not easily cured, and especially when it has become chronic. Very frequently the treatment recommended for nasal catarrh is required.

2. In giving a saline sponge bath, one tablespoonful of salt should be used to each quart of water. In use for general tonic purposes, the

water should be tepid. If used to prevent night sweats, it should be hot.

3. For directions for giving an oil bath, see GOOD HEALTH for March.

Pine Tar.—A commercial correspondent inquires if taking "pure pine tar" would result in evil to the system, and would it be contaminated with the metal if kept in a tin can.

Ans. We should expect no particular benefit to be derived from the use of pine tar, and if long continued, it might disturb the digestion. It is slightly antiseptic. It will not be contaminated with tin.

Pin Worms.—A. C. H. suggests that "pin worms" may originate from the larva or eggs of flies. This is a mistake. The two insects belong to an entirely different species.

Weak Eyes.—M. F. C., of N. Y., asks, "What is good for weak eyes? I have a niece, about sixteen, who was intending to teach school, but was obliged to leave on account of overstudy."

Ans. The best thing for weak eyes, when the difficulty is the result of overstudy, is rest. This is all that is needed in the majority of cases. If, after proper rest, the eyes are not restored to their usual strength, they should be carefully examined by a competent oculist.

Golden Butter Compound.—An Eastern correspondent sends us a sample of a substance sold under the above title, which it is claimed will make two pounds of butter out of one pound of butter and a pint of milk.

We cannot recommend such catch-penny claptraps as this. Genuine butter can be made from nothing but genuine cream. There are many methods of adulterating butter, some of which are even more remunerative than the Golden Butter Compound. Honest people cannot afford to have anything to do with humbugs of this sort.

Fractured Bone.—A correspondent desires information through GOOD HEALTH on the treatment of a fractured bone at the time of the fracture, and while the healing process is going on.

Ans. This question cannot be answered briefly. We will say simply that we follow the usual methods employed by good surgeons, with the exception that whenever possible to do so, we first treat the injury, when it is much bruised, by hot fomentations, or immersion in hot water for several hours, by means of which the subsequent soreness which otherwise would occur is prevented.

AN English correspondent, "A. A.," makes a number of inquiries, to which we reply as follows:—

1. A vapor bath every week is not to be recommended for a person with so little vitality and so little assimilative power as you seem to possess.

2. The course of diet you are following, abstaining from tobacco, liquor, flesh food, etc., is one which we regard conducive to the highest health and longevity; but there are exceptions to the general rules, in which cases may require some different regulation on the matter of diet.

3. Your little boy should be allowed to live in the sunshine. Keep books away from him for three or four years. Keep his bowels open by careful diet, using, if necessary, an occasional warm-water enema.

There is no particular article of food especially adapted to your case. Lemons, oranges, or other acid foods are not harmful when used in a moderate quantity. The prescriptions you have been taking are none of them curative. The best results you can hope for from any of them would be a possible improvement of your feelings. They would be likely to make you think you are better, though in fact you might not be really better than you were before.

The Spleen.—A California correspondent, living in a malarious country, wishes to know something about the spleen.

Ans. We have no space for the consideration of this subject, but will say briefly that the spleen is supposed to have something to do with the manufacture of white-blood corpuscles, and possibly may also be concerned in the destruction of red-blood corpuscles. It is perhaps the least understood of any of the abdominal organs. It frequently becomes enlarged in cases of chronic malarial poisoning. Experiments have been made upon animals in which the spleen was removed without destroying the life of the animal or apparently affecting his health.

A Dangerous Mixture.—A correspondent states that while spending an evening at the house of a friend, a violent noise was heard in the kitchen, resembling the discharge of a gun. An examination showed the noise to be caused by the explosion of a can of mixture which had been prepared for mince pies. The cover of the can was blown off, scattering the contents over the ceiling. He wishes to know the cause of the explosion, and if the results would have been equally disastrous if the mixture had been made up into pies and eaten, as had been intended.

Ans. The cause of the explosion was the fermentation of the contents of the can. The usual mixture employed in mince pies is a most fermentable compound, very quickly undergoing decomposition. We have never known of a case in which the eating of mince pie produced an explosion in the stomach, but have no doubt that many a good digestion has been as thoroughly wrecked as was the sauce-can in the instance referred to.

Several questions received this month have not been answered, not being accompanied by the name of the sender.

THE COOKING SCHOOL.

Conducted by MRS. E. E. KELLOGG.

A DINNER OF EIGHT COURSES.

LEGUMINOUS SEEDS.

THIS group of foods, which includes peas, beans, and lentiles, is usually classed among vegetables, but in composition they differ greatly from other vegetable foods, being characterized by a much larger proportion of nitrogenous elements, by virtue of which they possess a much higher nutritive value. Indeed, when mature, they contain a larger proportion of nitrogenous matter than *any other* foods, either animal or vegetable, although in their combined nutritive elements they do not exceed the grains. On account of the excess of nitrogenous elements in their composition, they are well adapted as a substitute for animal foods, and for use in association with articles in which starch is the predominating principle.

The leguminous seeds, when mature and dried, all require prolonged cooking to render them tender and digestible; when young, they are easily cooked, but are, like other vegetables, less nourishing. All the legumes are excellent for use in the preparation of soups, recipes for which were given in the January number; but there are many other wholesome and palatable ways of preparing them for the table, which are a great convenience to the housewife at this season of the year, during the interval between the exhausted supply of winter vegetables, and the appearance of the early summer varieties. The following are a few of the recipes we have found most appetizing:—

Mashed Peas.—Soak a quart of dried peas over night in cold water. In the morning put them to cook in boiling water, and boil till perfectly tender, allowing them to simmer gently toward the last, so they may cook as dry as possible. Rub them through a colander to remove the skins, and season with salt and half a cup of sweet cream.

Scalloped Beans.—Soak a pint of white beans over night; in the morning put into an earthen baking dish, cover well with new milk, and bake in a slow oven for eight or nine hours, refilling the dish with milk as it boils away, and taking care that the beans do not at any time get dry enough to brown over the top till they are tender. When nearly done, add salt to taste, and a half cup of cream. They may be allowed to bake till the milk is quite absorbed, and the beans dry, or may be served when rich with juice, according to the taste. The beans may be parboiled in water for a half hour before beginning to bake, and the length of time thereby lessened. They should be well drained before adding the milk, however.

Stewed Beans.—Soak a quart of white beans in water over night. In the morning drain off the water, turn boiling water over them an inch deep or more, cover, and place in the range where they will only simmer, adding boiling water as it is needed. When nearly tender, add salt to taste, a tablespoonful of sugar, and half a cup of good sweet cream. Cook slowly an hour or more longer, but let them be full of juice when taken up, never cooked down dry and mealy.

Mashed Beans.—Look over carefully and soak over night in cold water, a quart of nice white beans; put into cold water, and boil till perfectly tender, and the water nearly evaporated. Take up, mash through a colander to remove the skins, season with salt, put in a shallow pudding dish, and brown in the oven.

Baked Beans.—Pick over, and soak over night in cold water a quart of best beans. Put them to cook in fresh water, and simmer gently till very soft and the skins broken. Let them be quite juicy when taken from the pot. Season with salt and a teaspoonful of molasses. Put them in a deep crock, and place in a slow oven. Let them bake two or three hours, or until they assume a reddish brown tinge, adding boiling water occasionally to prevent their becoming dry. Turn into a shallow dish, and brown nicely before sending to the table.

Stewed Lima Beans.—Put the beans into boiling water, and cook till tender, but not till they fall to pieces. The length of time required will depend upon whether the beans are fresh or dry. Fresh beans should cook an hour or more, and dry ones require from two to three hours' cooking. They are much better to simmer slowly than to boil hard during the latter part of the time. They should be cooked nearly dry, and a cup of thin cream, to each pint of beans, added. Season with salt, and let them simmer for a few minutes after the cream is turned in. Should it happen that the beans become tender before the water is sufficiently evaporated, do not drain off the water, but add a little thicker cream, and thicken the whole with a little flour, stirred in as for white sauce. A little flour stirred in with the cream, even when the water is nearly evaporated, may be preferred by some.

Succotash.—Boil one part dry Lima beans and two parts dried sweet-corn separately until both are nearly tender. Put them together, and simmer gently till done. Season with salt

and sweet cream. Fresh corn and beans may be combined in the same proportions, but as the beans will be likely to require the most time for cooking, they should be put to boil first, and the corn added when the beans are about half done, unless it is exceptionably hard, in which case it must be added sooner.

Stewed Dried Peas.—If the peas were gathered and dried while young and tender, put them into cold water, and let them just come to the boiling point, but not boil. Keep them on the range where they will just simmer, not bubble at all, till they are tender. Season with salt and a little sweet cream. They will be quite as nice as fresh green peas. More mature peas may be cooked in the same way, though it will require a longer time, but the flavor is much finer than when boiled in the ordinary way.

Stewed Green Peas.—Shell and look over carefully a quart of fresh peas, being careful not to get any dirt in them, as they are better not to be washed; add to them a cupful of boiling water, cover closely, and simmer gently until very tender, by which time the water will be nearly evaporated; season with salt and enough sweet cream to make them as juicy as desired; simmer together for a few moments, and serve.

—A subscriber asks how to make whole-wheat wafers. If she will follow the recipe for Beaten Biscuit given in the March number, only rolling the dough *very* thin when sufficiently beaten, and cutting it into the required shape, pricking well with a fork and baking in a quick oven, we think she will be pleased with the result. If the wafers are desired for a dyspeptic, they should be mixed with ice-water, and rolled almost as thin as a knife-blade before baking.

Whole-Wheat Muffins.—Dissolve a half cake of compressed yeast in half a pint of milk, and add a sufficient quantity of rich milk to make a pint. Stir into it three cups of whole-wheat flour, and set in a warm place to rise. When light as a foam, stir in two well beaten eggs, and turn into gem irons or muffin rings, filling them only half full. Let them rise till very light, and bake in a quick oven.

Currant Muffins.—Prepare the muffins in accordance with the above recipe, and when well risen, add with the eggs two tablespoonfuls of sugar and a handful of zante currants. Turn into the irons to rise, and when light, bake in a quick oven.

Cocoanut Flavor.—Cocoanut, whether fresh grated or desiccated, unless in extremely fine particles, is a very indigestible substance, and it is always better, when its flavor is desired for custards, puddings, etc., to steep or simmer a few tablespoonfuls of the cocoanut in a pint of milk for twenty minutes or a half hour, and then strain out the particles. One tablespoonful of fresh-grated cocoanut, or two of desiccated thus steeped, will give a very pleasant and delicate flavor to the milk. If a more intense flavor is desired, a larger quantity may be used. Allow the milk to just simmer, never to bubble or boil, or it will be likely to curdle. Orange and lemon flavor may be obtained by steeping in the same way a few pieces of orange or lemon rind in milk.

To Can Apples.—A can of nice fresh apple-sauce will be a luxury in the coming weeks, before fresh fruit ripens. But apples at this season are generally rather tasteless, and need some flavor added to make them relishable. A nice way to can them is to prepare a sirup in the following proportions: The juice of four large or six small lemons, with several slices of the lemon, and four cups of sugar. Pour over this when well mixed three pints of boiling water, and let all simmer together for eight or ten minutes, or till as thick as desired. Prepare the apples, quarter them, or if small only halve them, and cook them gently in a broad-bottomed, closely-covered sauce-pan, with as little water as possible, till tender, but not broken; then pour the sirup over them, heat all to boiling, and can at once. The apples may be cooked by steaming over a kettle of hot water, if preferred. Care must be taken to cook those of the same degree of hardness together as much as possible, and for that reason it is better to soak the apples before preparing them, cooking the tenderest ones separately from the hard and tough ones. The slices of lemon should be removed from the sirup before using.

Citron Apples.—Select some nice, tart apples of about the same degree of hardness, so that they will cook alike, and dig out the cores. Unless the skins are very tender, it is better to remove them also. Stuff the cavities with sugar, first placing in each apple a few bits of chopped citron. If the skins have been removed, place the stuffed apples around on a flat earthen dish, with a tablespoonful of water on the bottom; cover closely, and bake till perfectly tender, but not till they have fallen to pieces. If the skins are left on, they may be baked without covering. When cold, serve in separate dishes, with a spoonful or two of whipped cream on each apple.

Lemon Apples.—Prepare nice tart apples the same as for citron apples. Fill the cavities made by removing the cores with a mixture of grated lemon and sugar, squeeze a few drops of lemon juice over each apple, and bake. Serve with whipped cream and sugar.

Dried Apple Sauce.—Wash good dried apples, and boil slowly in sufficient water to cover. Flavor with lemon, dried quince, peach, date, or any other fruit.

Literary Notices.

TEA AND COFFEE: Their Physical Intelectual, and Moral Effects on the Human System. By Dr. A. Alcott, with notes and additions by Nelson Sizer, author of "Forty Years in Phrenology," 16mo, 118 pages, paper, price 25 cents. Fowler & Wells, Publishers, 753 Broadway, New York.

Dr. Alcott's work on the use of Tea and Coffee, first published many years ago, has done much to call attention to the effects of the use of these articles. In the new edition, Mr. Sizer has presented in the form of notes many additional facts brought out by the increased knowledge of the subject.

Part first opens with the history of tea, showing its exhilarating properties, when it was introduced, the amount consumed, and its increase. It is shown to be a medicinal substance, and to have the effect of a powerful drug, also that it is a poison, and produces a tendency to disease. The origin of the use of coffee is also given, with its effect both on the body and the mind. It is shown that some suffer more from the use of it than others. It is the opinion of eminent authority, that even a moderate use of these articles produces diseased conditions; and we would recommend those who are using either of the above articles with the thought that they are not harmed, and also those who have not acquired the habit, to procure this little work, and read what is said on the subject.

THE SUNDAY-SCHOOL WORLD is a monthly, now in its twenty-fourth volume, published as a help in the study of the International lesson series. It is a valuable assistant, and ought to be in the hands of every teacher whose class is pursuing this series of lessons. Published by the American Sunday-School Union, 1122 Chestnut St., Phil. Price, 60 cts. per year.

The same Union publishes a Sunday-School Quarterly, with lesson helps and explanations, at 20 cts. per year; also several other excellent periodicals, especially adapted to the little readers, and a Primary Lesson Paper for younger scholars, with lesson aids and illustrations.

THE MORNING AND DAY OF REFORM.—This paper is one of the strongest exponents of prohibition and the temperance cause, and is now in its tenth volume. Its columns are well filled with excellent reading matter, suitable for both old and young. It numbers among its contributors Hon. Neal Dow, and Hon. John B. Finch, besides a score of other talented writers. Subscription price, 50 cts. per annum. Published by H. W. Adams, 46 Adams St., Chicago, Ill.

A BACHELOR'S TALKS ABOUT MARRIED LIFE AND THINGS ADJACENT. By William Aikman, D. D. Fowler and Wells Publishers, N. Y.

The book is a series of talks on various incidents and phases of married life. The bachelor's arguments are excellent and sensible, and contain more truth than poetry respecting the subject which he considers. The pleasing style renders it an interesting book, and one which can be perused with much profit by a multitude of readers.

THE POPULAR SCIENCE MONTHLY for May is filled as usual with most interesting and profitable reading matter. Time occupied in the perusal of this Journal is always well spent. Subscription price, $5.00 per year. Published by D. Appleton and Co., 1, 3, 5 Bond St., N. Y.

TRUTH.—This is a weekly magazine of current literature. Its manner of dealing with some of the knotty problems of the day, and its brave words in favor of all reforms, indicate that its name is not merely an appellation, but a leading principle on the part of its editors. Published in Toronto, Canada. Subscription price, $2.00 per annum.

DETERIORATION OF THE PURITAN STOCK. By Dr. John Ellis, 157 Chamber St., N. Y.

This is a pamphlet of fifty-two pages, containing many interesting facts concerning the deterioration of the strong, healthy stock of New England ancestry. Among the many prominent causes, the author classes the free use of stimulants and narcotics, improper and unhealthful clothing, and other violations of physical laws. Price for 25 copies, $1.00.

SUNSHINE AT HOME.

THE life-mission of some people seems to be to "scatter sunshine" wherever they go. A happy disposition, which makes the best of everything, looks on the bright side, and ever bears in mind that "the darkest cloud has a silver lining," is the means of brightening the lives of all who are brought under its influence. While this is true of individuals, it is equally so of other objects which have an influence on the mind, and most emphatically true of some kinds of books. The work entitled, "Sunshine at Home" has been prepared for the purpose indicated by its title. Its mission is to brighten the lives of those who peruse its pages, by its cheering words, its entertaining sketches, and its beautiful pictures.

The work comprises 112 large quarto pages, and 170 engravings, and is printed on fine calendared paper, in the best style of the typographic art. It is handsomely and substantially bound in fine cloth, embossed in jet and gold, and is a handsome ornament to any center-table, and an adornment to any library.

ITS FIELD OF USEFULNESS.

The character of the work is well calculated to give it a wide circulation. Bright and sparkling, without being frivolous or trifling; moral in its tone, without being sombre or dogmatical; religious, without sectarianism,—it finds a ready sale in all classes of society, and exerts its beneficent influence wherever it goes. Agents are meeting with great success. It readily commends itself to all who see it, and once brought to the attention of a family, its possession is earnestly desired. Retail price, $1.50. Address, REVIEW AND HERALD, Battle Creek, Mich.

Publisher's Page.

☞ A Normal of Hygiene and Heredity, under the auspices of the National Woman's Christian Temperance Union, will be held at Washington, D. C., May 5 to 8.

☞ A large number of canvassers are in the field in the interest of GOOD HEALTH, and the success with which they are meeting is evidenced by the large number of additions constantly being made to our list. We are in constant receipt of letters from old and new subscribers, which indicate a growing interest in the journal and its mission. GOOD HEALTH occupies a field in journalism which is filled by no other journal, and its publishers feel gratified at the many evidences of appreciation on the part of the public which we are constantly receiving.

☞ The recent Sanitary Convention at Hillsdale was largely attended from the first session, which was held in the afternoon. In the evening the house, one of the largest in the city, was crowded, even the aisles being filled. The clergymen of the city and the professors of Hillsdale College, one of the most flourishing educational institutions in the State, showed a very hearty interest in the Convention, as did also the physicians of the city. The various papers presented were followed by highly interesting and practical discussions. These Conventions are one of the most efficient means of educating the people on the subject of practical sanitary topics. The State Board of Health of Michigan was the first to introduce into this country this method of diffusing sanitary knowledge among the people.

☞ This number is a little later than the regular time for publication, but we trust that the unusual excellency of its contents will compensate for seeming tardiness, which was the result of a combination of circumstances not easily controlled. In the meantime, let there be an untiring effort made to extend the circulation of the journal everywhere. This is missionary work of no ordinary kind. Our magazine *must* carry the gospel of health to the nations. It has a work to do which is peculiarly its own. There is not a publication in the world which takes just the same views of the subject of Health and Temperance as our own GOOD HEALTH. According to the present encouraging prospect, its circulation will be doubled the present year. Let this good work move on.

☞ Eld. Geo. I. Butler, prominently connected with the health and temperance reformation, and especially interested in the Battle Creek Sanitarium, is still abroad in Europe, but is expected to return in about six weeks.

☞ Just before going to press, the editor and wife left for a brief absence, to attend the Health and Temperance Normal at Washington, D. C.

☞ A large tent, 50x70 feet has been rented by the Sanitarium, and pitched contiguous to the north end of the main building, to be used during the summer as a gymnasium, it having become necessary to vacate the space formerly used for this purpose in the main building to accommodate the large number of patients which has long exceeded the natural capacity of the building. It is hoped that the new gymnasium, the foundation walls for which are now nearly completed, will be ready for occupancy early in June.

☞ Work upon the addition to the main building of the Sanitarium is progressing rapidly, the foundations being nearly completed. With this addition the Sanitarium is placed at the head of all institutions of this sort ever organized in this country or Europe, as well for the size and completeness of its buildings as for the perfection of its appointments and the extent of its facilities, which have long been unrivaled. The dimensions of the completed structure will be as follows:—

Entire length, including rear extension, 430 feet; hight to top of new part, 84 feet; width of main part, 40, 46, and 54 feet; length of promenade in halls and verandas, over one-half mile; floor space, more than two acres.

The completed Main Building will accommodate more than 200 persons, and nearly as many more can be accommodated in the other buildings of the institution.

The new part is now in process of erection, and is being put forward so rapidly that a part will be occupied early in June, and will be entirely completed by Oct. 1.

This large addition to our building has not been made to accommodate prospective patronage; but has been made necessary by the great increase in patients within the last two or three years, to accommodate whom we have been compelled to rent a large number of cottages, which, being heated by stoves and not properly ventilated, have not been adapted to use in winter, though very attractive for summer. During the last winter we have been obliged to discourage many from visiting us, on account of our inability to accommodate them in our Main Building. We are now pleased to be able to say to all our friends and former patrons that we shall soon be prepared to offer such accommodations for patients as are unequaled elsewhere.

Arrangements have been made by which we hope to be able to accommodate comfortably and pleasantly all who may visit us during the coming summer, and hope before another winter we shall be prepared to receive all who may come, in our completed and commodious structure.

MANAGERS SANITARIUM,
Battle Creek, Mich.