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Nature's Laws, God's Laws; Obey and Live.

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DRESS REFORM.

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FASHIONABLE SUICIDES.

If the number of deaths annually resulting from improper dress were accurately recorded, the aggregate would be absolutely appalling. A large percentage of these would be found to be due to inattention to the maintenance of a uniform temperature of the body. Fashionable attire separates the body into zones. The upper part of the chest, and the feet and ankles, are the frigid zones, while the lower part of the abdomen is the torrid zone. The feet and limbs are so far away from the centers of life and heat that they naturally require more clothing to maintain in them a temperature equal to that in other parts. The warm blood current loses much of its warmth in passing the whole length of the limbs, and so reaches the extremities only after being chilled. Instead of supplying the required extra clothing of these parts, fashion totally ignores the wants of nature, and gives the limbs even less protection than other parts which need it less. The upper part of the chest is often exposed even to the eye. At best, it is usually covered only by a few thin layers.

Garments from the upper part of the body overlap those from the lower portion, below the waist, thus doubling the amount of clothing over the most vital parts—those least liable to suffer from cold. In this way the natural heat of the parts is greatly increased, and much suffering is the result. Local congestions and inflammations find their exciting cause in this mode of clothing the body.

In addition to the many thicknesses occasioned by the overlapping of garments and bands, fashion adds a huge deformity behind in the form of a pannier, which is located just over the kidneys, which are very sensitive organs and are soon injured, sometimes hopelessly, by the unnatural heat and pressure to which they are subjected.

While the central portion of the body is thus burning with excessive heat, being covered with from seven to fourteen thicknesses, the limbs are allowed to go almost nude. One thin muslin garment meeting an equally thin stocking below, supplemented upon the foot by a thin cloth shoe, is often thought to be amply sufficient clothing for the limbs and feet, even when the mercury stands in the thermometer near zero. The arms are frequently little better clad, the sleeves of under garments extending but a little below the shoulder.

Loose skirts are wholly inadequate to secure proper warmth to the limbs, even though they be multiplied; for the simple motion of the limbs in walking creates currents of air about them beneath the warmest skirts. The wind also dashes cold air upon them from below, sometimes even making skirts a disadvantage, rather than a protection.

One of the most cruel sights which one commonly meets, is the spectacle of a little girl, a few summers old, passing along the street on a cold winter morning with feet incased in thin gaiters, or even slippers, the limbs clad to the knee only by a very thin stocking, and the remainder of the way by a cotton garment elaborately ornamented, but thin as gauze. Sometimes, indeed, the upper garment is so short that an interval is left above the stocking, in which the bare limbs, purple with cold, are exposed to view and to the biting rigors of the weather.

To add still more to the unbalance of the temperature occasioned by improper clothing, heavy furs are often worn upon the chest and shoulders, where less artificial covering is really needed than at other parts.

If under so wretched a distribution of the heat of the body a woman escapes a score of such maladies as congestion of the brain, headache, neuralgia, torpid liver, dyspepsia, and consumption, besides the numerous ills

peculiar to the sex, it is either because she is uncommonly "tough," or on account of a special interposition of Providence. But we do not believe that Providence ever works miracles to enable people to disregard his laws. The usual result is a chronic inflammation of all the internal organs of the pelvis and lower portion of the abdomen.

WHAT DRAGS THE LIFE OUT OF A WOMAN.

Those heavy skirts, varying in number from three to seven or more, all suspended from a frail waist, and pulling down upon the hips, are enough to drag the life out of a Hercules. A strong man would not endure for a single day one-tenth of the discomfort which a fashionable woman suffers every day of her life. It is useless for woman to think of rising above her present level while she is chained down by the burdens imposed by heavy, trailing skirts. The first "right" which women should demand, is the right to discard the awkward superfluity of material suspended about their persons and often trailing in the street behind, sweeping the filthy walks, gathering up every foul and dirty thing which domestic animals and tobacco-users deposit there, being "trodden under foot of men"—who must have room to step somewhere—catching projecting nails and splinters in old walks, and thus suffering many trying rents, becoming saturated with moisture from damp walks or wet grass, and then transferring the same to the ankles, chilling them and so disturbing the circulation, constantly entangling the feet in any attempt to go up or down stairs or get into a carriage, and occasioning a variety of other accidents perilous to life and health.

The unnecessary and injurious weight occasioned by superfluous length and number of skirts is greatly increased by the addition upon the outer garment of an indefinite number of flounces, folds, gathers, etc., heavy overskirts, and various other useless accessories.

But the evils and inconveniences, above referred to, are not the worst which result from the wearing of so great a weight of clothing as is customary among fashionable people. The most serious consequences are those which are suffered by the delicate organs of the pelvis. The many heavy skirts and undergarments which are hung about the waist with no support from above, drag down the internal organs of the abdomen and cause them to press heavily upon the contents of the pelvis. After a time, the slender ligaments which hold those organs in place, give way, and various kinds of displacements and other derangements occur. The tightness with which the garments are drawn at the waist greatly increases the injury.

The custom of wearing their pantaloons drawn tightly at the top, and sustained by the hips, produced so much disease even among the hardy soldiers of the Russian army that a law was enacted making the wearing of suspenders compulsory. If strong men suffer thus, how much greater must be the injury to frail, delicate women! The constant pressure and unnatural heat to which the lower part of the back is subjected, is one of the chief causes of the frequency of kidney diseases among women. Here is found the source of "weak back," lumbago, pain in the side, and several other diseases of the trunk which affect so many thousands of American women. A physician of eminence, upon making a *post-mortem* examination of a woman who had worn heavy skirts suspended from her waist for many years, beginning the practice in early childhood, found the liver dragged down into the pelvis and entirely cut in two, the separate portions being only held together by a fibrous cord.

FALSE HAIR AND HAIR-DYES.

The ungainly masses of unnecessary material which fashion has heaped upon the heads of those who bow to her authority, is a frightful cause of diseases of the scalp and brain. The immense loads of hair, jute, or other material, which are attached to the head, cause a great increase of the temperature of the brain and scalp. The blood-vessels become congested, both externally and internally. The result of this constant surplus of blood is disease of the scalp and of the brain itself. Headache is an almost constant symptom of the injury which is being wrought by this improper treatment of the head.

In consequence of the disease of the scalp, the hair soon becomes diseased, loses its brilliancy and color, becomes dry and harsh, and in many cases is lost altogether, complete and incurable baldness ensuing.

The congestion of the brain which at first occasions only headache, when continued, produces structural disease of that organ. The blood-vessels become weakened, and sometimes rupture, when the patient either dies of apoplexy or lingers a miserable paralytic.

When the head is encumbered with an unnatural mass of hair, and the brain is clogged by the excessive amount of blood and supernatural heat which result, the mind cannot act freely and naturally; hard study, deep thought, and continued mental exercise are impossible. This is the reason that fashionable young ladies find study so hard for them, and apparently injurious. The incubus of

such a prodigious weight as many a fashionable lady carries upon her cranium would be quite sufficient to eclipse the mental powers of the most brilliant genius. No wonder that woman has sometimes failed in mental competition with her brothers in the schools. The wonder is that she lives and possesses even a modicum of mental vigor. Under equally favorable circumstances, woman should be man's peer in mental power and development; but if she wishes to secure and maintain the equality of the sexes which so many earnest women are just now demanding, she must throw away her chignons and waterfalls, shake off her "rats and mice," and don a simpler, healthier head-gear.

The real hair that is sold to those whose tresses are considered too scanty is chiefly obtained from the bodies of dead persons, whose graves are plundered for the purpose by wretches who earn their living by this means. Vermin of various kind often adhere to the hair, and infest the heads of those who wear it. Various imitations of hair also become the means of conveying loathsome parasites to the scalps of those who wear them.

The use of hair dyes is a practice which the chemist and experience have both shown to be eminently dangerous. All hair dyes are poisonous. No matter how strong the assertions of their harmlessness, they are utterly false. So-called vegetable hair dyes, hair invigorators, tonics, etc., are contemptible swindles. They contain mineral poisons. The greater portion of them contain lead. The effect of their use is not only to destroy the hair, and induce disease of the scalp, but to produce paralysis. Many cases of chronic headache have been occasioned by the use of these poisonous mixtures; and in a number of cases, insanity has been the result.

The use of these vile compounds, which are so widely sold and used, is usually as absurdly foolish as harmful.

HIGH HEELS AND THIN SOLES.

Illy clad feet are not infrequently the cause of very serious disease. A tight shoe prevents the proper circulation of the blood in the foot, causing it to become cold. If the shoe or boot is thin, the foot is still further chilled, and the blood which circulates with difficulty through it is sent back to the internal organs with a temperature much below that required for health. Exposure to cold causes the blood-vessels to contract so that less blood can circulate through them. Thus, one evil creates another. Thin soles, being insufficient protection against wet, allow the moisture of damp walks to reach the feet, making them wet as well as cold. When the extremities are chilled, the internal organs and the brain become congested, too great a quantity of blood being crowded into them. This is the chief origin of the headaches from which school girls suffer so much, but which are usually attributed to study.

High heels are very unnatural and injurious. They make an easy, natural gait, impossible. The heel should be on a level with the ball of the foot. High, narrow heels do not afford sufficient support for the foot, and it is easily turned to one side, often resulting in serious sprains. The chief weight being thrown forward upon the fore part of the foot, it becomes weary, in walking, much sooner than it otherwise would. The narrow soles which usually accompany high and narrow heels are likewise productive of injury from not allowing the whole flat of the foot to sustain the weight of the body as it should. Corns, bunions, and various distortions of the feet are caused by wearing improperly fitting shoes or boots.

Medical Quacks.

THE amount of money paid to medical quacks in this and other cities every year is much greater than is supposed, and the ingenious ways in which large sums are extorted from their frightened dupes should be better understood, not only by those who are in danger of becoming their victims, but by the officers of the law. We recently became cognizant of a case, which, although flagrant and cruel to the last degree, is no worse than hundreds of others occurring every day in the dens of these thieves, scattered through some of the less frequented streets of the city.

A gentleman who had in his employ a young man of industrious habits and upright character, recently called upon us and stated that he feared the young man had fallen into the hands of a quack in the city, who was taking all his earnings, and endeavoring to fleece him of every dollar of his property. He had solicited the loan of $700, which he confessed he desired to pay to a French doctor (!) who proposed to cure him of a dangerous disease. The gentleman desired us to aid him in attempts to save the victim from the clutches of the quacks, and, as he had been unable to influence him, proposed that we allow him an interview.

This we did, and learned that the young man really had no disease whatever; that, fancying that he was sick from reading the advertisements in a newspaper, he called upon the advertising doctor, who, after thumping his ribs and "sounding" him with a stetho-

scope, pronounced him "far gone" in consumption. He had already been taking his nostrums six months, paying large sums therefor; but at the last visit to the great French doctor he had discovered another disease, which he could not undertake to cure for less than $1,000 cash in hand. As a special favor to him, however, he would cure the malady for $700 in advance; and this sum he was endeavoring to raise by mortgaging his little property, and rendering himself almost penniless. The quack was very urgent, telling him that "death stared him in the face;" and if he did not raise the money at once, and commence with his medicines, it would soon be too late.

The young man, of fair intelligence, was completely deluded and thoroughly frightened by the artful quack, and it required much skill and effort to undeceive him. It is indeed strange that persons possessing a common school education can fall into such traps; and yet there are thousands bound hand and foot to these miserable advertising quacks, who, operating through their fears, are extorting from them every dollar they possess. The sums taken are often very large, and the iniquity is of no mean proportion. To detect and punish these offenders is a difficult matter; but it does seem that some plan might be devised by which the cities and large towns should be rid of a class of impostors more dangerous and unsparing than midnight robbers.—*Journal of Chemistry.*

Intoxicating Liquors as a Medicine.

BY REV. P. R. RUSSELL.

FIFTY years ago, the opinion generally prevailed with all classes of society, that intoxicating drinks were a necessity of health and happiness; that men could not endure toil, care, and exposure, without being sustained with alcohol. This delusion has been exposed, and given up among all honest and intelligent men; still, it is believed by multitudes that, in some way, alcohol is a good and necessary medicine—bad to use in health, but a blessed remedy for disease. After many years of examination, self-experiment, and observation, I am fully convinced that alcoholic medication is an appalling and most destructive evil, one which scatters, at a fearful rate, fire, and arrows, and death on all sides.

1. The delusion may be seen in the fact now conceded, and we may say, demonstrated, that *alcohol is a deadly poison.* Pereira, a French chemist, says: "The effects of alcohol in man are those of a rapid and fatal poison"—"a caustic irritant poison." "To whatever part of the body alcohol is applied, it causes contraction and condensation of the tissue, and gives rise to pain, heat, redness, and other symptoms of inflammation." He declares the remote or constitutional effects to be "excitement, intoxication, and coma, or true apoplexy." He names several diseases which it generates instead of healing, as mania, delirium, tubercles of the liver, inflammation and schirrus of the stomach, granular disease of the kidneys, etc. Yet, strange to say, for these very diseases, the same deadly poison which is the *cause* is administered as the *cure.* Alcohol, taken into the stomach, always irritates and disturbs the mucous membrane and the nervous system, in proportion to the quantity taken. A little excites; a little more stimulates; a little more exhilarates and sets the brain reeling; a little more, and the mind becomes bewildered, and the body reels to and fro; a little more, and the body becomes senseless and helpless; a little more, and death ensues.

Is such a poison to be given to a sick man as a healing medicine? The very idea is preposterous. If deadly poisons are ever to be given, let them be administered to the hale and hearty, who can better bear them; but the sick should be tenderly cared for, soothed, and put in every possible way on the line of the laws of health, and never drugged with poisons under any pretense or to any extent. It is cruel and barbarous to poison a poor invalid because he is sick. Disease is not an entity, a root, a sprout, a substance, a demon to be killed and ejected. On the contrary, it is a weakness of the organs which needs strengthening—a derangement which needs correcting, a defect which needs supplying. The more intelligent physicians of all schools will tell you that *medicine never cures;* that nature always does her own curing; that all that remedies can do is to *help remove* obstacles, and put the patient under favorable circumstances, so that nature can work. Poisons of all kinds obstruct nature in her healing work.

I admit that so long as the drug system of dealing with diseases exists, alcohol is a great convenience, and almost a necessity. So long as quacks and charlatans can fill their pockets by sending forth their miserable nostrums as panaceas for all diseases, and the poor sinking invalids, catching at straws, will buy these vile compounds, so long alcohol will be in demand to dissolve and preserve the drugs. The whole witchery of pharmacy passes off like moonshine without alcohol. Then, again, alcohol seems to be very convenient to satisfy the ignorant and morbid mind and more

morbid passions of a certain class of patients. They need perhaps no medicine, but instruction; to have their habits corrected, and to be put in harmony with the laws of their nature. But to tell them so, and leave them without *something to take*, would be to repel them, and send them post haste after another doctor. In such a case, alcoholic medication, with a few brown-bread pills, satisfies and retains the patient. As he sips the medicine from day to day, his stimulated and semi-intoxicated brain and nerves *feel better;* and when he neglects the catholicon, he feels a *goneness* in his stomach, and resorts again to his medicine, knowing it is doing him so much good. He loves the doctor, and loves the medicine, and cleaves to the dreadful delusion till he fetches up in his coffin.

2. The theory which is the very basis of alcoholic medication is that *the sick need stimulation, and that alcohol is a healthful and much needed stimulant.* For instance, the weak convalescent, just coming up from a fever, is supposed to need a little *stimulant*, and the doctor says, Give him a little wine or brandy, two or three times a day.

But what is a stimulant? Especially, what is *alcoholic stimulation?* It is not food—not something to be digested, assimilated to the tissues of the poor, jaded, exhausted body. It is an irritating poison, taken into the weak stomach of a weak and sickly patient. How does it operate? It is an enemy. It is a fiery, dangerous enemy. The moment it arrives, it begins to annoy and irritate; and the whole nervous system arouses to eject the intruder, and the alcohol is cast out through every avenue. This stern and vigorous effort of nature to rid herself of the enemy *is the stimulation*, which is always followed by reaction and exhaustion, in exact proportion to the irritating stimulation. Nature will not submit to any fraud here. She will make reprisals for all outrages. Stimulation is not feeding, resting, and grooming the jaded horse, but applying the spur and lash, and driving on till the poor animal drops dead in his harness. Dump a viper on the floor of your sitting room, when the family are gathered around the fireside, and you will have poisonous stimulation. All will feel the nervous shock, and rouse up for safety, and an effort will be made to *eject the enemy.* That is stimulation in the family circle. Alcoholic drinks are a similar stimulation in the animal economy.

It is amazing to hear people call alcoholic stimulation "keeping up the vitality." Was there ever greater nonsense? "Keeping up vitality" by administering poison to a jaded, exhausted stomach! "Keeping up the vitality," by introducing a deadly enemy, which must be ejected or life is lost! The whole thing is a muddle of whim and false philosophy. You might as well attempt to fly to the moon by jumping into a basket, and raising yourself up by the handles. The feeble, exhausted system wants not irritants nor stimulants of any kind. It cannot bear them. They are malignant foes in disguise. Rest, plain, simple, nourishing food, sunshine, pure air, hand-rubbing, gentle exercise, kind attentions, are wanted, and in all things to be put on the sunny side of life.

The whole system of stimulation, especially when internally applied, is false in theory, and exceedingly pernicious in practice. If the circulation is partial or sluggish, an equilibrium may be restored by friction, hot fomentations, and various other appliances; and no damage is done, no injurious reaction takes place.

In short, the whole theory of alcoholic stimulation to "keep up vitality," is being given up by the more considerate physicians. If we are shut up to the necessity of making use of intoxicating liquors, either as a beverage or a medicine, the dilemma is a sad one indeed. If we go on and attempt to drink *moderately*, at our own discretion, about nine in ten will become drunkards in spite of all wishes to the contrary, and multitudes who use it "only as a medicine" will find themselves ruined body and soul, forever. Then, again, it is almost an impossibility to obtain pure liquors of any kind. Liquors obtained here and there, and of the best dealers, have been analyzed, and almost invariably found to be adulterated. Prof. Auchey, of the University of Nebraska, reports the results of a chemical analysis of many well-known and popular brands of whisky, and he found they were all adulterated with benzine, sugar of lead, strychnine, strontia, oil of almonds, and potash. Let the dram-drinker then know, that, while he is attempting to stimulate his poor jaded system with poisonous alcohol, he is also maddening and destroying himself with the sugar of lead, and strychnine. More hereafter.

Home Doctoring.

THE following from the *American Agriculturist* is well worthy of perusal and commendation:—

Nobody need expect a list of prescriptions for various diseases under this head. It is distressing to read most of the recipes for medicines which circulate in the newspapers. Here, for instance, is one which some lady

says she has found "invaluable in bowel diseases," and she publishes it in the *Tribune*. Have children only one kind of bowel disease? Does she pursue the same course to check diarrhea as to overcome constipation? The medicine is compounded of three ingredients, none of them harmless to a person in health, though none of them are classed among actual poisons. Is it not a dreadful thing for mothers to give their children drugs without having some idea of their nature, and effects upon the system? I asked a woman, the other day, what she was doing for her sick child.

"Oh, I give him some kind of doctor-stuff," said she complacently.

Many persons say at once, when a person is ailing—"You had better take something;" that is their only idea of cure. Who knows what mischief these drugs may do? Many of them are active poisons, and very few prove harmless if taken by persons in health. The disease you treat may seem to be arrested, only to give place to something quite as bad, or worse.

There is about equal danger from improper water treatment. A mode of treatment for diarrhea in children, which I just read in a Western paper, is about as horrible as any kind of drugging; and I can hardly credit the assertion of the paper that sixteen children out of twenty, as treated by a certain doctor, recovered! The method is this:

"The child is enveloped in a common bed-sheet, which is first dipped in common well water, and then wrung thoroughly; the patient is next covered with a woolen blanket, and allowed to remain thus for one hour; after this, cold compresses are applied to the abdomen. This is repeated every three or four hours—in severe cases, every hour." And the patient is a little child, so easily shocked by any harsh treatment!

I presume this performance is intended for a "pack," a mode of treatment, when properly carried out, that often proves very efficacious in different diseases. But a pack may be made one of the most barbarous operations in the world, if improperly administered. "Common well water!" Hard, or soft? Icy cold, or tepid? Soft water is best in all applications to the body, and should be preferred when it can be obtained. It is absolutely necessary that a patient in a pack should have the feet warm—by artificial means, if necessary; and he should always get thoroughly warm while in the pack. A single blanket would never be sufficient covering over the wet sheet; and a pack of an hour's duration would be too long in all but extreme cases.

Some people seem to imagine that water is such a simple thing, it can neither cure nor kill; but it is quite capable of doing either, as it is wisely or unwisely administered. It is a blessed, cleansing, healing agency. We have little downright sickness to deal with in our family, though none of us inherit very good constitutions. When sickness seems to threaten, we pay stricter attention to the rules which, moderately observed, keep us in moderate health, and this greater carefulness usually "cures" us.

Perhaps some parent would like to know these rules of good sense. Keep the feet warm and the head cool. Breathe pure air. Keep the skin clean. Take rest and exercise in such proportion as the body seems to require. Go to bed early and ventilate your sleeping room. Keep the bowels open by means of suitable diet and exercise, if possible; if not, by injections of pure water. Eat plain, nutritious food at regular hours, under cheerful circumstances, and without haste. A little fasting is often the best remedy for a slight cold, a slight fever, neuralgia of the face, and all those diseases that arise from a disordered stomach. Some persons follow a fast with such a gorging as to destroy all its good effects. Cool compresses made of a folded towel, wet in cool water, and covered by another towel, applied to the head, throat, chest, bowels, spine, or whatever part suffers pain, often afford speedy and permanent relief, and may be used without danger, provided the system is not shocked by too cold water.

Ignorant people speak of the "cold-water cure;" but the best practitioners seldom use absolutely cold water. For severe, sharp pains, cloths kept wet in as hot water as the patient can bear, give most speedy relief. In almost any case of acute disease, I should, if possible, summon a good doctor. I should not care so much at what school he graduated as that he be a conscientious man, of good sense, and have a good knowledge of his profession. The more experience he had had the better; and the less he might seem to rely upon medicine, and the more he would trust to good nursing, the more confidence I should have in him. I should be very anxious to have him tell me just what was the matter, if I did not already know; not simply the name of the disease, but what part of the system he supposed to be out of order; and then I could never be satisfied until I found out the probable cause. I do not see how we can get along without educated physicians, so long as human nature is so untrue to the laws of its well-being, and so brings upon itself such numerous diseases.

Tobacco.

BY JOS. CLARKE.

ALMOST all who use tobacco for any length of time regret that they have found this habit, so injurious to them; others, for various ostensible reasons, justify its use.

The use of ardent spirits, bad as it is, cannot be more demoralizing than the use of tobacco. Tobacco stupifies the moral powers. This is the great reason why so few people are affected by preaching; and it may also account for the numerous apostacies from the Christian faith at the present day.

Tobacco, by its peculiar specific property of benumbing the moral powers, is the very thing to carry out the plans of Satan, as it fits men to become his pliant tools, by searing the conscience, and paralyzing the moral faculties.

Alcohol, on the contrary, has an effect to deaden the intellectual faculties, while the moral faculties are less affected. This is seen in the fact that drunkards are often very sane on religious subjects after their capacity for purely intellectual effort has collapsed.

Could all see the ruin consequent upon the use of these stimulants, they would shudder at the thought of introducing such an agent as tobacco or alcohol into the human system.

Tobacco-user, if you would break off from this destructive habit, open your eyes to see, and your ears to hear, we beseech you in the name of all that is good.

Breathe through the Nose.

BY R. F. COTTRELL.

THE nostrils are the proper channels for the breath of life. The mouth is designed for other important purposes; and when it is not opened for some good purpose, it were better that it remain closed. Some fifteen or twenty years ago I read an article on this subject, and since then have been trying to reduce to practice the advice to keep the mouth shut, with some progress, I think, and certainly with some benefit. Many a cold, sore throat, toothache, etc., can be prevented by keeping the mouth closed, when going out in cold weather. I have held evening meetings in stormy, winter weather, where the good people were afraid to have the house properly ventilated, and as the result, the close of the meeting would find me in a perspiration. When obliged to go out, I would keep my mouth so strictly closed till I reached my quarters that I feared I should give the impression that I was unsociable; and in this way I would escape colds almost entirely, while almost all others would be very much afflicted with them. But this is not the sole cause of the difference; something must be credited to my different manner of living in other respects. Hygienic living in general is the best preventive of this difficulty, as well as of others.

Think of the cases of those of your acquaintance who, attending singing school, have ruined their voices, contracting a bronchial affection for life. After singing two hours in a heated and unventilated house, they would get into sleighs and go singing on their way home. The throat, irritated and inflamed, suddenly exposed to the frosty air of a northern winter! it were a wonder that any could live through such an ordeal. Think of it, friends. When going out, especially after having been using your voice, keep your mouth shut. On going to bed, shut your mouth carefully, and thus go to sleep, being covered well and not fearing to have your room well ventilated.

Blue Jays Taking Pills.—We have received a letter from an old lady in South Carolina, in which she tells a true story for the benefit of boys and girls. She says that she had been making some "home made pills," and after they were all nicely shaped she put them out on the window-sill to dry. Pretty soon some blue jays came along, and not having anything better to do they swallowed every pill. The old lady went to the window just in time to see the last dose disappear, and so, as she says, she just had to make the best of it. Watching the jays, and wondering what effect the pills would have upon them, she saw them tumble about in a sort of confused state, and finally hide themselves away as best they could. In the morning they were found dead in her garden. The old lady felt very sorry for them, but she says she "could n't help thinking that perhaps it was all for the best, as the pills contained opium, and may be there was something wrong about them."

We think so too. There is apt to be something wrong about things that contain opium. Better, however, to lose a few blue jays than to have a nice old lady killed in that way.—*St. Nicholas.*

WATER.

To the days of the aged it addeth length.
To the might of the strong it addeth strength.
It freshens the heart, it brightens the sight:
'T is like quaffing a goblet of morning light.

LITERARY MISCELLANY.

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

HEROES.

"THE age wants heroes—heroes who shall dare
To struggle in the solid ranks of truth,
To clutch the monster, error, by the throat,
To bear opinion to a loftier seat,
To blot the era of oppression out,
And lead a universal freedom in.

"The world wants *men*—large-hearted, manly men,
Men who shall join her chorus, and prolong
The psalm of labor and the psalm of love.

"And Heaven wants souls—fresh and capacious souls,
To taste its rapture and expand like flowers,
Beneath the glories of the central sun.
It wants fresh souls, not lean and shriveled ones.
It wants strong souls; my brother, give it thine."

Timidity in Public Speaking.

WHENCE comes that bashfulness which men of great ability so often feel in addressing a large assembly? How happens it that a man who never hesitates or stammers in pouring out his thoughts to a friend, is embarrassed or struck dumb if he attempts to say the same things, however suitable, to fifty persons? Why is it that though he is awed by the presence of no one of them, and feels himself to be intellectually superior to every individual he faces, yet collectively they inspire him with a kind of terror? Why is it that while a man can talk fluently enough if sitting in a chair, yet perpendicularity paralyzes him; that the moment he gets upon his legs, his ideas, like a sailor's money on shore, like a twenty-dollar note in New York, or like thieves at sight of a detective, make themselves wings and fly away? Whately finds a solution of the problem in the curious and complex play of sympathies which takes place in a large assembly, and which increases in proportion to its numbers. In addressing a large assembly, a person knows that each hearer sympathizes both with his own anxiety to acquit himself well, and also with the same feelings in the minds of the rest. He knows that every slip or blunder he may make, tending to excite mirth, pity, or contempt, will make a stronger impression on each of the hearers from their mutual sympathy and their consciousness of it—and this doubles his anxiety. Again, he knows that each hearer, putting himself mentally in the speaker's place, sympathizes with this increased anxiety, which is, by this thought, increased still more; and finally, if he becomes at all embarrassed, the knowledge that there are so many to sympathize, not only with that embarrassment, but also with each other's feelings on the perception of it, hightens the speaker's confusion to the extreme, and makes him, perhaps, speechless.

Whatever may be the explanation of the phenomenon, we are all familiar with that perturbation—that Belshàzzarish knocking of the knees, and that cleaving of the tongue to the roof of the mouth—which seizes upon newly fledged orators, when they look upon a "sea of upturned faces," especially for the first time. That panoramic aspect of the human face divine has a powerful fascination for most men—a terrible one for the sensitive, or those inexperienced in public addresses! They may express themselves fluently enough in solitude, or to a small circle of friends; but the moment they mount the rostrum and face an audience, their intense consciousness of the human presence, of its reality, and of the impossibility of escaping it, petrifies the mind—paralyzes all its powers. Even the most distinguished orators tell us that their first attempts at public speaking were fiery ordeals; and not a few broke down opprobriously, "throttling their practised accents in their fears," and losing the thread of their thoughts in an access of helpless consternation. The finest wits have been disgraced in this way, as well as the dullest. Indeed, men of the most thorough accomplishments in other respects, often fail as public speakers from sheer excess of ideas and good taste, while a mere parrot of a fellow, with little culture and but a thimbleful of brains, "goes off" in a steady stream of words, like a rain-spout in a thunderstorm. It has been well observed that the very delicacy of perception, the exquisite sensibility to impressions, and the impulsiveness, which are essential to eloquence, are almost necessarily accompanied by a certain degree of nervous tremulousness, just as a finely strung harp vibrates at the slightest touch, or whenever the faintest breeze passes over it.

Addison and Gibbon attempted oratory in the British senate, only to fall flat and shame their worshipers. The latter tells us that the bad speakers filled him with apprehension, the good ones with despair. Pope,

whom one would suppose to have been a pale, austere, self sustained mortal, could not speak ten consecutive words correctly in public. It is amusing to hear from him, who never feared to confront the stoutest adversary with his pen, and who demolished a host of enemies at one fell swoop in the most sweeping, fierce, and brilliant satire in the whole range of literature, the confession that he could tell a thing to three persons very well, but if his audience were a dozen, his polished intellect was bewildered; that he was unequal to a conversation with twelve individuals! Perhaps his dwarfish stature had something to do with his nervous timidity; and if, instead of having, when he got up in the morning, to be sewed up in stiff canvas stays, in order to stand erect, and having to plump out his meager, spectral legs with three pairs of stockings to give them a respectable look, he had had the average bulk and thews of a man, he might have flashed and thundered with his tongue as well as with his pen. The "little, crooked man" was once examined as a witness in the House of Lords, in the case of the Bishop of Rochester; and though he had only to state how the bishop spent his time at Bromley, and though when the poet cast his eyes along the nearest bench of peers (for he dared not look farther), he saw they were nearly all his personal acquaintances, he actually made three blunders in a testimony of less than twenty words. Erskine, the great advocate, was at first painfully unready of speech, and so embarrassed in his maiden efforts that he would have abandoned the attempt to be an orator, had he not felt, as he tells us, his children tugging at his gown, and urging him on, in spite of his boggling and stammering. Sheridan, as all know, "hung fire" in his first speech; and Curran was almost knocked down by the sound of his own voice when he first addressed his "gentlemen" in a little room of a tavern.

Sir Philip Francis, of whose audacious letters even Burke tells us that they made his blood run cold (for we assume that Francis was the real *Stat Nominis Umbra*—the mysterious Junius), was hesitating and unready in speech. He said on one occasion in the House of Commons, "I am not accustomed to speak in public, and I very much fear, that, although what I have to say is clear enough in my own mind, it will appear in great disorder." At another time he says: "I am thoroughly conscious of my own infirmities. Even *signs* and *gestures* are sufficient to disconcert me." Cowper is another instance of extreme bashfulness, or lack of presence of mind, before a public assembly. In early life, through his aristocratic connections, he obtained the place of clerk in the House of Lords, where his duties would have been little more than to stand up and read parliamentary notices or documents to the House; but so timid was he, that the idea of being obliged to speak before a large audience terrified him exceedingly, and so wrought upon his imagination as the time drew near when he should begin his attendance, that he gave way to an agony of apprehension, and tried to hang himself. Rather than make a figure in the eye of the public, he deliberately got a rope, and tried to put an end to his mental suffering. But for a servant, who entered the room as he was about executing his design, the world would have wanted some immortal songs. Cowper's shyness and fear of the public eye never wholly forsook him. While he lived in retirement with Mrs. Unwin, her son and daughter, he avoided the company of strangers; and he was often known in his rural walks to leave the road, and conceal himself inside the fence, if he saw any one, especially a lady, approaching. When danger was past, he would come forth and proceed on his ramble.

Theodore Hook complained, to his dying day, that he had never completely overcome the unpleasant sensation felt on entering a room; and an English reviewer tells of an eminent law-lord, the very model of senatorial and judicial eloquence of the composed and dignified order, who has been seen to tremble, when he rose to address the House of Lords, like a thorough-bred racer when first brought to the starting-post. Even the great reviewer, Jeffrey, though generally fluent, once stuck in a speech. When John Kemble was about to quit the Edinburgh stage, some of his admirers decided to give him a dinner and a snuff-box, and chose Jeffrey to make the presentation address. As the latter rose, the great tragedian, who sat beside him, rose also with most formidable dignity. Being thus forced to look up to his man, Jeffrey found himself annihilated by the tall tragic god, who sank him to the earth at every compliment, by obeisances of overwhelming grace and stateliness. Beginning well, the great critic got confused, and mortified his friends by sitting down, and not only leaving his speech unfinished, but even forgetting to thrust the box into the hands of the intended receiver. Dr. Chalmers, though a giant in the pulpit, never was able to speak extempore in a way satisfactory to himself, though the cause was not bashfulness, but the overmastering fluency of his mind. Thoughts and words came to his lips in a flood, and thus impeded each other, like water which one at-

tempts to pour all at once out of a narrow-mouthed jug.

Even years of practice in public speaking do not always extinguish the timidity which many feel in confronting an assemblage of listeners. John Quincy Adams, who was one of the readiest of public debaters, and seemed always armed *cap-a-pie*, told Governor Slade, of Vermont, that he never got upon his legs to speak without nervousness and fear of failure. Gough is said to be still troubled with stage-fright, though he has lectured for twenty-six years, and appeared before Boston audiences three hundred and fifty times. Many speakers who have no fear of a familiar audience, are yet nervous in a new position. Lord Eldon once said that he was always a little nervous in speaking at the Goldsmiths' Dinner, though he could talk before Parliament with as much indifference as if it were so many cabbage plants.

The question has been asked: Why is it that men who have ranked high as writers, have so often miserably failed as speakers? They who may be said on paper to roar you in the ears of the groundlings an 'twere any lion, aggravate their voice on the platform like a sucking dove. The explanation is that very different and quite opposite intellectual gifts are required to form a good writer and a good speaker. Abstraction of mind, seclusion from the din and tumult of public assemblies, unwearied patience in gathering the materials of composition, and exquisite taste, that will be satisfied only with the utmost nicety and finish of style, are demanded by the writer; while quickness of thought, boundless self-confidence, tact in seizing upon the most available, though not the most satisfactory, arguments, and a certain intellectual coarseness that is not offended by a slip or a blunder, are necessary to the orator. Again, a writer may spend an hour in choosing a word, and a day in polishing a sentence, but, as the author of Lacon has observed, eloquence, to produce its full effect, must start from the head of the orator, as Pallas from the brain of Jove, clad in full panoply. The fastidious writer may blot out words and substitute new ones by the hundred, and it is his own fault if the fact is known to his dearest friend; but if an orator chances to boggle once with his tongue, the detection is immediate, and the punishment certain. Great writers, too, having a reputation to support, often suffer as speakers from a self-defeating over-anxiety to do well; like Sheridan, who was said to have been all his life afraid of the author of "The School for Scandal," they are frightened at the shadow of their own reputation.

Let, then, the stammerers, the tongue-tied and scatter-brained members of society, console themselves—for this is the moral of our remarks—under their inability to wield at will the fierce democracy. If the *os magna sonaturum* is denied them, let them remember the saying that speech is silver, but silence gold; that Grant is tongue-tied in public; that Moltke is silent in eight languages; that Hawthorne was dumb before a large company, and that Irving could not give an after-dinner toast without fright; that neither Washington nor Jefferson were orators, nor even glib talkers, and yet John Adams said of the former that he had the most remarkable mouth he had seen, for nothing foolish escaped from it; that deeds are higher proof of genius than words, and that

"One true thought, from the deepest heart upspring-
May from within a whole life fertilize; [ing,
One true word, like the lightning sudden gleaming,
May rend the night of a whole world of lies.
Much speeeh, much thought, may often be but seeming,
But in one truth, might, boundless, ever lies."

—*Matthews.*

The First Thousand Dollars.

THE first thousand dollars that a young man, after going out into the world to act for himself, *earns* and *saves* will generally settle the question of business life with him. There may be exceptions to this statement; yet, for a rule, we think that it will hold true.

The first condition is that the young man actually earns the thousand dollars in question. He does not inherit this sum. It does not come to him by a streak of good luck, as the result of a fortunate venture in the purchase and sale of a hundred shares of stock. It is the fruit of personal industry. He gives his time and his labor for it. While he is thus earning and saving it, he must earn two or three, or perhaps four times as much to pay his current expenses. He is consequently held sternly to the task of industry for a very considerable period. The direct consequence to him is a steady, continuous, and solid discipline in the habits of industry, in patient, persistent, forecasting, and self-denying effort, breaking up all the tendencies to indolence and frivolity, and making him a watchful economist of time. He not only learns how to work, but he also acquires the love of work; and, moreover, he learns the *value* of the sum which he has thus saved out of his earnings. He has toiled for it; he has observed its slow increase from time to time; and in his estimate it represents so many months or years of practical labor. His ideas of life are shaped by his own experience.

These natural effects of earning the first thousand dollars we hold to be very large benefits. They are just the qualities of mind and body which are most likely to secure business success in after years. They constitute the best practical education which a man can have as a worker in this warring world. They are gained in season for life's purposes, at the opening period, just when they are wanted, when foolish notions are most likely to mislead an inexperienced brain, and when, too, there is a full opportunity for their expansion and development in later years. Men have but one life to live; and, hence, they start from opening manhood but once. And the manner in which they start, the purposes they have in view, and the habits they form, will ordinarily determine the entire sequel of their career on earth. To succeed, men must have the elements of success in themselves. One great reason why there are so many useless, inefficient, and poverty-stricken men on earth—or, rather, boys seeming to be men—consists in the simple fact that they did not start right. A prominent reason why the children of the rich so frequently amount to nothing may be found in the luxury, ease, and indolence which marked the commencement of their lives. It is the law of God that we should be workers on earth; and no one so well consults the best development of his being as when he conforms his practice to this law. The workers in some suitable sphere are the only really strong men in this world.—*New York Independent.*

Some Giants.

In 1718 a French academician named Henrion endeavored to show a great decrease in the hight of men between the periods of the Creation and the Christian Era. Adam, he says, was 123 feet 9 inches high; Eve, 118 feet 9 inches; Noah, 27 feet; Abraham, 20 feet; Moses, 13 feet. The allegation about Adam is moderate compared with that made by early rabbinical writers, who affirm that his head overtopped the atmosphere, and that he touched the Arctic pole with one hand and the Antarctic with the other. Traditionary memorials of the primeval giants still exist in Palestine in the form of graves of enormous dimensions; as the grave of Abel near Damascus, which is 30 feet long; that of Seth about the same size; and that of Noah, in Lebanon, which is 70 yards in length.

Pliny says that by an earthquake in Crete a mountain was opened, and in it was discovered a skeleton standing upright, 46 cubits long, which was supposed to be that of Orion or Otus. The same author relates that in the time of Claudius Cæsar there was a man, named Gabbaras, brought by that emperor from Arabia to Rome, who was 9 feet 4 inches high, "the tallest man that has been seen in our times." But this giant was not so tall as Posio and Secundilla, in the reign of Augustus Cæsar, whose bodies were presrved as curiosities in a museum in the Sallustian Gardens, and each of whom measured in length 10 feet 3 inches.

The Emperor Maximus (very much of a man) was 9 feet high, and was in the habit of using his wife's bracelet for a thumb ring. His shoe was a foot longer than that of any other man, and his strength so great that he could draw a carriage which two oxen could not move. He generally ate forty pounds' weight of flesh and drank six gallons of wine every day. Not at all a desirable or profitable guest for the "St. Nicholas," even at the current price of board; though not so tall as one of whom Josephus tells; viz., Eleazer, a Jew, who was one of the hostages whom the King of Persia sent to Rome after a peace. This giant was over 10 feet high. But these are pigmies compared with him of whom Kircher writes (though this is what a Yankee philosopher would denominate a whopper). The skeleton of this giant was dug out of a stone sepulcher near Rome, in the reign of the Emperor Henry II., and, by an inscription attached to it, it was known to be that of Pallas, who was slain by Turnus, and was higher than the walls of the city! The same author tells us that another skeleton was found near Palermo that must have belonged to a man 400 feet high.

In times more modern (1613), some masons digging near the ruins of a castle in Dauphine, in a field which by tradition had long been called "The Giants Field," at the depth of 18 feet discovered a brick tomb 30 feet long, 12 feet wide, and 8 feet high, on which was a gray stone with the words "Theutobochus Rex" cut thereon. When the tomb was opened, they found a human skeleton entire, 25 ½ feet long, 10 feet wide across the shoulders, and 5 feet deep from the breast to the back. His teeth were about the size of an ox's foot, and his shin bone measured 4 feet in length.

Plot, in his "Oxfordshire," 1676, says that a skeleton 17 feet high was then to be seen in the town-hall in Lucerne. It had been found under an oak in Willisau, near the village of Reyden. He instances numerous gigantic bones which have been dug up in England, and adds: "It remains that (notwithstanding their extravagant magnitude) they must have been the bones of men or women; nor does

anything hinder but they may have been so, provided that it be clearly made out that there have been men and women of proportionable stature in all ages of the world, down even to our days."

Old Cotton Mather held the belief that there had been in the antediluvian world men of very prodigious stature, in consequence of the finding of bones and teeth of great size, which he judged to be human, in Albany. He describes one particular grinder weighing 4 ¾ pounds, and a broad, flat fore-tooth, four fingers in breadth; also a bone, supposed to be a thigh-bone, 17 feet long, which, with the others, crumbled to pieces as soon as it was exposed to the air.—*Harper's Magazine.*

Mark Twain's Last Lament.

MARK TWAIN, in the *Atlantic*, mourns over the diminished length of the Mississippi, in this strain :—

The Mississippi River between Cairo and New Orleans was 1,215 miles long 176 years ago. It was 1,180 after the cut-off of 1722. It was 1,040 after the American bend cut-off (some 16 or 17 years ago). It has lost 67 miles since. Consequently, its length is only 973 miles at present.

Now, if I wanted to be one of those ponderous scientific people, and "let on" to prove what had occurred in the remote past by what had occurred in a given time in the recent past, or what will occur in the far future by what has occurred in late years, what an opportunity is here! Geology never had such a chance, nor such an exact date to argue from! Nor "development of species," either! Glacial epochs are great things, but they are vague—vague. Please observe :—

In the space of 170 years the lower Mississippi has shortened itself 242 miles. That is an average of a trifle over one mile and a third per year. Therefore, any calm person who is not blind or idiotic, can see that in the Old Oolitic Silurian period, just a million years ago next November, the Lower Mississippi River was upwards of 1,300,000 miles long, and stuck out over the Gulf of Mexico like a fishing rod. And by the same token any person can see that 742 years from now the Lower Mississippi will be only a mile and three quarters long, and Cairo and New Orleans will have joined their streets together, and be plodding comfortably along under a single mayor and a mutual board of aldermen. There is something fascinating about science. One gets such wholesale returns out of such a trifling investment of fact.

Versatility.

I AM always sorry for a man who knows how to do but one thing. I have seen many such men. I gave ten dollars to one who could speak and write five or six languages, and translate beautifully; but in the middle of a hard winter he could not get a living. I knew another man who had preached twenty-five years, till his throat failed him, and he used to go around looking very blue and sad, until people pitied him and got up donation parties for him, because he was good for nothing except to preach. I knew a lady who had taught school for twenty years, till she was a poor, nervous, broken-down woman, and didn't know how to make a dress for herself. Now boys and girls, every real man should know how to do one thing right well. Every wise farmer has a principal crop; but he has always a little something else to live on. Don't put all your money into one pocket. If you want to get along right well, learn one sort of work to get along by, and all sorts of work to get a living with when your one sort gives out.—*T. K. Beecher.*

Dean Swift's Lilliput in Tennessee.

THE original country of the Lilliputians, which Dean Swift so graphically describes in his version of Gulliver's travels, and which has mystified the geographers as much as the sources of the Nile, seems to have been in Tennessee. In the neighborhood of Sparta in that State there are cemeteries in which the bodies of the pigmy race have been found in considerable numbers, incased in sandstone coffins. Prof. Henry, of the Smithsonian Institute, has recently visited the place, exhumed one of the skeletons, and brought it to Washington. It is evidently that of a full-grown adult, twenty-six inches high, and the thigh bones are a little larger than a man's forefinger. In proximity to the skeletons were found pieces of pottery which show signs of having been once filled with charcoal.

The Weakness of France.

ANOTHER reason for the failure of the French in their late war with the Germans has recently been added to the long list already offered. Monsieur Joly, a distinguished member of the French Academy of Medicine, in a paper read before that learned body, attributed the enervation of the nation, as shown by the war, to the combined effect of alcohol and nicotine upon the national character. "Tobacco," says Mr. Joly, "al-

though of recent introduction, has gained upon its older rival, alcohol. Imitativeness and moral contagion have done their work, until the use of this poison has penetrated everywhere—has enslaved the nation, caused personal and race degeneracy, enervated the entire army, and made it slow to fight and powerless in action.

"The use of spirits and tobacco has frightfully increased, and human depravity could scarcely devise a worse compound than a mixture of brandy and tobacco, which is the latest liquid novelty patronized by Parisian sensualists."

'Tis Found at Last.

CALIFORNIA against the world! that which has been sought for in vain has been discovered in San Francisco.

Who has not longed for some method to arouse the blunted sensibilities of a tobacco smoker? We have sometimes wondered if all smokers cannot read, or if their brains are so *befogged* that they cannot perceive the plainest object. No matter how plainly the words are displayed, in a ladies' sitting room or in any place which ought to be treated with respect or kept decent, the words, "No Smoking," cannot be read by a smoker. Everybody else can see them. Gentlemen—true gentlemen—look at them with vexed feelings, and ladies look at them and cough; all decently inclined people turn their heads in a manner to show the disgust they feel at having the vile stench puffed in their faces and forced into their nostrils and lungs, but all in vain. The smoker, reveling in the filth which he creates, is utterly regardless of the feelings and rights of all others. He has lost all ideas of refinement, and if he has any sensibilities at all, they seem to be beyond the reach of "moral suasion."

But one was hit—absolutely hit—not long since. The following is the record of the remarkable event as told by a San Francisco paper, the *Morning Call*:—

"DID N'T WANT THE MONEY.—He was smoking a cigar on a Market Street car, where there were ladies. Of course, he was a gentleman (?). A lady took out her purse, got ten cents and handed it to the smoker. 'What's this for?' said he. 'It's to buy you a good cigar when you smoke in the presence of ladies.' He threw the cigar out of the window, the coin into the lady's lap, jerked the strap, and jumped out."

We doubt whether this would reach all cases; but as it succeeded in one case, it is worth preserving.

J. H. WAGGONER.

Cow's Teeth.—Many people who have not paid especial attention to the anatomy of lower animals do not know that cows have no front teeth on the upper jaw. The following is the manner in which a city gentleman became aware of the fact, according to *St. Nicholas*:—

A city gentleman who had just purchased a farm in the country, wished to buy some cattle with which to stock it. He therefore attended an auction where cows were to be sold. One of them, a remarkably fine animal, soon attracted his attention, and he bought her at a fair price. He was examining his purchase, when a farmer, who unfortunately had arrived too late to buy the cow himself, as he had intended, drove up, and thus accosted him:—

"I say, friend, did you bid off that cow?"

"I did," was the reply.

"Well, did you know that she had no front teeth in the upper jaw?"

"No," replied the gentleman, indignantly. "Is that so?"

"You can see for yourself."

The gentleman examined the mouth of the cow, and finding no upper teeth, immediately went to the auctioneer and requested him to sell the cow again.

"What's the trouble?" asked the auctioneer.

"She has n't any upper front teeth," was the reply.

"Very well," replied the auctioneer with a smile, "I'll put her up once more."

He did so, and the shrewd farmer who had given the information to the city gentleman, bid her off at the same price.

—"You have had a chance to see a good deal of us Americans," pompously observed a sallow-faced New Yorker to Lord Houghton the other day: "pray tell me, sir, what you think are our most striking characteristics."—"Impudence and indigestion," quietly replied his lordship.

—A husband complained sadly at the price of "ducks." His wife recently bought three for $226; viz., A "duck" of a dress, a "duck" of a bonnet, and a "duck" of a parasol.

—A proud father in England lately explained to a school-teacher as "What accounts for John being sich a bad scollar is that he's my sun's wife's first husband."

—Trouble not trouble till trouble troubles you.

DIETETICS.

"Eat ye that which Is Good." As a Man Eateth, so Is he.

Recipes for Wholesome Bread.

Cooks who have never tried the experiment will be ready to exclaim, "Impossible!" when we talk of making light and toothsome bread without yeast, baking powder, soda, saleratus, *cremor tartar*, sour milk, buttermilk, or any other ingredients than flour and water. Ugh! what heavy, sticky, unpalatable stuff such bread must be! nearly everyone will probably think or say, who has never tasted bread properly made without those harmful constituents which are usually found in this staple article of food. But we are positive that an individual who has never tasted unleavened bread has really never learned to appreciate some of the most delicate and delicious flavors which may be realized in this article of food.

If you have never had the pleasure of eating this most palatable and wholesome bread, friends, just try an experiment or two. Begin with the following recipe:—

Crisps.—Take equal parts of the best fine flour and graham flour, both made from white wheat. Mix well. Make a stiff batter of a part of the flour with very cold water; iced water is the best. Knead in more flour until the dough is very stiff. Then roll thin as a knife blade, cut into squares, prick with a fork, and bake on a grate in a quick oven.

This kind of bread will be as much sweeter and nicer than crackers bought of the baker as can well be imagined. They do not need any butter or lard for shortening, for the rich graham flour is shortening enough. If any one wants an article a little more delicate still, he may try the following, which has become our standard bread whenever we can get it.

Oatmeal Crisps.—Make a thick batter of fine oatmeal and boiling water. Knead in graham or fine flour until a stiff dough is formed. Roll very thin, and bake as directed in the previous recipe. Great care is necessary to prevent burning. Are best when slightly browned. They have a delicious nutty flavor, and are tender enough for the toothless.

The following is another most wholesome bread, which can be enjoyed only in the winter:—

Snow Bread.—Take one part corn meal of medium fineness, and two parts of snow. Mix thoroughly and quickly in a cold room. Bake in hot patty pans, filling the pans rounding full, and placing them in the oven quickly. If the snow is moist, use less. If the cakes are heavy, too much snow was used; if they are raw or dry, too little was employed.

Gems.—The great favorite of housewives is gems, which are appropriately named on account of their intrinsic value.

Into one part of pure, cold, soft water, slowly stir two parts of the best graham flour, making the batter just thick enough so that it will not settle flat. Bake in cast-iron gem pans, or patty pans, in a very hot oven. Have the pans very hot when the batter is put in. By combining the several grains in various proportions, many different kinds of gems may be made.

Many commit the grave error of smearing the baking pans with suet, butter, or lard, so that the bread, when baked, tastes and smells strongly of burnt grease. There is no necessity for this. When the pans are new, smear them with pure olive oil or fresh butter. Heat them very hot, and then wipe them as clean as possible, rubbing until the inside is well polished. They are now ready for use. After using, rub them thoroughly, and put away in a clean, dry place, without washing. They will not need oiling again for several months.

Corn-Meal Gems.—Upon one part of fine corn meal, pour two parts of boiling water, and mix well. Bake in gem pans, in a quick oven. This makes the simplest and sweetest corn cake that can be made.

Johnny Cake.—Prepare a batter as for corn-meal gems, and bake in a common baking tin. This is known in the South and West as "hoe-cake," "corn-dodger," etc. In the days of open ranges and fireplaces, the batter was commonly baked upon a board before the fire.

Breakfast Cake.—Saturate oatmeal of medium fineness with water. Pour the batter into a shallow baking dish, and shake down level. It should be wet enough so that when this is done a little water will stand on the top. Bake twenty minutes in a quick oven. It may also be baked in fifteen minutes on the top of the stove in a covered dish.

Rolls.—Make a stiff batter with cold water, work in as much flour as will knead well, and then knead for twenty minutes or half an hour. Make into rolls one half inch to two inches in thickness, and bake in a hot oven on a grate or baking pan dusted with flour, laying them a little distance apart. Excellent rolls may be made by kneading flour into cold graham, corn-meal, or oatmeal pudding.

Cocoanut Bread.—To each quart of graham flour add three tablespoonfuls of grated cocoanut. Mix either with water or the milk of the nut, knead until the dough is spongy, and bake as directed for other bread.

Some who attempt to make bread according to the recipes given will not succeed to their satisfaction the first time. Even a second trial may not be wholly successful. Do not condemn the recipe, but *try again.* A little perseverance and tact will secure abundant success.

An Item on Salt.

GLANCING over an old account of Iceland, as given by an English traveler a little over a century ago, I noticed the following statement, which was given in connection with the habits and manners of the people: "All their victuals they use without salt, and this too by choice."

If salt is such a necessary article to the human system, as many claim, why is it that so many of the Icelanders lived, as this traveler stated, to a good old age? Why did life linger so long, the body being deprived of one of the life-sustaining principles, without the person once feeling craving demands of nature for the lacking principle?

Truly, if facts are anything, it is not hypothetical ground to take that the practice of salt eating was not induced by the natural demands of the human system.

W. J. F.

Significant Dietetic Facts.

THE sole diet of the Cossack soldier is black bread and garlic; yet there are few soldiers in the world that can compete with them in endurance of hardships.

A few handfuls of meal are the only rations which a Turkish soldier carries in his knapsack when engaged in warfare.

The monks of La Trapp have long been noted for their extraordinary longevity, which may justly be attributed, in great degree, at least, to their vegetarian diet, as they eat no meat.

A DUTCHMAN'S TROUBLES.

VEN I lays myself town in my lonely pedroom,
Und dries for to shleep very soundt;
De treams, oh, how into mine het dey vill come,
Till I vish I vas under te groundt.

Sometimes, ven I eat von pig supper, I treams
Dat mine shtomak is filt full of shtones;
Und out in my shleep, like de tival, I schreams,
Und kicks off te pedclothes und groans!

Den dere, ash I lays, mit the pedclothes all off,
I kits myself all over froze;
In de morning I vakes mit te het ache und koff,
Und I'm shick from mine het to mine toes.

Oh! vat shall pe tun for a poor man like me?
Oh! vat for I live in dis vay?
Some shays dere's a cure for dis trouble of me;
'Tis to eat but two meals in vun day.

Tobacco.—A tobacco-chewing man yawned in a street-car the other morning. Those riding on the opposite seat looked aghast into the open mouth. What nastiness did it disclose! How disgusting was the sight! How can decent Christian men thus defile their mouths, poison their breath, waste their money, and annoy their friends? There are boys who think it manly to chew because some men chew. Don't begin this filthy habit, boys. The men are sorry now for a habit formed when they were boys, but which has become too strong for their will.—*S. S. Visitor.*

A CORRESPONDENT of the *Agricultural Gazette* resents a sneer at oatmeal and milk porridge, which, he asserts, is not only common to the farm house of England, but also in the homes of the gentry, tradesmen, and artisans. His own appreciation is based on an experience of thirty years, during which long period the article in question "constituted his sole breakfast," and he has often walked a distance of thirty miles after such a repast without partaking of other food.

—Quinine biscuit is the latest novelty to the medical pastry line. Each biscuit contains one-fourth of a grain of quinine, and the taste is so concealed that a hearty individual can put them down until the hair on the back of his head begins to curl, without knowing what he is taking. Next we shall have castor-oil sponge cake and squill doughnuts.

FEVER AND MILK.—Dr. Ogston, of Aberdeen, records in the *Glasgow Medical Journal* an outbreak of typhoid which, after a most careful inquiry extending to every conceivable channel of infection, was traced to the milk supply.—*Sanitary Journal.*

THE

HEALTH REFORMER

BATTLE CREEK, MICH., FEBRUARY, 1876.

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

Vaccination, or Anti-Vaccination; Which?

EVERY winter, when the poor are huddled together in the wretched tenements of our large cities, swarming with filth, breathing impure air, eating bad food, and drinking bad whisky, and thus presenting all the conditions favorable for the propagation of contagious diseases, a new epidemic of small-pox breaks out, and the vaccination question is revived. What gives particular interest to the question is the fact, that, in many cities, laws have been enacted making the vaccination of all children in attendance upon the public schools, compulsory. There is quite a manifest disposition to make this law a general one throughout the United States, through the influence of State and local Boards of Health. The Board of Health of this State has recommended the local boards to enforce the vaccination of school children.

It is daily becoming more and more evident that the real truth upon this question should be known and recognized. If vaccination is harmful, its enforcement is an outrage against humanity. If it is beneficial and harmless, every proper means should be adopted to secure its advantages to as large number as possible. If it is really so injurious as many suppose it to be, any law requiring its performance should be scouted and resisted as an infringement upon the rights of American citizens, and the veriest tyranny.

Health reformers want to be consistent upon this as well as every other subject. What shall we believe? One says, "Statistics will settle the matter." How do they settle it? A noted surgeon and author once said in our hearing, "Statistics will prove anything." A more just remark was never made; and it is just as true of the subject under consideration as of surgery, to which the professor applied it. Let us see what statistics prove:—

1. Statistics prove that vaccinated persons are less liable to take small-pox than those who have never been vaccinated.

2. Statistics prove that those who have never been vaccinated are no more liable to the disease than those who have been.

3. Statistics prove that vaccination has diminished the prevalence of small-pox.

4. Statistics equally prove that the diminished prevalence of the disease is due to other causes than vaccination.

5. Statistics prove that vaccination protects a man against small-pox during his life.

6. Statistics prove that vaccination protects a person, if at all, only for a few years.

7. Statistics prove that those who have been vaccinated have the disease, if at all, in a modified form.

8. Statistics prove, again, that the disease is quite as fatal with those who have been vaccinated as with others.

It is generally true that experience is the best and surest test of any theory; but sometimes, as in this case, it is nearly, if not quite, impossible to get at the real facts. Statistics may be made to tell any story required to suit any man's particular theory.

It has been claimed, and justly, that vaccination may be the means of communicating some of the most loathsome constitutional diseases. There can be no doubt of the possibility of spreading infection in this way. To what extent vaccination may have operated in this direction, no one can determine; for diseases thus communicated may lurk in the system for nearly a life-time before manifesting themselves. Even upon their manifestation their origin might be referred elsewhere than to the real cause.

It is claimed, also, that scrofula has been widely propagated by vaccination. If the

old theory of scrofula were true, this might appear quite plausible; but the researches of scientific observers seem to have established the fact that scrofula is not a blood disease, as formerly supposed, and is in no sense contagious or infectious. This view would seem to relieve vaccination of responsibility in the communication of scrofula, though it is quite possible that the vaccine virus may sometimes induce a condition of the system identical with that to which the term scrofula is applied. The theory of the protective influence of vaccination is this: It is well known that a person who has once had small-pox is usually less liable to take the disease thereafter. The disease is communicable to cows, from human beings. In a cow or calf the malady is known as kine-pox, though the nature of the disease is really the same. Kine-pox may be again communicated to human beings; but it is found that the disease has become so modified in passing through the cow that it is no longer so dangerous to life as before, while it affords nearly the same protection against the future occurrence of small-pox as the unmodified form of the disease itself.

Are these claims true? While we hold that it would be exceedingly difficult to substantiate them by unimpeachable statistics, we are bound to respect the opinion of the eminent scientific physicians who make them. We firmly believe, however, that there are means which are quite as efficient protectives against small-pox as vaccination; viz., hygienic living and careful attention to such sanitary conditions as ventilation, bathing, disinfection, etc.

While pursuing our medical studies in New York, we mingled freely with patients suffering with small-pox, visiting them in all stages of the disease, and under the most favorable circumstances for receiving the contagion, often finding them in close rooms where they were kept without a particle of ventilation except the little furnished by the stove; yet we did not have a symptom of the disease, though unprotected by vaccination. We took no precautionary measures except confining ourselves to a spare diet of grains and fruits. We had no fears of contracting the disease, and purposely exposed ourselves as a means of testing hygienic measures as a preventive.

Our position on this question at the present time is, in brief, as follows:—

1. Vaccination is a protective against small-pox.

2. Hygienic living is as good a protective.

3. Vaccination, as usually practiced, may become the means of communicating most deadly and loathsome diseases.

4. Vaccination is not a certain protective against small-pox.

5. Hygienic living will not only fortify a person against the disease, but will enable him to pass through it safely if he chances to take it.

6. Vaccination will itself sometimes occasion death. At the best, it is an expenditure of vitality and a poisoning of the system unpleasant to think of.

7. Vaccination is unnecessary for those who are protected by hygienic living, and such ought not to be compelled to submit to it.

8. Since the great masses of the poor of our large cities can never be made to conform to the rules of right living, it may be that vaccination is for them the best expedient.

9. If vaccination must be practised, only the bovine virus should be employed, so that all risk of communicating other diseases may be avoided.

Sold Again.

QUACKS, knaves, and swindlers are as numerous and prosperous as ever, notwithstanding the hard times; for they can always find plenty of ears to listen to their glowing falsehoods, and plenty of simple-hearted people who will believe them.

A friend recently sent us a package accompanied with the following note:—

"I mail you, to-day, a parcel containing a '*healing bell*,' which, by the inclosed circular, my son was induced to buy. He has tried it as directed without the least perceivable effect, and from the appearance of the 'wooden bell,' and the directions without signature, I am inclined to believe that he has been swindled out of its cost, $10.00. Will you please investigate the matter, and, if you agree with me, expose the swindle and oblige,

"Yours truly,

"——— ———."

We have investigated this wonderful "healing bell," and agree with the gentleman who

sent it in pronouncing it a swindle. At first, we were amazed that the young man alluded to, a personal acquaintance, should have been taken in so easily; but when we came to read the circular from which he gained his description of it, and which he evidently believed, our amazement was somewhat diminished. Read how this unscrupulous knave portrays the virtues of his "bell."

"THE MEDICO GALVANIC HEALING BELL

Is a wonderful European invention for the treatment of acute and chronic diseases. It was invented by Dr. P. Heskier, of Copenhagen, the capital city in Denmark. On my journey in Europe my attention was called to the astonishing cures performed by the exclusive use of this wonderful invention. Recognizing its value, I determined to buy the sole right for the United States of America, to manufacture and sell the *Healing Bell.* My thorough knowledge of electricity as a remedial agent gave me great advantage in the mode of applying the *Bell*, and hence it has already worked wonders, and established its reputation in America."

Then follows a list of spurious recommendations and "cures" in support of his assertions. This wonderful instrument consists of a small block of wood, with a hole in one side which is filled up with little pieces of zinc and copper, and bits of cotton cloth. The bits of rags are said to be powerfully medicated. This wonderful piece of mechanism possibly cost the manufacturer, a certain Dr. Holock, of Cincinnati, the sum of fifty cents, giving him a profit of $9.50, or 1900 per cent., on a worthless toy.

We do not like to say hard things about anybody; but we do not think we are doing any one injustice when we say that there is not a microscope in the country powerful enough to find the conscience of such a man. It is certainly a very great pity that there are no laws which will give such rascals their just deserts. We hope no other one of our readers will be duped by this contemptible swindle.

Healthy Preaching.—Mr. Moody, the great revivalist who has been attracting so many thousands of hearers in Brooklyn and Philadelphia during the winter, speaking every day to a congregation numbering from 2,000 to 20,000, occasionally gives his hearers a wholesome hint healthwise. A few days ago, at an afternoon service, after keeping his audience busy for some time marking in their Bibles texts referring to the working of the Holy Spirit, he remarked :—

"Our bodies are temples of the Holy Spirit, and we should therefore take great care of our health, so as not to injure those temples. I believe tobacco injures the health. Some people smoke so much that you can't come within four or five feet of them. I can't smoke. I had to give it up after I was converted, because I could n't defile the temple of the Holy Ghost."

The preacher was not at all disconcerted because half a dozen old smokers got up and left the house. Perhaps he attributed their action to a generous desire to relieve the church of their odorous presence. We wish he might continue his attacks upon this monstrous vice until popular sentiment became so strong against it that its slaves would not be tolerated in any public assembly or upon the public streets.

Boston Law against Fashion.—The paragraph quoted below was one of the regulations of the city laws of Boston in 1639. Would it not be for the interest of humanity if some such obsolete laws could be be resuscitated?

"No garment shall be made with short sleeves, whereby the nakedness of the arm may be discovered in the wearing thereof, and such as have garments already made with short sleeves shall not hereafter wear the same, unless they cover the arms to the wrist with linen or otherwise; and that hereafter no person whatever shall make any garment for women, or any of their sex, with sleeves more than half an ell wide in the widest part thereof, and so proportionable for bigger or smaller persons."

Religious Dissipation.—By this term we do not mean dissipation which in any way savors of piety, for Christianity and dissipation have no affinity whatever. We refer to a form of dissipation which is very extensively indulged in by professors of religion under the guise of charity, often within the very walls of the sanctuary itself. Church fairs, as these festive occasions are often called, are

held with the ostensible object of "helping some poor minister," "paying for the church," "sending missionaries to the heathen," or some similar object of charity. It is very questionable indeed whether the evils resulting from the numerous follies indulged in on such occasions are not far greater than any possible good that can come from the mere pecuniary gains of the enterprise.

Two of these fairs were recently held in the city of Washington. One was under the control of the Episcopalian church, the other was directed by the Unitarians. The Episcopalians resorted to the sale of *lager beer* as one means of replenishing their coffers. At the Unitarian fair, young ladies distributed *claret punch*. The following very just criticism is from the *National Temperance Advocate*:—

"Such a prostitution of the name and profession of religion cannot but be offensive in the sight of God, and we do not believe he will prosper any church of any name which resorts or consents to such methods of raising money for the promotion of its church work. 'Woe unto him that giveth his neighbor drink, that putteth the bottle to him,' is certainly not less applicable to the managers of lager-beer and claret-punch church fairs than to the mercenary liquor-sellers of the corner grog-shops."

Literary Cramming.

President Porter, of Yale, has recently contributed to the *New England Journal of Education* a very vigorous and able paper, in which he criticizes the modes of classical instruction now in vogue. He finds no necessity for the prolonged and wearisome grammatical drill to which students of Greek and Latin are subjected, but insists that the aim should be to give the pupil facility in reading the languages in a reasonable space of time. He further states that not more than one classical student in a hundred can read Greek and Latin even after his seven years' drill.

No observing person can have failed to notice how little practical benefit seems to have been gained by a large share of students who have completed a classical course. In pursuing Greek and Latin for so many years, their minds have been kept upon the literature of by-gone ages. They have dwelt upon, studied, and discussed the vagaries of ancient poetry and philosophy, and have pored over the pages of antique history, until they have come to live in a mental atmosphere as antiquated as the heroes of their text books. About the first thing they need when they get out of the university is modernizing.

If our colleges taught less of Greek and Latin, and more of natural science, less of Cicero and Virgil, Xenophon and Thucydides, and more of human physiology, less of vapory mythology, and more of sanitary science, less of the exploded philosophy of Aristotle, and more of domestic and political economy, it is quite possible that our universities would be of more service to the country, and their graduates more practical and useful. It is gratifying to see that some of the most prominent educators in the country are taking hold of this matter. President White of Cornell, Prof. Youmans, and several others of equal eminence have expressed opinions similar to those of President Porter. The same view was advanced by the poet Milton long ago.

Don't Smother the Innocents.—Every winter we see several accounts of the smothering of infants by over-cautious mothers. Babies need air to breathe, as well as adults. They need pure air, also, and almost an equal supply of it. Never bury a child beneath the bed clothes at night unless you wish to get up in the morning and find the little one cold and stiff.

Rooms occupied by children ought to be most thoroughly ventilated, so that their active lungs and young blood may be well supplied with fresh air and its life-giving oxygen. It is a blot upon American civilization that not more than one public school building in a hundred is even tolerably ventilated. It is even still more rare to find a well ventilated dwelling-house. This matter demands serious attention. Why should God's oxygen, which is free and unlimited, be doled out to us in such limited measure?

PEOPLE'S DEPARTMENT

Devoted to Brief Discussions of Health Topics, Individual Experiences, and Answers to Correspondents.

Trust in Treatment.

IF I understand aright the principles of the true, hygienic system, the natural laws which God has established in the living being are all that we have to rely on for health, or for recovery from sickness or disease. The treatment which is recomended can do nothing more for the patient than to place him in the most favorable circumstances for nature to work unobstructed.

But people have become so accustomed to depend on foreign, or outside agencies for recovery from disease, that it is very difficult to get the idea entirely eradicated from the mind. The eagerness with which people have been wont to se k for something to swallow in case of sickness, and the consternation manifested when one is terribly sick and has "nothing to take," would be truly amusing but that it is too serious a subject to be treated with levity. And many who have adopted hygienic treatment, instead of drug medication, are slow to drop the idea, so long entertained, of doing that by treatment which nature alone can do. Eager to get rid of some chronic disorder in haste, they constantly have the mind occupied with it, and ply the proper treatment to excess, as if abundance of treatment would hasten a cure. It is treatment, treatment, treatment, instead of waiting with patience for nature to do the work, after we have, as far as we are able, supplied the proper conditions. This, as I view it, is almost as great an error as to think that drugs can do nature's work. It would be much better, after a moderate amount of hygienic treatment, to quietly wait and trust in God and the natural laws which he has established. Be easy when you have done the best you can. This is much better than to trust in treatment, even of a proper kind, when administered without due moderation.

R. F. COTTRELL.

Death in the Pot.

A FRIEND related to me, this morning, an incident which will not be relished by the lovers of flesh meats as an article of food. It furnishes an illustration of the fact that there may be "death in the pot" of the epicure, while he may be wholly unconscious of it.

He was called upon by a neighbor to assist in butchering a beef which he had fattened for his own use. To all outward appearance, the animal looked as well as beeves generally. It had eaten its food regularly and greedily; and its owner, with his family, were waiting for the time to arrive when they should satiate their appetites upon its tender sirloin, and invite their friends to partake with them of a delicious roast.

While dressing its carcass, and in removing its entrails, to their astonishment a mass of corruption of the most filthy, noisome, and offensive nature was suddenly exposed. It broke forth and covered a large portion of the carcass, besmearing it with a loathsome and disgusting fluid, the effluvium of which drove the men away from their work. After divers washings with water upon the surface, the carcass was pronounced clean, and after a part of it was sold as food to others, the remainder was packed for family use.

R. M. KILGORE.

My Visit to the Health Institute.

[THE following from an aged friend of reform in Minnesota is a good illustration of what hygienic treatment will do, though it is no more remarkable than scores of the hundreds of cases which annually receive treatment at the Health Institute in this place. All the helpers and old patients at the Institute remember with pleasure the happy countenance of father Morse, and his many friends will be pleased to learn of his recovery.—ED.]

Out of a sense of duty, and to answer the inquiries of many friends, I write these few lines for publication. The 12th of last May, I was brought down to a bed of sickness. Hip rheumatism was declared by three prominent physicians to be my disease. For forty days I never had on my clothes. I was a terrible sufferer. The bulk of my pain was in my right hip and down into my knee and ankle. My foot and limb, nearly up to my knee, were badly swollen and much inflamed. When the bulk of the pain left my leg, I had no use of it, could not move it only as I did it with my hands. It was para-

lyzed, and much smaller than the other. After baffling the skill of three eminent physicians, I was no better, but evidently growing worse.

The 19th of July, I took my seat in the cars for Battle Creek, Mich. The 20th, I arrived at the Health Institute, a distance of over six hundred miles from my home, much worn out. Here I found pleasant surroundings and kind friends; and through the rich blessing of God, and the persevering efforts of the physicians in applying nature's remedies, I am again restored to the active use of my limbs. My general health is also greatly improved, and I am again safe at home, able to attend to my business and do considerable light work. I am happy and cheerful, free from pain, and my system free from many impurities. Indeed, I feel that I have a new lease of my life. I have learned how to take care of myself, what is best for me to eat, and when to eat it; but how *much* is for me to decide every day.

I cannot express how thankful I feel. I left my crutches at the Institute, and have no more use for them. I thank the Lord and those who have labored long and perseveringly for that Institution.

Many thousands of dollars and a great amount of suffering might be saved annually if people would heed the light which has been given them on the health question. If all would get a bath tub and a thermometer, so as to know the right temperature of the water, they would have no use for drugs or drug doctors. WASHINGTON MORSE.

Take Care of your Health.

MR. MONEY-GET works and delves his sixty years, unceasingly, and makes enough to satisfy himself; but he does not see it so. He wants to put another thousand out at ten per cent., and on he goes, day after day, hard at work, a slave to money, until one day he dies suddenly in his work, his poor heart tired out, and his friends find him in his old working suit, a very sincere offering to wealth. Verily he might with care have held out for years yet, but he could not afford to stop and enjoy his possessions for a little while.

Mr. Thrifty is in a position to spare himself a little, now at forty-five; but he wants to be very speedily in the scale of "upper ten," and he rushes on in a very rapid way, although he is aware that he is overstraining his frame, and that his constitution, now injured, needs rest and care. No matter for that, harvest must be rushed to its completion. He is taken sick, but works on in the hot sun until he fails, is helped to his bed, and in four days is a corpse. His dear wife, overworked and heart-broken, dies a week afterward, and they leave the thrifty estate and sweet babes to the care of others.

Oh! how many fatherless and motherless children, and desolate homes, attest the neglect of the subject of health! Everything but this. People study all kinds of science but this. They become men and women, enter life, and die before they attain to old age, often die young, and the probate settles the estate, and appoints guardians for the children. J. C.

"The Doctors

Into whose hands I had fallen, were of the school now happily very much exploded. They had one panacea for almost every ill, and that was the perilous drug mercury. With it, they rather fed than physicked me; and its deleterious effects on the nervous system were doubly injurious to me, as increasing tenfold the excitability that required every curb.

"Among all the marvels of my life, the greatest is that of my having grown up to be one of the healthiest of human beings, and with an inexhaustible flow of even mirthful spirits; for certainly I was long kept hovering on the verge of the grave, by the barbarous excess to which medical experiments were carried; and I never entertained a doubt that the total loss of my hearing before I was ten years old was owing to a paralysis induced by such severe treatment.

"God, however, had his own purposes to work out, which neither Satan nor man could hinder. He overruled all for the furtherance of his own gracious designs."—*Personal Recollections*, by CHARLOTTE ELIZABETH.

The above, from such an author as Charlotte Elizabeth, cannot be passed idly by, as of no significance or importance. She is too well known as one of the most useful and interesting among modern writers. Her "Personal Recollections" were written in 1840, at the age of fifty years. On page 194 of this little work, she calls herself "a frail, delicate creature, thanks to the doctors and their pet drug."

In all candor, we inquire, Is not mercury in some of its forms just as common in the list of medicines used by physicians now as it ever was? are not other poisons added to the list which are more deadly if possible than calomel itself? and in the face of such evidence, how can sane men (M. D.'s) persevere in the use of such poisons?

How often do we see people whose lips and faces are terribly distorted by the use of this terrible curse called medicine! The doctors are often rather arbitrary in their way, and they do not always scruple in regard to the truth in getting their prescriptions down the throats of such as would object to the use of dangerous medicines. JOS. CLARKE.

The Health Reformer.—EDITOR OF THE REFORMER: The REFORMER for December is at hand, and I am happy to say that I am greatly pleased with its improved appearance. I take a good many papers and journals, but not one that shows as neat an appearance as this. I am specially pleased with the new arrangement and different departments in the REFORMER. I think it is just what was needed. Perhaps a little more variety of the same nature would not hurt it any. I am satisfied that it will now be much more acceptable to the general reader. The single article in this number, relative to how parents should treat their children, is worth much more to any family than the whole year's subscription. But this is only one article out of a hundred during the year.

I am traveling and lecturing continually among the people, and everywhere I make a strong plea for the REFORMER, and not without some success, as you will see by the frequent remittances which I make you. I only regret that every family does not have it. Hoping that you may have abundant success in your worthy labors, I remain,

Yours truly,

D. M. CANRIGHT.

We are always grateful for suggestions, and hold ourselves in readiness to examine them with candor and act upon all which seem to be feasible. We are very glad to know that the recent changes made meet with so general approval. We aim to be progressive, and mean to make each succeeding number of the REFORMER better than the preceding.

Good as Gold.—Mrs. E. L. Pickens, of Kentucky, in renewing her subscription sends $1.00 in gold as a token of how much she values the journal.

The Bacco Gown.—A Lancashire father said to his daughter, "Here's some money to buy a gown. Be sure and *haven* made by Sunday, and I'm *guoin* to have a new coat." On Sunday morning the gown and coat were put on, and the father said, "Now we'll go to church together." On their way the took hold of the sleeves and said, "That's a *bacco* gown, girl." "A *bacco* gown, father, what do you mean by that?" "Don't you know I've left off smoking, and that's bought with some o' the money I've saved, and when that on's gone there's plenty o' money to buy another."

Oh! happy day, when the hard earnings of the working classes, which they now spend in tobacco and drink, shall be employed for articles of necessity, comfort, and convenience, and when many who now idle away the day which God has set apart and blest, amidst fumes of tobacco, will repair to his house to hear his word.—*Sel.*

The Vulgarity of Ladies.—Beg your pardon, "ladies" is what we mean. Woman includes everybody, and of course there must be vulgar women.

There is a kind of assumption that woman is a neater, cleaner, more refined, and more sensitive creature than man. It may be so, but a lady will do many things which a gentleman could not bring himself to do. There is no gentleman in Springfield, for instance, who could walk through Main Street dragging part of his raiment on the ground after him. Any gentleman would consider himself defiled by such a performance, and probably would soon find himself in the hands of the police. No gentleman would parade the street in such attire that one hand was constantly occupied in reefing the slack of his breeches, after the manner of holding up skirts at the present time. American gentlemen attach the character of a gambler to a man who wears many jewels and rings, and recognize a cognate vulgarity in the lady who similarly overloads herself on occasions when personal adornment is not in keeping. What we mean is that there is a modesty and sobriety of attire, and even of bearing, among recognized gentlemen, which the recognized lady has not yet attained.—*Springfield Republican.*

Backward, Pin Backward.—The following ingenious parody is too good to be lost:—

Backward, pin backward, my skirts in their flight; make me look small again, just for to-night; I am so weary and my skirts are so long, sweeping the pavement as I walk along, gathering dirt from out the street, looked at by every one that I meet; mother, dear mother, I know I'm a fright; pin back my skirts, mother, pin 'em back tight.

Mother, dear mother, the days are so warm, and I am so tired of the dress I have on; it is clumsy, and don't fit me right; pin it back, pin it back, mother, pin it back tight; now, I am ready; don't I look sweet? smiling on all I happen to meet? I'm in the fashion, so that is all right, pin back my skirts, mother, pin 'em back tight.

Mother, dear mother, I know 'tis a sin, to wear dresses that show off one's limbs; but what is a poor girl going to do, if all of the world is wearing them too? It is only those who are thin that are afraid to show off a form that is n't well made; now you may laugh, but know I am right; pin back my skirts, mother, pin 'em back tight.

Charity vs. Fashion.—"I wonder if Miss Rachel means to wear that old bonnet again this winter. She is really growing miserly! With her ample means, to appear as she does, is absurd. That old satin dress has been in use as long as I can remember, and as for the bonnet, it has been altered and trimmed half a dozen times. I really would like to know what she does with her money."

"Please do n't speak so about Miss Rachel. She sent us a ton of coal this week, and she bought my sick brother a chair with wheels, and she helps lots of folks besides us."

Questions and Answers.

Long Hair and Longevity.—Mrs. A. A. H., Vt., writes: Please inform me through your columns if long, thick hair reduces the strength of an individual or shortens life.

Ans. Too much weight upon the scalp is not favorable to its health. It is possible that very long and heavy hair might become burdensome to the head, and by its heat produce headache. Thus far it would be injurious to the health. The old notion that the strength goes into the hair when it is allowed to grow, is without foundation. We consider wearing the hair short the most healthful manner.

How to Make a Water Filter.—J. A. S., Iowa: You will find simple directions for making a filter in the "Household Manual," "Healthful Cookery," and back numbers of the REFORMER.

Nervousness.—F. A. S., Iowa, says: I am twenty-five years old, active, nervous, and a musician. I have been engaged in in-door business, but am obliged to leave the same on account of nervousness. I can't compose myself so as to sleep; and frequently feel a kind of pulsation in different parts of the body. I am not sick now, but want to know how to live to avoid being so nervous. Can I do anything to help along besides getting an out-of-door business?

Ans. Out-of-door exercise will doubtless be one of the best remedies for your nervousness. You must also attend well to all the other laws of health. Two meals a day of good hygienic food should constitute your diet. A sponge-bath two or three times a week, just before retiring, may aid you in sleeping.

Two Meals for Teachers.—J. D. B., Mo., writes: I would like the advice of hygienic reformers, your own included, as to two meals a day, only, being necessary for all classes. It seems to be just the thing for persons of leisure, and laborers whose duties are not circumscribed as to time and place; but how it can be made to apply to teachers in the public schools, whose daily sessions are from nine to twelve and one to four, is a question we teachers would be pleased to have answered in the columns of your journal. From 12 M. until breakfast next morning is too great an interval; while from 7 : 30 A. M. to 5 P. M. is ditto. How shall we arrange our meals hygienically?

Ans. It is an unpleasant fact with which we all as hygienists daily meet, that many of the usages of society are antagonistic to the requirements of hygienic laws. While this condition of affairs is very unpleasant, and often painful, all we can do for the present is to make the best of the circumstances, and seek to educate the people up to a better state of things for the future. It is quite true that the usual school hours are not well arranged for the two-meal system, yet it is not impossible to thrive on two meals only when teaching during the ordinary hours. Dinner may be taken either at the noon intermission, or after the close of the afternoon session. We have tried both ways while teaching, and with very good results. Still, this is not the best division of the day for meals, and some would find themselves somewhat inconvenienced. Such may take an early breakfast, dinner at 12 M., and a very light lunch at 5 P. M. The last meal should consist chiefly of fruit.

Nasal-Douche for Catarrh.—K. M. T., Cal., asks if water taken up the nostrils for catarrh will do harm or good.

Ans. As generally applied, little harm and as little good would be likely to result.

If the water should be applied with considerable force, much injury might result; but if it is applied gently and thoroughly, it may do much good by cleansing out the nasal cavity and washing away the corroding discharges. The fountain syringe is the only proper instrument for applying the douche.

Icterus.—C. K. M., Ohio: From your description of the case we presume the man has a disease of the skin called icterus, which is caused by derangement of the liver. He needs a very thorough course of treatment, which would include packs, hand-baths, sun-baths, and electricity.

Sprain—Laughing Gas.—A. C., Ill., asks: 1. Do you use water in the case of sprains? 2. Are laughing gas and nitrous oxide, used by dentists to deaden pain, the same?

Ans. 1. Yes; apply either hot or cold at first, whichever relieves the pain most efficiently. Afterward apply a thin tepid compress constantly, changing every few minutes. 2. Yes.

Cough.—C. B. D. has a cough which the neighbors call a chin cough, for which she wishes to know the treatment.

Ans. Probably the cough is mostly due to nervous irritation, or a local disease of the throat. Wear the chest-wrapper every night for a few weeks, washing the chest in cool water in the morning. Gargle cold water in the throat whenever there is a disposition to cough. Restrain the cough as much as possible.

Umbilical Hernia.—L. M., Kansas, asks what to do for an infant whose navel protrudes about half an inch.

Ans. You should have a skillful surgeon adjust a suitable truss as soon as possible if the difficulty proves to be hernia, as we suspect it is. The bandage of which you speak had nothing to do with the matter.

Your husband might be able to learn how to take care of himself in a few weeks. It will take a long time to cure him completely.

Dyspepsia.—J. W. L.: Your chief difficulty is evidently dyspepsia. Get the tract on that subject, and live it out to the letter.

Crackers.—Mrs. E. N. V., Ind.: You will find a good recipe for crackers, or crisps, in the dietetic department of this number.

Mrs. M. D. C.: We cannot pronounce upon your son's case without more accurate information of his symptoms. When he is sick, you might give him a warm bath with benefit. The hot sitz-and-foot bath would be as good as any.

Medic: 1. We know of none which we can recommend to you. 2. In general, the hygienic physician must make up his mind to sacrifice much in a pecuniary point of view, though some have done very well in this respect. 3. There is no reliable preparation which can be applied to the face to promote the growth of the beard. All compounds which make any pretensions in this direction are poisons. Have nothing to do with them. It is best to be content with what nature gives us.

Mrs. M. G.: The lady cannot be wholly relieved while she remains in her present condition, but will doubtless obtain some relief by wearing elastic silk stockings which are made for the purpose.

Dumb Ague.—J. C.: For treatment of this disease, see the "Family Physician."

W. L., Ind.: See "Dietetics" in this number for cracker recipes.

Fits.—Mrs. A. W., Mich., writes that her child, eighteen months old, is troubled with fits which a homeopathic physician says are due to indigestion. It has a ravenous appetite, and eats between meals.

Ans. Your physician may be right. Correct the child's dietetic habits, thereby improving its digestion, and see if the fits cease, or are diminished in frequency. If they persist, it would be pretty good evidence that they are of an epileptic character, in which case the child should be placed under the immediate care of a skillful hygienic physician.

Miss E. C., Buffalo, has very weak lungs, and is subject to sudden colds; is very excitable and ambitious, but has no strength; has cold feet, and cannot sleep. Her mother and sister died with consumption. She is studying music, etc., and overworks. Some friends recommend tincture of iron to build her up. Shall she take it? Please give us your remedy through your columns.

Ans. Tincture of iron will do her no good. What she needs is plenty of healthful food, abundance of out-of-door exercise, and less confinement to her studies. Send her into the country for a few months where she can ride horseback, go skating, and breathe plenty of fresh air.

Craig Microscope.—Mrs. A. P., Del.: We do not keep the Craig microscope. We believe it is not manufactured at present. The maker failed some time since.

FARM AND HOUSEHOLD.

Devoted to Brief Hints for the Management of the Farm and Household.

Why and When Lamps Explode.

ALL explosions of coal-oil lamps are caused by the vapor, or gas, that collects in the space above the oil. When full of oil, of course a lamp contains no gas; but immediately on lighting the lamps, consumption of oil begins, soon leaving a space for gas, which commences to form as the lamp warms up, and, after burning a short time, sufficient gas will accumulate to cause an explosion. The gas in a lamp will explode only when ignited. In this respect it is like gunpowder. Cheap or inferior oil is always the most dangerous.

The flame is communicated to the gas in the following manner: The wick tube in all lamp burners is made larger than the wick which is to pass through it. It would not do to have the wick work tightly in the burner; on the contrary, it is essential that it move up and down with perfect ease. In this way it is unavoidable that space in the tube is left along the sides of the wick sufficient for the flame from the burner to pass down into the lamp and explode the gas.

Many things may occur to cause the flame to pass down the wick and explode the lamp.

1. A lamp may be standing on a table or mantel, and a slight puff of air from the open window, or the sudden opening of a door, cause an explosion.

2. A lamp may be taken up quickly from a table or mantel and instantly explode.

3. A lamp is taken into an entry where there is a draught, or out-of doors, and an explosion ensues.

4. A lighted lamp is taken up a flight of stairs, or is raised quickly to place it on the mantel, resulting in an explosion. In all these cases the mischief is done by the air movement—either by suddenly checking the draft, or forcing air down the chimney against the flame.

5. Blowing down the chimney to extinguish the light is a frequent cause of explosion.

6. Lamp explosions have been caused by using a chimney broken off at the top, or one that has a piece broken out, whereby the draft is variable and the flame unsteady.

7. Sometimes a thoughtless person puts a small-sized wick in a larger burner, thus leaving considerable space along the edges of the wick.

8. An old burner, with its air-drafts clogged up, which rightfully should be thrown away, is sometimes continued in use, and the final result is an explosion.—*Scientific American.*

A New Kind of Poisonous Dress.—According to a report by Prof. Gintl, in the *Lotos*, it appears that the public are exposed to a new source of poisoning from the use of arsenical glycerine and the arseniate of alumina as mordants. He states that these substances are now coming largely into use, especially among the English and Alastian manufacturers of cotton printed goods, as substitutes for albumen, which is much more expensive, some substance being required to fix especially the aniline colors, which are now so much in demand. Such goods have recently been sold in Austria and especially in Prague, containing, according to Professor Gintl, as much as fifteen to twenty-five grains of arsenious acid, in the form of arseniate of alumina, to the yard; and this is by no means an insoluble salt, but one much more poisonous than the much abused green arsenic colors. The more suspicious fabrics are stated to be those of a violet ground with white figures, and those printed in brownish yellow or reddish-brown designs, and which are sold at low prices.—*Sanitary Record.*

Home-Made Soap.—For four pounds of tallow, or lard, take two pounds of soda, one of unslacked lime, half an ounce of beeswax, quarter of an ounce of rosin, half a teaspoonful of borax. Put the lime and soda in a vessel with six quarts of water, stir them well, and allow the liquid to settle till clear; then pour off and strain the clear lye, and pour into the lime and soda a gallon of water; when clear, strain into another vessel. Melt the grease, and when it is boiling hot, pour in the weak lye, a cupful at a time, till the whole is saponified. Continue to boil, and add the strong lye till the whole is in; keep boiling and stirring till the soap is so thick that the spoon will stand in the middle without holding. Now add the rosin and borax, pulverized, stir them in well, and pour the soap into a mold, from which cakes can be cut to suit when it is cold. From this may be made any kind of perfumed soap by melt-

ing it and adding honey, oil of rose, bitter almonds, lavender, and other perfumes used in the manufacture of toilet soaps.

Fire-Proof Wood.—Boil the wood for three hours in a solution composed of sulphate of zinc, 55 lbs.; potassa, 22 lbs.; alum, 44 lbs.; oxide of manganese, 22 lbs.; sulphuric acid, 22 lbs.; river water, 55 lbs.

To Protect Fruit Trees from Mice and Rabbits.—Mice will not disturb the trees if the snow is trampled down hard about them. Blood sprinkled upon the trunks of trees will protect them from rabbits.

To Stiffen Ribbons or Old Silk.—Dissolve in half a pint of water a lump of gum arabic the size of a large filbert. Dip the silk or ribbons in it, and iron immediately. If they are soiled, they should be washed, and dipped in a weak solution of alum water.

Brick and Stone for Houses.—It has been found, by delicate experiments with accurate instruments, that brick are much superior to stone as a non-conducting material. This of course renders their value for building purposes much greater than that of stone, if the question of warmth only be considered.

Trimming Trees.—Fruit trees should be trimmed before the sap begins to flow. It is best to trim the tops low, so that the trees may be less liable to be broken by high winds. Sprouts should be cut away and the old bark removed as soon as the weather will permit. Scions may be laid in the cellar in sand for future use.

Water-Proof Cloth and Paper.—Glue and gelatine may be rendered insoluble in water by the addition of bichromate of potassa in the proportion of one part of the latter to fifty parts of the former. The bichromate of potassa should be added at the moment when the liquid is to be used. By applying this preparation to paper, cotton, linen, or silk, the tissue will become impervious to water. The Japanese make umbrellas of paper which has been treated in this way.

Nursing Bottles.—An exchange says: "All over the land women are feeding their babies from nursing-bottles with white rubber tops. The preparation used in bleaching rubber is a horrible and deadly poison—white oxide of mercury and kindred drugs—and the constant mumbling and chewing rubber so prepared places a child's life in danger. Paralysis has been caused by it, and many a baby dies in consequence of its use. A French mother or nurse, convicted of putting one to a baby's lips, is fined twenty francs, or imprisoned ten days; and to sell one in France is a grave misdemeanor."

To Toughen Lamp-Chimneys.—Place the chimney, when new, in a kettle of cool water. Set the kettle over the fire, and gradually raise the heat until the water boils. After boiling a few minutes, remove the kettle from the fire, and allow it to cool slowly, removing the chimney after it has become quite cool.

It is said that a dealer in glass ware in Scotland acquired a great reputation for the toughness of his glasses, many years ago, by treating them in this way. It is worth trying, at least, since it costs nothing.

Newspaper Blankets.—A very cheap blanket can be made by stitching two or three thicknesses of newspapers between two sheets. Such a blanket will be as warm as a much thicker one, as paper is an excellent nonconductor. A large newspaper placed between the folds of a thin shawl will make it as warm as a thick shawl or cloak. Paper wrapped around the feet outside of the stockings will add much to comfort on a cold day by retaining the natural heat. A paper or two spread between the covers of a bed in an emergency will serve the purpose of an additional blanket.

To Preserve Shoes and Boots.—Do not expose them to extreme heat by warming them too near the stove. The smell of leather indicates that they are already injured. The wearing of rubbers is very injurious to leather. Rubbers should be worn as little as possible, and should be removed from the feet as soon as their use is not absolutely necessary. Every two or three weeks, wash the leather with a cloth moistened in warm water, and when nearly dry, apply a warm mixture of equal parts of neat's foot oil and tallow. Ordinary blacking contains oil of vitriol, and this removes the oil from the leather and causes it to become dry and brittle.

The Proper Time for Cutting Trees.—An extensive inquiry has been made in Prussia into the effect upon the durability of woods of the season at which the trees are cut down. In general, the wood felled when the sap is not running has a decided pre-eminence as to its durability, strength, and density. The heat given out in burning wood felled in December and January is also, according to these experiments, greater than for woods cut in February and March.

Look out for Fire.—At this season of the year, much work is done by the light of lamps and lanterns in the barn and the workshop. Abounding as these places always do with the best of materials for a fire, it is wise to be always on guard. Lamps or lanterns should never be lighted, trimmed, or filled in the barn. Matches should never be kept or lighted in buildings containing hay or straw.

On windy days, chimneys will be liable to burn out, unless they have been recently cleaned. A sharp lookout should be kept for such an accident, and it would be wise to keep a few pounds of sulphur in the house to throw into the stove or fireplace should it occur.

Keeping Fuel.—As this is the best season of the year for securing the annual supply of fuel, it is important that proper provisions should be made for preserving it. Wood should be kept under cover. It preserves its heating qualities much better when kept dry than when exposed to the weather. Temporary shelters can be made of rough boards at very little expense.

It is important to choose a site for the wood pile as far from the dwelling-house as convenience will allow, so that the gases arising from fermenting sap and decaying bark may be avoided.

Why the Stove Smokes.—Many people wonder why the stove always smokes when the fire is first started, and sometimes puffs out a sheet of flame at the hearth. The reason is that the air in the stove pipe is cold, and so will not rise until it becomes heated, producing no draft. In consequence, the fuel undergoes only partial combustion, and an explosive gas is formed. By the sudden explosion of this, the flame is driven out of the hearth or door, sometimes to the great damage of the eyebrows of the unlucky individual who is using his lungs as a pair of bellows to encourage the struggling fire.

To avoid all this annoyance, do simply this: Immediately before lighting the kindling wood, remove the cover of the stove, and thrust as far back toward the pipe as possible a wad of burning paper or shavings. This will heat the air in the pipe and produce a draft.

Fun for the Children.—Making soap bubbles is rare sport for most children, and is an innocent pastime with which to occupy the long winter evenings. The greatest hinderance to the sport is the fact that the bubbles are so fragile that they will last only for a moment, and then they burst just as they look the most gaudy. Here is a way to make bubbles that will last several minutes; in fact, they may be kept for an hour or two under a large glass vessel.

Shave very fine an ounce of the best white castile soap. Dissolve this in half a pint of warm water. After it has settled clear, pour off some of the clear liquid, and mix with it half as much glycerine. Now the material is ready, and all you need is a clay pipe with a long stem. An ounce of the glycerine can be obtained for a few cents, and the amusement which can be afforded the children by it will many times repay the cost. Bubbles made in this way can be placed upon the mouth of a goblet and set aside by first wetting the edges of the glass with the liquid.

Destroying Weeds.—A correspondent of the New England *Farmer* tells how he eradicates weeds, as follows:—

Some fifteen years ago I turned up an acre of rich land and sowed it at the proper season with rye. It came up perfectly well, and promised a good crop. In the spring it looked very flourishing, but there soon appeared multitudes of weeds, which continued to flourish till, at the time for harvest, they were much more conspicuous than the rye. After threshing, the straw, which I valued more than the grain, sold very ill, hardly at half the usual price in Boston. The rye itself was full of seeds, many of which refused to be separated by the winnowing. I determined to avoid this evil if I could; so I ploughed up an acre, next to that which had served me so ill, let it be until next spring, and waited till a rich crop of weeds sprang up, which, when they were five or six inches high, I ploughed in, and waited till another crop of somewhat later weeds were in the same condition; these were ploughed in, and afterward a third crop of the latest weeds was served in the same manner. It was then sown with rye, and produced the cleanest and most beautiful and luxuriant crop I had ever seen.

I have no doubt that the three crops of weeds did the land more good than an ample covering of barn manure would have done. The same course essentially pursued since has been equally successful. My crop of rye this season was the best and largest I have ever had, and the straw was the best—perfectly clean.

—When money makes the man, the loss of it unmans him.

POPULAR SCIENCE.

In this Department Will Be Noted the Progress of Science, New Discoveries and Inventions.

—Prof. Voght records an instance of what may be called self-cannibalism. He cut in two a male cricket, and immediately the fore part, probably experiencing a sensation of emptiness in the ventral region, turned upon the hinder part and devoured it!

—Prof. Leidy is of opinion that contagion is frequently transferred from one subject to another by the agency of the common house-fly, and his observations in military hospitals have led him to the conclusion that flies should be carefully excluded from wounds, particularly if gangrene is anywhere about.

A New Element.—A new element, which has been named Gallium, was recently discovered, and has been procured in a metallic state by a Frenchman. Its position seems to be between platinum and silver.

Vegetable Ivory.—A substitute for ivory has been formed in the kernel of the corrozo-nut, the fruit of a variety of the palm-tree which flourishes in South America. This vegetable product, when fully ripe, becomes very hard, and resembles ivory so closely that it can scarcely be distinguished from it. It is used very extensively for buttons.

Sensitive Streams.—Prof. Edwin J. Houston, while spending a summer's vacation in Pike County, Pa., had the good fortune to discover the sensitiveness of water to sound-waves. Among the many beautiful waterfalls of that section he found one scantily supplied with water, which dripped in small streams from the ends of the moss covering the rocks of the precipice, the air being still and the stream free from ventral segments; and it was found that, on sounding a shrill *falsetto* note, the streams would instantly respond, and change the grouping of the drops and the position of the ventral segments. A heavy rain, however, flooded the stream, and prevented further investigation.

Paper Car-Wheels.—Car-wheels of paper, though universally admitted to be superior to those of iron or steel, have not been much used hitherto, owing to their high price. If, however, as is claimed, paper wheels are more durable than those of other materials, and if they do less injury to the tracks, besides being safer and more noiseless, it may in the end be found economical to employ them. The Connecticut River Railroad, as we learn from the *Iron Age*, is about to give these wheels a practical trial, having ordered a set of them for the forward truck of a locomotive. The process of manufacturing wheels of paper is as follows: A number of sheets of common straw-paper are compacted together under a pressure of 350 tons. The mass is then turned perfectly round, and the hub forced into a hole in the center. The tire, which is of steel, has a bevel of one-quarter of an inch on the inside edge, and the paper filling is forced in under a pressure of 250 tons. Two iron disks, one on either side, and bolted together, keep the filling from coming out; but, as the tire bears on the paper and not on the disks, the wheel partakes of the elasticity of the former.—*Pop. Sc. Month.*

Reported Discovery of Living Moas.—A report is published in an Auckland newspaper, of October 3, of the finding of two live moas at Browning Pass, New Zealand. The story runs that one R. K. M. Smyth, on September 26, while hunting, saw his dog set off suddenly at a great pace, barking furiously. He followed, and soon saw two large birds, one of gigantic height, the other smaller. Seeing the dog getting the worst of the fight, Smyth ran back and called his mate to assist him. They got a leather rope, and, under shelter of a small patch of bush, got behind the larger bird and roped it at the first cast. He then took a turn round a birch tree with the rope. The large bird did not show fight to any great extent, and the smaller one remained quietly by it. After this they had very little trouble to secure the legs of the large bird, and they left it fastened to the tree two days, the young one making no effort to leave its mother. With the assistance of some shepherds the old bird was taken to the camp, the young one following. The old bird is eight feet high, and the young one is five feet. The story needs confirmation; it is almost too good to be true.—*Sel.*

Movements of Plants.—Mr. Darwin makes the following remarks on this very interesting subject :—

"If the extremity of a living stem, say of a convolvulus, growing perfectly free, and in a normal position, is observed, it is seen to hang over from its support in a horizontal direction; and this horizontal portion is found, if observed at intervals of some hours, to point in different directions. The end of the growing shoot has, in fact, the property of revolving in a large circle, round the support, always, with the same species, in the same direction, either with the sun or opposed to the sun. The rate of revolution varies with different plants, and with the same plant at different periods of its growth ; it is much quicker in warmer than in cooler weather."

The New Force.—Mr. Edison, of Newark, New Jersey, has recently discovered what he thinks to be a new force nearly allied to electricity. Dr. Beard, of New York City, has repeated the experiments of Mr. Edison, and favors the idea that the force is a new one. We recently had the pleasure of calling upon Mr. Edison at his laboratory in Newark, in company with Dr. Beard, and saw him illustrate the force by means of his delicate apparatus. It appeared as a minute point of light between two carbon points in a dark box. It does not obey the laws of electricity or magnetism, seems to be devoid of polarity, will pass through insulators with surprising facility, and will travel straight out upon a metallic conductor without there being any metallic connection at the other end. The most delicate galvanometers and electrometers will not respond to it. The thermo-electric pile is equally silent, indicating the absence of an electric current.

We have not yet had leisure to repeat any of Mr. Edison's experiments, but shall do so at our earliest convenience. Any telegraph operator can demonstrate this peculiar force for himself by applying a metallic point to the armature of the magnet of his machine. A minute point of light will appear between the two metals.

Nothing New under the Sun.—Humboldt, in his "Cosmos," states that the Chinese had magnetic carriages with which to guide themselves across the great plains of Tartary, one thousand years before our era, on the principle of the compass. The phototype of the steam-engine has been traced to the eolipyle of Hero of Alexandria. The Romans used movable types to mark their pottery and indorse their books. Mr. Layard found in Nineveh a magnifying lens of rock-crystal, which Sir D. Brewster considers a true optical lens, and the origin of the microscope. The principle of the stereoscope, invented by Prof. Wheatstone, was known to Euclid, described by Galen fifteen hundred years ago, and more fully in 1599 A. D., in the works of Baptista Porta. The Thames Tunnel, thought such a novelty, was anticipated by that under the Euphrates at Babylon; and the ancient Egyptians had a Suez Canal. Such examples might be indefinitely multiplied, but we turn to photography. M. Jobard, in his "Nouvelles Inventions aux Expositions Universelles," 1857, says a translation from German was discovered in Russia, three hundred years old, which contains a clear explanation of photography. The old alchemists understood the properties of chloride of silver in relation to light, and its photographic action is explained by Fabricius in "De Rebus Metallicis," 1566. The daguerreotype process was anticipated by De la Roche in his "Giphantie," 1760, though it was only the statement of a dreamer.—*Pop. Sci. Month.*

Reproduction of Burnt Records.—M. Rathelot, an officer of the Paris law courts, has succeded, in an ingenious manner, in transcribing a number of the registers which were burnt during the Commune. These registers had remained so long in the fire that each of them seemed to have become an homogeneous block, more like a slab of charcoal than anything else, and when an attempt was made to detach a leaf, it fell away into powder. Many scientific men had examined these unpromising black blocks, when M. Rathelot hit upon the following method of operation : In the first place, he cut off the back of the book so as to leave nothing but a mass of leaves, which the fire had caused to adhere to each other. He then steeped the book in water, and afterward exposed it, all wet as it was, to the heat at the mouth of a *calorifère ;* the water, as it evaporated, raised the leaves, one by one, and they could be separated, but with extraordinary precautions. Each sheet was then deciphered, and the copy certified by a legal officer. In this way the records of nearly 70,000 official acts have been saved. The appearance of the pages was very curious—the writing appeared of a dull black, while the paper was of a lustrous black, something like velvet decorations on a black-satin ground, so that the entries were not difficult to read.—*Sel.*

NEWS AND MISCELLANY.

In this Department Will Be Summarized the Most Important of the Events of the Day.

—Dec. 31 a ship was sunk by a collision with a steamer in the English Channel. Not a single person was saved.

—There are eight criminals in Missouri who have been convicted of murder, and are sentenced to be hanged within thirty days.

—A mammoth gas main recently exploded beneath a crowded street in Boston, resulting in great damage. A similar explosion occurred in Philadelphia a few days later.

—The *Food-Journal* quotes from the *Swiss Times* the statement that the sale of horse-meat has been authorized by the authorities in Geneva, the price per pound for the choice morsel being regulated by law.

—One of the most recent inventions in military implements is a peculiarly constructed cannon which will send a ball at a speed five times greater than any hitherto attained, and with a force sufficient to penetrate the armor of the most heavily plated gunboats.

—The attorneys of Landis, the Vineland murderer, are attempting to defend him by setting up the claim that the homeopathic physicians who attended the victim are responsible for his death instead of the bullet which Landis lodged in his brain.

—The Cardiff Giant, a monstrous humbug which has been often exposed, is still on exhibition. The only thing that can be said in its favor is that it is a very ingenious counterfeit. The owner has been trying to advertise himself by commencing suit against the N. Y. *Tribune* for slander in exposing it.

—The Cuban struggle is still prolonged. Every one is heartily sick of it, and yet its termination does not appear to be any nearer than at the outset. Many far-seeing politicians predict that this matter will eventually lead to a war between the United States and Spain. Both governments seem to be making preparations looking toward such an event.

—Berlin has grown rich by war, but her poor are growing poorer. About half of the population live in dens which have usually two chalk-lines crossing each other on the floor. A room is thus divided into four compartments, one for the sleeping-place, another for the nursery, the third is hired to a lodger, and the fourth is kitchen, living-room, and workshop.

—A careful estimate gives the population of the globe as follows: Europe, 301,600,000; Asia, 794,000,000; Australia and Polynesia, 4,365,000; Africa, 192,520,000; America, 84,524,000; total, 1,377,000,000. London has 3,251,000, ranking first among cities in point of population. Next comes Su-choo, China, with 2,000,000. Five cities in China have an aggregate population of 6,884,000 inhabitants.

—A searcher of ancient records has exhumed the following weather statistics for Germany: In 1241 the trees bloomed in March, and in May cherries were ripe. In 1289 there was no winter, and young girls wore wreaths of violets at Christmas. In December, 1538, the gardens were green, and in full bloom the following month. The years 1572, 1588, 1607, 1609, and 1617, were similarly abnormal. There was neither snow nor frost in 1659. The trees bloomed in February, 1722. The year 1807 was extremely mild, as also 1834 and 1846.

—The "sick man," as the Sultan of Turkey is known in political circles, recently repudiated the enormous debt which he has made by his unparalleled extravagance, to the intense disgust of English capitalists. It is rumored that the Rothchilds are heavy losers. Present indications are that the "sick man" cannot long survive, but will sink beneath the load of his own sensuous effeminacy and voluptuousness. Turkey will then be absorbed by some one of the great European powers; which one, is the problem which gives such intense interest to the Eastern Question in the minds of European diplomatists just at the present moment.

—The attempt to organize a mutual council to consider the Beecher affair has finally resulted in a failure. Mrs. Moulton invited Dr. Storrs and Dr. Buddington and their churches. Plymouth Church objected to these two parties on the ground that they were prejudiced and envious against Beecher. The announcement of the failure of the mutual council was met with loud applause by Plymouth Church, whose committee now propose to call an advisory council at the earliest possible moment. Beecher says that "if he was to consult his own temperament he would open a church and preach in an entirely different way to that which he is now pursuing."

—Tweed's attorneys have hit upon a new device to aid their client. They have actually begun suit against the city authorities to recover damages for letting him escape. This action is considered to be almost unparalleled for insolence as well as ingenuity. The objects of the suit seem to be, 1. To punish Tweed's prosecutors for failure to recover what he stole; 2. To cause his accomplices, who turned State's evidence, to restore what he stole; 3. To compel the city authorities to prosecute their own witnesses. It remains to be seen whether the courts will tolerate such impudence.

Literary Notices.

LONGEVITY OF BRAIN WORKERS. By G. M. Beard, M. D., New York.

This is one of the most valuable papers which have appeared in modern times relating to the subject on which it treats, since it effectually exposes a most pernicious popular error respecting the effects of brain labor. The author, although a most prolific writer, is a profound reasoner, and an indefatigable worker in gathering statistics, making original investigations, and verifying the results of others' experiments by his own.

Dr. Beard has proved beyond the possibility of successful controversy, that brain-workers, as a class, are long lived ; that mental exercise and labor are among the most healthful occupations ; and that the popular fear of "softening of the brain" from study is as absurd and unfounded as it is common.

We have received permission from the author to publish portions of this very excellent paper, and shall do so at an early day.

COMPLETE MANUAL OF SHORT-HAND. By Summers and Clarke, Lansing, Mich.

This is certainly a very concise work, being chiefly composed of examples, and brief hints to learners. We have not had leisure to thoroughly test the changes suggested, so that we are unprepared to criticise the merit of the system from personal knowledge. It has this excellent recommendation, however, that its chief author, Mr. Summers, is a practical reporter for one of the principal papers in the State, the *Lansing Republican*, and is a thorough gentleman. Mr. Summers is also a staunch friend of reform, and a thorough hygienist. Any one who is interested in short-hand writing will do well to obtain the work.

HERMAPHRODISM. Chicago : W. B. Keen, Cooke, & Co.

A pamphlet of forty-five pages which considers the subject from a medico-legal point of view. It is a valuable work for lawyers and physicians, and worth the price, fifty cents, to any one.

SCHERMERHORN'S MONTHLY. New York : J. W. Schermerhorn & Co.

This is an excellent magazine, devoted to educational matters, and intended for parents and teachers. It contains much excellent instruction, and is well worth the subscription price, $2.00 a year.

TRANSACTIONS OF THE LANSING SCIENTIFIC ASSOCIATION. H. B. Baker M. D., President, E. Summers, Secretary.

The principal part of this abstract report is an address by the president, which sets forth the objects of the society, and the best means of attaining them, in a very attractive manner. The society, although recently formed, already has very promising prospects.

THE YOUTH'S INSTRUCTOR, edited by Mrs. M. J. Chapman, Battle Creek, Mich., is a beautiful children's monthly. Every number contains several illustrated articles. It is printed on fine paper, in very clear type, and is ably conducted. Every child in America ought to have a copy. Older people will be interested in it also. It is a perfect gem of a paper, and contains only the choicest reading matter. The price is only 25 cts. a year to new subscribers, and specimen copies are sent free.

VACCINATION. We have received a copy of an open letter on this subject addressed by E. Summers to Dr. A. Hazlewood, who has been appointed by the State Board of Health a committee to compile statistics on the subject. Mr. Summers is very strongly opposed to vaccination, and especially to compulsory vaccination. We agree with him that the State has no right to compel people to poison themselves.

THE HOUSEHOLD MANUAL. We have just enjoyed the privilege of examining the Household Manual, a book of 162 pages, published at the Office of the HEALTH REFORMER, Battle Creek, Mich. It is what its name indicates, and has a better claim to that title than any other work which we have seen. In the first 124 pages the editor has presented in a clear manner, easy to be understood and applied, everything which it seems necessary to know for the proper management of the household. It has been said :—

"This is an age of telegraphic speed ;
Who writes too long shall find no one to read."

The editor has well appreciated this truth, and we are led to wonder, as we look, that so much valuable matter has been compressed into so small a space.

It has been a standing complaint against the works of some writers on hygiene, that they were not practical. In some cases the remarks are extended to such length that the common householder loses the direction under an accumulation of words. Such complaints will never be raised against the Household Manual. J. H. WAGGONER.

Items for the Month.

☞ A BLUE cross by this paragraph signifies that the subscription has expired, and that this number is the last that will be sent till the subscription is renewed. A renewal is earnestly solicited.

☞ New subscriptions will begin with the month in which they are sent. Agents will please note this.

☞ Renew your subscriptions at once, friends, if you find a blue mark on this page and a blank accompanying this number. Don't wait until you have lost several numbers, but PAY UP AT ONCE. Be prompt.

☞ Last month we began a series of articles on Household Medicine which we shall resume in the next number and continue throughout the year. It is our intention to make them eminently practical in character. The next number will also contain the first of a series of articles on Hygienic Treatment of Disease.

☞ In the advertising columns will be found a description of the "reactionary lifter," or "health-lift." This machine is a very elegant and ingenious apparatus, and is capable of doing much toward restoring invalids to health. It is incomparably superior to any other form of lifting machine made, and is well worth the money to all who can afford the moderate price which is charged for it.

COMPLETE SETS OF THE HEALTH REFORMER. We are now able to furnish a very few complete sets of the journal, bound in good style, making nine elegant volumes in all, volumes six and seven being bound together. These will be sent to any address, charges prepaid, for $13.00.

THE CENTENNIAL. We have secured space for a stand at the centennial exhibition to be held at Philadelphia, next year, where we shall have on exhibition a good variety of health publications, and expect to give away thousands of tracts and leaflets laden with the wholesome doctrines of hygiene, in a condensed, pithy, terse, and attractive form.

TO OUR CANVASSERS. Thus far, the season has been uncommonly favorable for canvassing work, and we judge that many of our agents are improving the opportunity in a most commendable manner, though we have not received so many reports as we hoped to receive before this time. We will be obliged to all our agents if they will send in reports at once, if they have not reported already.

The Health Almanac.

THE sales of the almanac for 1875 and 1876 have reached 110,000, and we expect to be obliged to print still another large edition of this year's for distribution at the centennial. At least we will gladly do so if our friends will aid us in the enterprise.

There are many families who are yet unsupplied with the almanac, even among our regular patrons. You can hardly afford to be without it, friends, for the cost is only a trifle. If a person wants to send copies to his friends, he can have them at the rate of FOURTEEN FOR ONE DOLLAR, postage prepaid. For ten cents extra, $1.10, we will wrap them in single packages, and mail them direct to the individuals who are to receive them, if the purchaser will send a list of such persons with their names and addresses plainly written.

Battle Creek College.

HYGIENISTS have a special interest in this institution, since it was founded by hygienists, built with the earnings of hygienists, is now maintained by the patronage of hygienists, is managed by a board of hygienists, is manned with a competent corps of professors who are hygienists, and has for one of its chief objects the inculcation of hygienic principles. Its increasing prosperity is a source of much satisfaction to its friends.

The high degree of discipline maintained, together with superior teaching, is rapidly placing the College in the front ranks of institutions of learning in the State. Facilities for teaching have recently been greatly increased by the purchase of chemical, philosophical, and physiological apparatus to the amount of about $ 1300.00. A good laboratory has been fitted up, and is now ready for occupancy.

To any one who wishes to obtain a thorough education under the most favorable circumstances, this school offers advantages which can rarely be obtained elsewhere.

—Mr. Wm. L. Geiger, of Ashland, Ky., is an extensive dealer in real estate, horses, mules, and cattle. All who desire to purchase anything in his line will, we believe, find him a straightforward business man.

WANTED, the name of the person who mailed a letter at Coopersville, Mich., Sept. 10, 1875, without signing his name. The letter was addressed to Dr. P. M. Lamson, and contained measures for a pattern and fifty cents to pay for the same. The pattern will be sent if the person who wrote the letter will forward to us the proper address.