THE

HEALTH REFORMER.

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

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DRESS REFORM.

NUMBER ONE.

THE foolish extravagances of fashionable dress, together with its almost total disregard of health and real comfort, have become so apparent to all sensible persons that few can be found who are willing to risk their reputation for soundness of mind by attempting to defend its absurdities. It would be an outrage against the intelligence of civilized womanhood to suppose that the devotees of

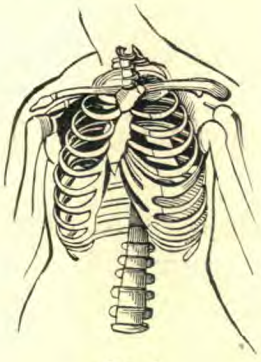

Fig. 1.

fashion are ignorant of the fact that the daily homage which they pay to their goddess is at the expense of real physical comfort, and often of health and of life itself. The evils of improper dress have been so often exposed, and the sad results so faithfully depicted, that none can be in innocent ignorance. The shackles of a slavery worse than any political despotism holds one-half of civilized humanity in a durance more galling, more enervating, and more deplorable than Egyptian bondage, notwithstanding the stirring appeals which have been made to them by eminent physicians of their own sex, as well as others.

Some noble minds are asserting their liberty and claiming the right to consider first the demands of health and comfort, irrespective of the dictum of Dame Fashion; and we must continue to wage unceasing warfare against the many harmful customs which Fashion imposes upon her followers until every woman of noble mind, elevated tastes, and sound reason, shall be compelled to see the importance of the subject, and be led to emancipate herself from so irksome a bondage.

NECESSITY FOR CLOTHING.

The natural requirements for dress are the following:—

1. Modesty requires that the body should be shielded.

Fig. 2.

2. Protection against sudden changes of temperature is required for the maintenance of health.

The dusky savage who roams the tropical wilds of Central Africa finds no necessity for clothing. Modesty is to him unknown. The genial climate of his native forests insures him against vicissitudes of temperature, and so he lives as he was born, protected only by the swarthy cloak which nature gave him. Civilization creates the first requirement for clothing, and the varying temperatures of the temperate and frigid zones create the second.

ESSENTIAL QUALIFICATIONS OF CLOTHING.

In order to meet the wants of the body as indicated by the above requirements, clothing must possess the following qualifications:—

1. It must allow unrestrained action of every organ of the body.

2. It must secure equable temperature of all portions of the body.

3. Its weight must be as light as possible without sacrificing other necessary qualities.

4. It must be so adjusted to the body as to be carried with the slightest possible effort.

In view of the above principles, let us examine some of the fashionable articles of dress.

Little need be said concerning male attire, for fashion has graciously spared one-half of her subjects the pains and follies which she has heaped in double portion upon the other half. With the exception of tight boots and tight cravats—both of which are now out of fashion, fortunately—little fault could be found on the score of health with most of the garments worn by men. The feminine portion of humanity are the chief offenders, and, consequently, their modes of dressing must be the chief objects of criticism.

CORSETS AND TIGHT-LACING.

Fig. 1 is a correct representation of the proportions of the female chest and waist as nature and the Creator design it. Fig. 2 represents the same after it has been compressed and distorted by the ruthless hand of fashion by means of the corset, tight belts and waist-bands. Let every woman consider carefully the injury which results from this artificial and totally unnatural constriction of the waist.

It will be observed in Fig. 1 that the lower part of the chest is larger than the upper part on account of the expansion of the lower ribs. The object of this arrangement is to give ample room for the action of the delicate vital organs which are carefully lodged within this bony cage for protection. Chief among these are the *lungs*, the *heart*, the liver, the diaphragm, and the stomach. In the healthy performance of their functions, these organs require a limited degree of motion. With every act of respiration, the lungs alternately expand and contract; the diaphragm moves up and down; the stomach and liver have the same motion. Every beat of the pulse is produced by a change in position of the heart. The size of the stomach necessarily varies greatly, being full after a meal, and nearly empty at other times.

THE CORSET A CAUSE OF CONSUMPTION.

How does compression affect these various organs and their functions? The corset, with its inflexible stays and hour glass shape, grasps the expanding lungs at their lower part like an iron vise, and prevents their proper filling with air. The lungs are thus crowded up into the upper part of the chest, and are pressed against the projecting edges of the first ribs, upon which they move to and fro with the act of breathing. The friction thus produced, occasions a constant irritation of the upper portion of the lung, which induces a deposit of tuberculous matter, and the individual becomes a prey to that dread disease, consumption—a sacrifice to a practice as absurd as pernicious.

The lower part of the chest being narrowed, thus preventing proper expansion of the lungs, the amount of air inhaled is insufficient to properly purify the blood by removing from it the poisonous carbonic acid, which gives to impure blood its dark color, and is so fatal to the life of all animals. In consequence of this defective purification of the blood, the whole body suffers. None of the tissues are properly kept in repair. They are all poisoned. Particles of gross, carbonaceous matter are deposited in the skin, causing it to lose its healthy luster and acquire a dead, leathery appearance and a dusky hue. The delicate nerve tissues are poisoned, and the individual is tormented with "nerves," sleeplessness, and fits of melancholy.

All this results from curtailing the action of the lungs so that only their upper portion can act at all. Their action ought to be wholly unrestrained, allowing the pure air with its life-giving oxygen to penetrate to the smallest extremity of every air-tube, and fill to its utmost capacity every delicate cell. A woman ought to be able to breathe deep and full, as does a man. Such an act is an utter impossibility when the waist is pinioned by a corset.

HEART DISEASE CAUSED BY TIGHT-LACING.

Another sufferer is the heart. The dark, impure venous blood goes rushing from the heart to the lungs for purification. The lungs are so compressed that only a portion of the blood can get through. The remainder is crowded back into the heart, causing enlargement of that organ, and heart disease. The individual then suffers from flutterings and palpitations of the organ, and a constant fear lest sudden death may cut short her career.

But this damming-back process extends far beyond the heart. The venous blood, being crowded into the heart, finds its way back into the veins, and thus to the head, causing congestion of that organ, with all its dullness, pain, nervousness, loss of memory, and mental inefficiency.

The diaphragm, one of the most important muscles of inspiration, is crowded up into the chest by the upward pressure of the abdominal organs, which are squeezed out of place by the vise which grasps them. This makes breathing still more inefficient, and the ex-

pansion of the cavity of the chest less complete, adding greatly to the evils already mentioned.

CORSETS AND DYSPEPSIA.

The stomach is located just beneath the point where the pressure of the corset is greatest. It must either suffer from constant, unyielding compression, or else it must be displaced either upward or downward. In the first case, it encroaches upon the lungs, and in the second, it presses upon delicate organs below, so that the result is equally bad in either case. This constant compression and displacement disturbs the function of the organ, and thus produces dyspepsia with all its dire consequences. Experiments upon animals show that pressure upon the stomach will produce death quicker than almost any other means. A sharp blow upon the stomach will often produce instant death.

TIGHT-LACED FISSURE OF THE LIVER.

We once found in Bellevue Hospital, New York City, a woman who was suffering under a complication of maladies which evidently had their origin in the foolish practice of tight-lacing to which she had been addicted. On making an examination of the internal organs, we were amazed to find the liver presenting itself just above the hip bone, its normal position being entirely above the lower border of the ribs. Further examination revealed the fact that in about the middle of the organ there was a constriction, or fissure, nearly dividing it in two, which had been produced by habitual lacing. The function of the organ had been so greatly interfered with that it had failed to remove the biliary elements from the blood, and they had been largely deposited in the skin, making the latter anything but beautiful, although the woman was not advanced in years, and was naturally fair. Thousands of young ladies have cut their livers nearly in two in the same way. No wonder that they require rouge and French chalk to hide their tawny skins.

NUMEROUS OTHER EVILS RESULTING FROM CONSTRICTION OF THE WAIST.

The waist is naturally larger than the upper part of the chest. Its size is due to the contents of the abdominal cavity. If it is pinched and squeezed into one-half its natural size at one point, some other portion must be enlarged in order to give room for the internal viscera of the abdomen. This enlargement naturally occurs below the waist, giving that portion of the body an unnatural, ungraceful, and distorted appearance. Indeed, the practice distorts the whole body, giving it an hour-glass shape when there should be a graceful taper from the armpits to the hips. The noble matrons of Greece and Rome in the sunny days of those empires never possessed such misshapen forms as modern fashionable belles contrive to torture their bodies into.

Tight-lacing and the corset are the most fruitful sources of a majority of the ills from which women especially suffer. The great increase of pressure brought upon the delicate organs which occupy the female pelvis, occasions displacement of those organs and all the resultant miseries.

More than one case is on record of young ladies who have applied the belt or corset so tightly that a blood-vessel has been ruptured and almost instant death has ensued.

If we should consider the remote effects of lacing the waist, we would find that nearly every disease may be either induced or greatly increased in virulence by this pernicious practice.

THE CORSET NOT A NECESSITY.

"But I cannot live without a corset," says one, "I need its support; I should fall down all in a heap without it. I feel so weak and helpless without something to brace me up." It is possible that such individuals do really feel better when encased in a framework of whalebone, steel, and cords, than when depending only on their natural resources for support. They have so long confined their yielding muscles in a rigid, unyielding case, that they have lost their strength and elasticity. Let a strong man strap his arm to a board and wear it constantly for a year. He will find it almost useless. Its muscles will be thin, flaccid, and powerless. The corset has the same effect upon the muscles of the chest which are by nature designed to support the trunk. Will the muscles of the man's arm become strong by continuing to wear the board? Never; the only way to recover its strength is to throw away the board and use the weakened member. So with the corset. It is the cause of the condition which it is thought makes it a necessity. So long as it is worn, the muscles of the chest will be weak and lax. Throw it away and begin to exercise the wasted muscles, and they will speedily recover themselves. The mothers of Grecia's noble sons never wore corsets. They were equally unknown to Roman mothers. If the article was unnecessary for them, why is it so needful for modern women? If support for the bust is required, it can be obtained by better means than the corset. A short experience without it always results in its dismissal forever, when a fair trial is made.

PULL-BACKS, GARTERS, ETC.

Although the corset is the chief offender in constraining the healthy activity of the vital organs of the body, there are other articles and modes of dress which deserve attention on account of their interference with some of the bodily functions. When the leaders of fashion decreed that the previously indispensable crinoline must be discarded, the sensible part of the world rejoiced, thinking that Dame Fashion was really about to reform her ways. But such hopes were dashed to the ground when the present fashionable style of dress appeared. Formerly, fashionable ladies sailed along the streets like animated balloons, monopolizing the whole walk with their wide-spreading skirts. Now, they have reached the opposite extreme, and we see them wriggling along like competitors in a sack-race. Indeed, it is a marvel how that locomotion is a possibility, so greatly hampered are the limbs by numerous heavy skirts drawn tightly back and fastened at the sides. Anything like graceful ease in walking is impossible. A Chinese wriggle is the result of the best attempt.

The motions of the arms are curtailed to an almost equal extent by the fashion of the garments about the shoulders. They are so made that it is next to impossible for the wearer to extend the hand an inch above the head. The arms are actually pinioned. Why not have the shoulders of ladies' garments made like those of men, which allow perfect freedom of motion to the arms? Some of the more recent fashions are adopting this style.

Garters are another serious source of functional obstruction. Whether elastic or inelastic, the effect is essentially the same. They interfere with the circulation of the blood in the lower limbs, and often produce varicose veins. Cold feet and headache are the ordinary results of their use. School girls suffer greatly from their injurious effects. The stocking should always be suspended by being attached to some other garment by means of buttons or a proper suspender.

Not Moses, but Jehovah.

BY J. H. WAGGONER.

THE following item I clip from a secular newspaper :—

"After all, Moses was probably right about the hog. A report recently made to the Indiana State Medical Society states that microscopic examination shows that from three to sixteen per cent (according to location) of the hogs killed in the south-eastern part of that State are afflicted with trichinæ. It seems that it is only in a small proportion of the cases that this disease when communicated to man appears in obvious form. The doctors say that in over ninety per cent of cases it takes the form of dysentery or gastritis."

It is astonishing how carelessly people will read the Bible. Not only the secular but the religious press are accustomed to ascribe everything found in the Pentateuch to the authority of Moses. The record is plain and easy to be understood :—

"And *the Lord spake* unto Moses and unto Aaron, saying unto them, Speak unto the children of Israel, saying, These are the beasts which ye shall eat among all the beasts which are on the earth." Lev. 11 : 1, 2.

Then follows an enumeration of the clean and of the unclean beasts. Among the unclean is placed the swine, and of them it is said :—

"Of their flesh ye shall not eat, and their carcass shall ye not touch ; they are unclean to you." Verse 8.

So far from this order having originated with Moses, we find this distinction between clean and unclean beasts recognized in the days of Noah, nearly one thousand years before the above precept was given to Moses.

We notice this distinction also in the offering of sacrifices. Deut. 14 : 4 reads as follows :—

"These are the beasts which ye shall eat : the ox, the sheep, and the goat."

Of the beasts known as "domestic animals," the above are the only kinds which were to be eaten. And when the Lord directed Abram to prepare an offering, he said :—

"Take me an heifer of three years old, and a she goat of three years old, and a ram of three years old, and a turtle dove, and a young pigeon." Gen. 15 : 9.

The clean beasts, the same that were allowed to be eaten, were offered in sacrifice to Jehovah. The unclean were abomination if offered in sacrifice or used for food. Herein we find the reason for the order given to Noah to take the unclean beasts by two and the clean by sevens into the ark. Two of the unclean would preserve the races alive, which was the only object for which they were saved. But when Noah left the ark, the earth was swept of its vegetation, and he was permitted to eat of the clean beasts, and some were to be offere din sacrifice. Therefore, he was directed to take of them by sevens—seven pairs, fourteen in all. This must be the meaning of the plural, sevens, or literally,

"seven, seven," that is, seven doubled, for otherwise the order could not be observed throughout—"the male and his female."

Thus it is seen that the Lord is *directly* the author of this distinction, and of all the orders given concerning this distinction. These orders were not arbitrary; they did not create the distinction, but they were based upon the distinction before existing in the nature of the animals. From the beginning they were *unclean*, and abominable as concerning sacrifices and food; fit only for scavengers, to devour the filth which would otherwise accumulate on the face of the earth.

Now suppose we refer the precept to the proper authority, and quote the above extract so amended as to correct the blunder of the writer, and it will read thus :—

"After all, the Lord was probably right about the hog."

The Lord was *probably* right! For be it understood this probability was cast upon the Lord's own words. Was not the Lord *certainly* right about the hog? Is the Lord ever otherwise than right? And was the hog ever anything but an unclean beast—emphatically and decidedly *a hog* and nothing else?

If the authority of God were recognized in his own words; if Moses were not unjustly and without any reason put in God's stead in the framing of his precepts, it would not be so difficult to convince people of the truth and of their duty.

The facts of science are now showing that only a small per centage of the horrible hog disease, trichinosis, has heretofore been traced to its proper source. No one can tell how many "mysterious dispensations of Providence," over which doctors have shook their heads in wise wonderment, are owing to the reckless habit of pork-eating. Properly trained appetites, and stomachs not abused, unite with science and the word of God in declaring the flesh of swine "an abomination."

San Francisco, Cal.

Healthful Words to Ladies.

I STOOD, last week, by a grief-stricken young mother, who, with pale cheek and tearless eye, bent in speechless agony over her dying child. It was her first-born. It had lain in her encircling arms six short months. Now it was torn from her love; and, helpless and despairing, she watched the feeble life ebb slowly away.

I could not say to the poor mourner, "You, yourself, unhappy mother, are the destroyer of your own child! Your thoughtlessness, your ignorance, your waste of the golden years of life, before this tender child was committed to your care, have caused this agony, —this death!"

And yet those stern words to her, and to multitudes like her, would have been strictly true. Of what use to her, in that sad hour, were her many accomplishments, her grace, elegance, and literary acquirements? The fundamental study—the knowledge of the laws of health—had been entirely omitted in her education; and now her child was dead, and no after-knowledge could recall her dead to life. As a young girl, no habits of attention and respect to the requirements of the physical organization had been implanted by her mother, and she had entered upon the responsibilities of family life with no idea of what was needed for the care of her children.

Nature's laws are inexorable. No beauty, no love, no agony, will avert the penalty attached to the transgression of physical law.

The child, placed in unhealthy condition, dies, though long life is its birth-right. The young girl, overstimulated with studies and accomplishments, or intoxicated with pleasures, or bowed down with cares, withers in her early bloom. The young mother, fragile as a flower, too feeble for her privileges and her duties, is wrenched from her orphan children, or sinks into a querulous invalid.

It is, then, essential that physical laws should be earnestly studied for the practical guidance of life. There is an order of nature that must be observed in education, in life; and, by that order, the physical takes precedence of the mental. The body builds its temple for the soul to dwell in. The physical powers mature before the mental faculties; and, although the cultivation of our two natures should always go hand in hand, the development of the physical nature must always precede and be the foundation of all mental culture.

It is far more important to a young lady to possess a strong, active, graceful body, a clear, healthy skin, a bright eye, and a cheerful disposition, than to be mistress of many accomplishments.

It is of much weightier moment to the young matron to know how to manage her household with intelligence than to speak French or play the piano. The one branch of knowledge does not exclude the other; but a thorough acquaintance with all that concerns the physical well-being of a household—the prevention of sickness, the promotion of vigor and cheerfulness—is of fundamental importance to the young ruler of the precious home kingdom.

If she knows how to ventilate her house

thoroughly, in winter as well as summer, to prevent injurious odors, to distribute an ample allowance of air to the lungs that must inhale it, to look upon stagnant air as a deadly enemy by night as well as day—then her children will not die of fevers, nor be tainted with scrofula.

If she can select a healthful and nutritious diet for her household, insure its proper preparation, vary it in quantity and quality according to the needs of each member—then she will keep her household in good temper, from the oldest to the youngest, and her doctor's bills will be only nominal.

If she understands the proper use of water, the moral as well as physical advantages of exercise, the importance of dress, with due regard to warmth, lightness, and points of support, as well as of fashion—then her childred will live and not die. She will reign like a queen in the midst of her subjects. She will reach a good old age, surrounded by her children's children, and her memory will be cherished long after she is gone.

Surely, hygienic knowledge, possessing such power for good, and bearing so directly upon the noblest work of woman, is worthy of time and care and zealous culture.

It may be safely asserted, that, if the present generation of American women understood the laws of health as well as they understand the toilet, and expended the same interest in putting them into practice that they devote to dress, they might save one-half of the children that will die in the next generation, diminish by half its sickness, and increase by a third the average duration of its life.

In what other way could they make an equally valuable contribution to the national welfare?—*Dr. Elizabeth Blackwell.*

The Appetite.

PEOPLE generally look upon any discussion of the subject of reform in diet as a very small matter. Indeed, many speak of it as beneath their notice, and as though it were rather a reproach to look very closely into such matters.

The evidence we shall adduce at this time is from the word of God, proving that the Lord of Heaven and earth does look upon this matter as of some importance.

In the first place, he tested our first parents upon this very point of appetite; if they had bravely, truly resisted the cravings of appetite, and abstained from the forbidden fruit, they would now have been in a far better condition as to their general prospects, and those of their posterity, than at present.

The part that the use of flesh-meats had in bringing about the terrible apostasy of the antediluvians is not recorded in the Bible; but conjecture is not at a loss, in accounting for a part of it at least, and the liberty given to Noah to eat clean meats seems an unwilling permission given to a gluttonous race, rather than a free and joyous gift, such as was made of a healthy and generous bill of fare in Genesis 1 : 29.

Coming down to the time of the deliverance of the people of Israel from Egyptian bondage, we find that they were kept upon a diet of manna for forty years. As a general rule, they used no meat for the time they were in the wilderness; and when their murmurings brought a supply of quails, they were sent in anger, and the pestilence swept away the worst of the rebellious gluttons, who did not scruple to reproach God for his "light bread," as they wickedly called it. They were kept in the wilderness until those who valued the fleshpots of Egypt more than they did the goodly land or the favor of God, fell in the desert.

During this long health reform, the youth and children grew up a noble race, not poisoned by unhealthy food, nor with perverted appetites, and they were the only generation with whom no fault is found, but to whom praise is given in the Bible. (See Joshua 24 : 31.) Probably these people were the happiest and purest nation, for the time mentioned, that the world has ever known. That the simple diet upon which they subsisted was one of the principal means in fitting them up for the great work before them, cannot be a matter of doubt.

The history of the Israelitish people during the days of Joshua and of the elders who overlived Joshua (about one hundred years), is one continued scene of victory and prosperity; and not until another generation arose who were corrupted by a diet too full and stimulating did they apostatize. (See Judges 2 : 10–12.)

The effect of a proper diet in cultivating tenderness of heart and conscience is also seen in that noble people at Bochim (see Judges 2 : 1–5); but a free use of flesh-meats had a withering effect, and this, in part, was certainly the cause of the decline of that people from God in after years.

Another evidence that God views this matter in a very serious light, may be found in the indictment brought against obdurate and unreclaimable children by their parents, in which the clause, "He is a glutton and a drunkard," is the final summing up of his crime. (See Deuteronomy, 21 : 20.) Death was the sentence.

Now let despisers of the health reform please walk a little carefully and investigate upon this theme, where Jehovah has placed his warning voice. JOS. CLARKE.

Hints toward Reform.

BY RALPH E. HOYT.

IF there is any one thing on earth about which the masses display less wisdom than ought to be found in the head of a five-year-old boy, it is *pie crust.* I never eat pies away from home, unless I know they are made on hygienic principles. Why? Simply because the average pie is surrounded by a crust made up of fine flour and hog's lard. The fine flour is bad enough, though I could get along with a little of it, but the lard is positively villainous. It is one of the filthiest, most unhealthful and unwholesome articles which foolish men and women are in the habit of putting into their stomachs as food. And five minutes' careful reflection on the nature and habits of the hog ought to satisfy every intelligent mind of this fact. And yet, how almost universal is the use of this filthy article. How few cooks and house-keepers think they can make palatable pie crust without lard for shortening. Deliver me from the cook who has a penchant for making pies, and who believes that the only way to construct that kind of pastry is to begin with swine, and work up.

The annual session of the Illinois Grand Lodge of Good Templars was recently held in this city. Near the close of the sessions I had the honor of being invited, by resolution, to deliver an address before the organization on the subject of Alcoholic Medication. Of course I accepted the invitation, and was glad of the opportunity to present my views on that important subject before such a body of temperance men and women. I promulgated, substantially, the same facts and arguments as were embodied in the series of articles which I wrote many months ago for the HEALTH REFORMER. I was agreeably surprised to find how large a proportion of those who listened to my lecture indorsed the sentiments presented. Many of the leading members of the Order, some being veteran lecturers in the field, came forward after the lecture, and thanking me for what I had said, declared that I had laid down the only true temperance platform, and that in future *they* would preach such doctrine too. I mention these facts in no spirit of self-laudation, but simply to show that the leaven of truth concerning Alcoholic Medication is slowly working among the people, and particularly in our temperance organizations.

The Great Centennial Exposition at Philadelphia, next season, will naturally draw to that city a larger number of hygienists and health reformers than have ever before been gathered at any one place. It will be a grand time to hold a Health Reform Convention, for the purpose of hearing speeches, reports, and resolutions pertaining to the work of physical reform. Such a convention might be not only pleasant and enjoyable, but profitable, to those in attendance, and of great benefit to the world at large. I hope arrangements will be made for such a convention, as early as May or June. Who will take the first step toward it?

764 *West Lake Street, Chicago.*

AMAUROSIS PRODUCED BY TOBACCO.—In his work on Ophthalmology, Dr. Mackenzie expresses his belief that tobacco is a frequent cause of amaurosis, and states that one of the best proofs of this being the case is the great improvement in vision—sometimes complete restoration—which ensues on the use of that narcotic being abandoned. This position of Mackenzie is confirmed by M. Michel, who classes the disease among the two forms of cerebral amaurosis but little known. One of these, observed in drinkers, he describes as symptomatic of delirium tremens; the other he regards as due to the use of tobacco, and believes that there are few persons who have smoked for a long period more than five drachms of tobacco per day, without having their vision and frequently their memory enfeebled. Both these forms of disease, he says, are characterized by the absence of well marked symptoms of cerebral congestion.—*Public Opinion.*

—Dr. Priestly was a materialist, and with reference to that fact the following epitaph was written for him before his death. The doctor took no offense, so well put was it, but rather enjoyed it:—

"Here lies at rest
An oaken chest,
Together packed most nicely,
The bones and brains,
Flesh, blood, and veins,
And *soul* of Dr. Priestly."

DOCTOR (who has been out for a day's sport)—"Its too bad! Here I've been out all day and not killed a single hare!" *Forrester*—"Prescribe something for the hare, doctor, that will fetch him, sure!"

LITERARY MISCELLANY.

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

THE TRUE HERO.

He is a hero who risks his life
For his country's good, on the field of strife;
He is a hero who bears his flag
Till naught is left but a tattered rag;
He is a hero who lifts his arm
To shield his friend from fatal harm;
He is a hero who buffets the wave
To pluck a soul from a watery grave;
Who climbs a ladder, with stifled breath,
To snatch a babe from a fiery death—
Yes, heroes these, sublime and grand,
The pride and boast of the proudest land:
But greater than all is the nameless youth
Whose only shield is the spotless truth;
Who laughs to scorn the tempter's power,
And stands by the right in danger's hour.

Deacon Giles's Distillery.

The Rev. George B. Cheever, a young gentleman of decided talent and a very fearless disposition, having but lately commenced his ministry in Salem, determined not to content himself with waging a distant war with the monster, but to engage it in close and deadly combat, which should result either in *its* fall or his own ruin. He accordingly prepared for the press, and shortly after published in the Salem *Landmark* newspaper, an attack upon the distilleries, of a nature so singular as to attract extraordinary attention. It was written in an allegorical style, and purported to be "A True History of Deacon Giles's Distillery." The author commences by drawing a picture of Deacon Giles—a hard-hearted, money-loving rum-seller, who inherited his distillery and his disposition from his father, to whom, also, both had been transmitted through a long line of rum-sellers, reaching back almost to the day of the Pilgrim Fathers. The other points by which the deacon was distinguished were: his having had a relative drowned in one of his vats of liquid fire; his having lost another by drunkenness; his working all day Sunday, and selling Bibles in one corner of his establishment. He was treasurer to a Bible Society, and generally paid his workmen off in rum and Bibles.

On a certain Saturday night his hands refused to work the next day, and the deacon was in a sad quandary. He was relieved, however, by the appearance of a number of wild, strange-looking fellows, who volunteered to do his work for nothing, provided they might be allowed to labor by night. The deacon closed the bargain, well pleased with the terms, and went to church the next day to hear a man preach the doctrine of the salvation of all men. In the meantime, his workmen, who were demons, carried on their operations at an astounding pace. All the materials were worked up in the space of two nights—Saturday, and that of the Sabbath. By a devilish contrivance of their own, they wrote upon each barrel of the "good creature" certain labels, invisible at first, and which could only become perceptible after they were sold to the retailers, and mounted upon their destined stands. The deacon returned on Monday, and was highly delighted with the work that had been done. The whole array of rum casks was immediately sold off to the deputy rum-venders. As each barrel was put upon its destined stand in the different groggeries, the devilish labels blazed out in staring capitals. One was inscribed, "Epilepsy sold here! inquire at Amos Giles's distillery"; another, "Cholera in collapse! inquire at Amos Giles's distillery"; a third, "Insanity and Murder"; a fourth, "Dropsy and Rheumatism"; a fifth, "Delirium Tremens"; while many bore as an inscription a part of Robert Hall's famous definition, "Distilled Death and Liquid Damnation." The direction for finding all these things was at "Deacon Giles's Distillery." Some of the hogsheads were marked with texts of Scripture: for instance, "Who hath woe? inquire at Deacon Giles's Distillery; "Who hath redness of eyes? inquire at Deacon Giles's distillery." Others were inscribed, "A potion from the lake of fire and brimstone, inquire at Deacon Giles's Distillery"; "Weeping and wailing and gnashing of teeth, inquire at Deacon Giles's Distillery."

When these terrible inscriptions blazed out, in a "still and awful red," the rum-sellers shifted the liquor into other hogsheads, but immediately the same writing became visible on the new vessels. In a rage, they sent it all back, to a man, and the deacon burnt the whole of it. It left a strong smell of brimstone behind.

A certain Deacon Stone, who was a distiller, sold Bibles at his distillery, had had a re-

lation drowned in a vat, and a son who had been very intemperate, thought the cap fitted him so well that he determined to wear it. He caused Mr. Cheever to be indicted for a false, scandalous, indecent, and malicious libel on John Stone; charging him with knowingly, wilfully, and designedly preparing, in league with evil spirits and demons, the means of pestilence and disease to the bodies, and condemnation and ruin to the souls, of his fellow-beings. The trial came on, on the 24th of June, 1835, in the Court of Common Pleas, Essex County. The Hon. Solomon Strong (judge) presided. The main object of the evidence, on the side of the commonwealth, was the establishment of the identity between Amos Giles and Deacon Stone, which was done by showing the incidents recorded above of the former; the loss of his relative in the vat; his having a drunken son; being a member of a Bible Society, and selling Bibles in his distillery, were applicable also to the latter. Another strong point to estab the identity was also insisted on. The writer represented the impression which produced his dream, to have been made by a train of reflections consequent upon seeing frequently in the public prints, when notice was given of anything, "Inquire at Amos Giles's distillery." Such notices had frequently appeared in fact, the name John Stone being substituted for Amos Giles. In spite of able counsel (the Hon. Rufus Choate and Hon. Peleg Sprague being both employed by Mr. Cheever), he was convicted, fined $1,000, and sentenced to an imprisonment of one month's duration. The defendant, when called up for sentence, made an able defense, but it did nothing to mitigate his punishment.

A fatal blow, however, had been struck at the distilling business. The appearance of the dream had created a tremendous excitement; the trial had excited universal attention. Every word of evidence was drunk in by a crowd so great that the court-house could scarcely contain them. The public voice, at first decidedly against Mr. Cheever, became as decidedly in his favor, as, day after day, facts were elicited in evidence to prove the diabolical nature of the rum-maker's traffic. The press caught up the echo, and spread it far and wide. Far from being considered an officious meddler in affairs with which he had no concern, Mr. Cheever began to be regarded as a martyr to truth. Far from injuring the cause of temperance, as many "moderate drinkers" affected to fear he would, it was soon found that he had affixed a stigma to the trade of distilling which nothing could erase. When men thought of enriching themselves by speculating on the vices of their neighbors, Deacon Giles's burning hogsheads rose up before them like the ghost of Banquo. Eight years after, in that very distillery, converted by a new cold-water proprietor into a sawmill, a temperance tea-party was given to a crowd so large that the like had never been seen in the town of Salem. So mighty, so irresistible is truth; so certain is she to triumph at last over all the impediments which passion, prejudice, and interest combine to throw in her way.—*National Temperance Advocate.*

Brain and Mind.

WHERE IS THE SEAT OF THE MIND?

AT the annual meeting of the New York Neurological Society, the Chairman, Prof. William A. Hammond, read a highly interesting paper to prove that "brain is not the sole organ of the mind." It was listened to with far more interest than the essays of medical men usually excite.

Before developing his theory, the professor affirmed that there is no evidence in physiology that the mind can exist independent of the nervous system. The ganglia and nervous tissue of the brain and spinal cord, aided by the outlying nervous system, are the sole discoverable media of perception. The white matter of both is but a conducting and protective element. The brain itself is by far the largest mass of nervous matter pertaining to any animal. In man its average weight is 49½ ounces. Daniel Webster had 63¾ ounces of brain and Dr. Abercrombie 63 ounces. Webster's, which was the biggest skull on record, held 122 cubic inches of brain matter. The average Englishman, Teuton, or American has a capacity of 92 inches; the "man and brother" about 83, and the Hottentot of South Africa only 75. The brains of the inferior animals are often larger in proportion to the animal's bulk than those of man, and there is no definite relation between the intelligence of the animals and the proportions of brain to weight. An alligator six feet long, for instance, has only about half an ounce of brains. The brain of a tom-tit is one-twelfth of his whole weight, of a canary one-tenth, and of a goose only the thirty-sixth hundredth part. Man himself has a brain which is usually no more than one-fiftieth of his weight. All the contrasting figures, however, refer only to the white substance; and if they prove anything, prove that the mass of the brain is no criterion of intellectual superiority. What can be claimed on behalf of heavy brains, if a tom-tit has proportionately much more than a man, or

an intelligent goose 300 times less than a canary? In tissue it is, only, that man is decidedly the largest stockholder; and this tissue is by no means confined to the cerebrum and cerebellum.

MIND THE RESULT OF NERVOUS ACTION.

Mind is nothing more than force developed by nervous action. To realize anything around us, to perceive, requires the co-operation of three faculties—an organ of sense, a nerve, and a brain nerve tissue. Such actions or contortions as result from pain, tickling on the feet, and snuff-taking are not always dependent on brainial perception. They take place with people who are mentally unconscious. The source of perception must therefore have been elsewhere.

Here the professor gave an account of a remarkable series of experiments, made by him on the lower animals. A frog with the brain removed will kick and struggle if pinched; if pricked, will lift up the right or left leg to brush away the offending needle, and will even swim if placed in the water. A decapitated alligator will go and do likewise. A rattlesnake has struck out with his headless body and knocked down his executioner. These things prove that the spinal cord has volition of its own, and is something more than a mere reflector of impressions to the brain. If the spine of the salamander be severed, the two parts of the body will still move in harmony. If the centiped be cut in pieces, each part will march off as if it had a brain of its own. It has ganglia in each section of its spine, and the ganglia, therefore, are separate centers of perception and volition. A young duck, just out of the egg-shell, will swim like a veteran, even after the brain is removed. A pigeon in like predicament will brush down his feathers and put his head under his wing to sleep.

HUMAN BEINGS EXISTING WITHOUT BRAINS.

Of human illustrations there are many in which an infant without brains has lived a short time, and had an infant's motions and perceptions. Reverie, somnambulism, catalepsy, and trance are human conditions which go also to establish that the spinal cord is a highly respectable organ. Don't men walk, and ladies play the piano, carefully and correctly, while the brain is utterly absorbed in other operations, or else totally quiescent? There must be consciousness, therefore, elsewhere than in the cerebrum. It was not claimed to be quite so important as the latter, but no one could deny, after such experiments and observations, that the brain is not the sole center of mind.

Salutations.

SALUTATIONS in some countries have very dissimilar characteristics, and it may not be uninteresting to explain a few of them. Most of our own gestures of salutation and civility owe their origin to the warfare of the days of chivalry, indicating deference, as from one conquered to the conqueror. The head uncovered was simply the head unarmed; the helmet being removed, the party was at his mercy. The hand ungloved, was in like manner the hand ungaunted. Shaking hand was a token of truce, in which the parties took hold of each other's weapon-hand to make sure against treachery. We consider it an incivility to shake hands with gloves on, and it is contrary to the etiquette of the Court to wear gloves in the presence of the Queen. A gentleman's bow is but the offer of the neck to the stroke of his adversary, and the lady's courtesy is but the form of going on her knees for mercy. Kissing the lips, by way of affectionate salutation, was not only permitted, but customary among near relations of both sexes in patriarchal and also in later times.

In former days the English said, "God save you, sir," subsequently contracted into "Save you, sir;" and "Good-by" is from "God be with you." Our "Farewell," said to be an indication of national character, is a direct translation of the German *lebewohl*, good living, being, it is presumed, equally appreciated by both nations. It is highly probable that saying and writing, "Your servant," and taking off the hat, were originally demonstrations of obedience to those who claimed it. The different forms of civility connected with bodily gestures are even more remarkable than the words; mutual contact, such as the pressure of hands, embraces, and kisses, being always regarded as the expression of kindly intercourse, although the *words* may, to a certain extent, be considered as an index of national character.

The theory of firing a salute is, that it leaves the guns harmless and at the mercy of the other party; and this is so true that firing salutes with blank cartridge is a modern innovation, occasioned, however, by the fact of a complimentary cannon-ball proving fatal once to the personage whom it was meant to honor. When an officer salutes, he points his drawn sword to the ground; and the salute of troops is still designated "presenting arms"—that is, presenting them to be taken.

When the Arabs meet each other, the first thing is the salute, which is repeated several times, and is done in the following manner: Each strikes the palm of his right hand on

that of his companion, or throws it on his left shoulder, repeating always the same phrase, *Salamat, Caif Halcom taîbin* (Peace! How are you?—well?). This way of saluting is most beautiful and striking, and, when performed, gives a new figure and majesty to the naked Arabs who are the actors of it. These gesticulations are always accompanied with a very grave tone of voice. After the salutation they inquire of each other the news about the places whence they came. Their news relates generally to the buying and selling of dromedaries, whether there are loads to carry, or something of this kind. They then ask each other for tobacco or salt, and their conclusion is, "Salute me, Hamed, at Corosco; and you, Ali, at Barbar. Do you understand? In peace, in peace!" After this each resumes his way. Women and children kiss the beards of their husbands and fathers. Their greetings are marked by a strong religious character, such as, "God grant thee his favors;" "If God will, thy family enjoy good health;" "Peace be with you."

Nothing affords more interest and amusement than an examination of the various modes of salutation practiced by the nations of the earth. In some degree these forms may be regarded as an index of national character, or the circumstances of national life. The Hebrew salutation was, "Peace!" the ancient Greeks, "Rejoice!" The modern use the form, "What doest thou?" In Germany, "How do you find yourself?" and in some parts of the country they invariably kiss the hands of all the ladies of their acquaintance whom they meet. In Spain, "How goes it?" and Spanish grandees wear their hats in the presence of their sovereign, to show they are not so much subject to him as to the rest of the nation. When the royal carriage passes, it is the rule to throw open the cloak, to show that the person is unarmed. In the West Indies the negroes say, "Have you had a good sleep?" The Pelew Islanders seize the foot of the person they desire to salute, and rub their faces with it; and New Guinea people place on their heads leaves of trees, as emblems of peace and friendship. In the sickly districts of Egypt, where fevers are common and dangerous, they salute by saying, "How goes the perspiration? Do you sweat copiously?" "Is it well with thee?" and the inhabitants kiss the back of a superior's hand, and, as an extra civility, the palm also.

The Chinese are the most particular in their personal civilities, even calculating the number of their reverences. Of equals they inquire, "Have you eaten your rice?" "Is your stomach in order?" and "Thanks to your abundant felicity!" The Turks cross their hands, place them on their breasts, and bow, exclaiming, "Be under the care of God!" "Forget me not in thy prayers!" "Thy visits are as rare as fine days!"—an ancient greeting, as it is by no means applicable to their present country. The Romans, in ancient times, exclaimed, "What doest thou?" "Be healthy!" or "Be strong!" With them it was customary to take up children by the ears and kiss them.

"Good-by," the common exclamation, which means literally, "God be with you!" has degenerated of late years into the opposite—"Devil take you!" The Hollanders, with their proverbial love of good living, salute their friends by asking, "How do you fare?" "Have you had a good dinner?" Laplanders, when they meet on the ice, press their noses firmly together. Bengalese call themselves the "most humble slaves" of those they desire to salute. Bohemians kiss the garments of the persons whom they wish to honor. Siamese prostrate themselves before superiors, when a servant examines whether they have been eating anything offensive. If so, they are kicked out; if not, they are picked up. Ceylonese, on meeting superiors, prostrate themselves, repeating the name and dignity of the individual. The Moors of Morocco ride at full speed toward a stranger, suddenly stop, and then fire a pistol over his head. Mohammedans say, "Peace be with you!" to which the reply is, "On you be peace!" to which is added, "And the mercy and blessings of God!" The Swedes, on meeting one another, simply inquire, "How can you?" The Burmese apply their noses and cheeks closely to a person's face, and then exclaim, "Give me a smell!" attributable to their great use of perfumes; and the French say, "Comment vous portez-vous?" which literally signifies, "How do you carry yourself?"—*Sel.*

Mechanism of an Egg.

EVERY living creature is the product of an egg. Some are hatched within the maternal body, and develop into their predestined proportions after birth, which is the beginning of existence with mammalia generally. Eggs of fishes are ordinarily incubated by solar warmth. Birds furnish heat necessary to quicken the germ into life from their own bodies, with a few exceptions.

Whether a rhinoceros, a hippopotamus, a giraffe, an elephant, or a flea, its beginning is in an egg. The germ of the future being is fed on the fluids by which it is surrounded.

Out of the albumen, or the white of a common pullet's egg, for example, are built up a skeleton, a nervous system, a heart, lungs, brain, blood vessels, every muscle, and the elements of each individual feather, while the yolk is a magazine of food on which the chick is to be nourished a short time after it leaves the shell. To do that, it is taken into the body of the bird in the course of incubation. Its enveloping membrane is elongated into a tube communicating with the stomach, through which the nutriment is conducted to where it can be used. When that supply is exhausted, then the mother commences a regular system of nursing and feeding till matured.

How Messages Are Sent by the Ocean Cable.

He (the ocean telegraph operator) taps the "key" as in a land telegraph, only it is a double key. It has two levers and knobs instead of one. The alphabet used is substantially like the Morse alphabet; that is, the different letters are represented by a combination of dashes and dots. For instance, suppose you want to write the word "boy." It would read like this: "— . . . — — — — . — — —" B is one dash and three dots; O, three dashes; and Y, one dash, one dot, and three dashes. Now, in the land telegraph, the dashes and the dots would appear on the strip of paper at the other end of the line, which is unwound from a cylinder, and perforated by a pin at the end of the bar or armature. If the operator could read by sound, we would dispense with the strip of paper, and read the message by the "click" of the armature as it is pulled down and let go by the electro-magnet.

The cable operator, however, has neither of these advantages. There is no paper to perforate, no "click" of the armature, no armature to "click." The message is read by means of a moving flash of light upon a polished scale produced by the "deflection" of a very small mirror, which is placed within a "mirror galvanometer," which is a small brass cylinder two or three inches in diameter, shaped like a spool or bobbin, composed of several hundred turns of small wire wound with silk to keep the metal from coming in contact. It is wound or coiled exactly like a bundle of new rope, a small hole being left in the middle about the size of a common wooden pencil. In the center of this is suspended a very thin, delicate mirror about as large as a kernel of corn, with a correspondingly small magnet rigidly attached to the back of it. The whole weighs but a little more than a grain, and is suspended by a single fiber of silk, much smaller than a human hair, and almost invisible. A narrow horizontal scale is placed within a darkened box two or three feet in front of the mirror, a narrow slit being cut in the center of the scale to allow a ray of light to shine upon the mirror from a lamp placed behind said scale, the little mirror in turn reflecting the light back upon the scale. This spot of light upon the scale is the index by which all messages are read. The angle through which the ray moves is double that traversed by the mirror itself; and it is, therefore, really equivalent to an index four or six feet in length without weight.

To the casual observer there is nothing but a thin ray of light, darting to the right and left with irregular rapidity; but to the trained eye of the operator every flash is replete with intelligence. Thus, the word "boy," already alluded to, would be read in this way: One flash to the right, and three to the left, is B. Three flashes to the right is O. One to the right, one to the left, and two more to the right is Y, and so on. Long and constant practice makes the operators wonderfully expert in their profession, and enables them to read from the mirror as readily and as accurately as from a newspaper.—*Boston Herald.*

The Jews.

In all departments of business which require thorough care and close calculation of contingencies and probabilities, the Jewish intellect is pre-eminent. Auerbach is in the first class of German novelists. In the more recondite studies for which the nation is distinguished, Hebrews are found among its first scholars, in and out of the Universities. In journalism they perhaps excel any other lineage. The liberal journalism of Germany may be said to be in the hands of German Jews, and they make it a felt power throughout the country.

They are now most numerous in what are known as the Barbary States, in the north of Africa, where they form the chief element of the population. The next largest number are in Central Europe, from the lower Danube to the Baltic Sea. It is said that the number of black Jews in Africa is large and rapidly increasing. Jews are penetrating every portion of Asia, carrying on commerce and establishing new branches of industry. They are buying race-horses and coffee in "Araby the Blest," and are trading in cashmere goods in famine-stricken Persia. In China proper and in Cochin they are fast becoming the most extensive operators in all kinds of native products, and in manufactured

goods. Much of the commerce of South Africa is in their hands, and now that the diamond fever has broken out, large numbers are going there from Europe. As Jewish influence is extending northward from the Cape of Good Hope and southward from the Barbary States, it would seem that Central Africa is more likely to become Judaized than Christianized. Already their caravans are crossing the Sahara Desert, while their boats, freighted with merchandise, are floating down the Nile, Orange, and Niger.—*Sel.*

Geological Riddles.

THE following is the way in which a Colorado correspondent of the *Presbyterian* pithily reproves those who would impeach the Bible by appealing to science :—

"The South Park is about twelve to twenty-five miles wide, and forty or fifty miles long. It is probably the bed of some ancient lake. But you can't tell anything about this country. It has evidently been once all torn to pieces by volcanic action. Coal beds are vertical or perpendicular, in veins like silver or gold lodes. Some of them have been sunk to a depth of one or two hundred feet, and I do n't know how much deeper they go. Where a geologist would expect to find the first limestone, he will as likely as not find granite, and where his science or books tell him to look for granite, he is just as likely to find the old red sandstone, porphyry, or slate, or flint, or something else.

"I know an English geologist here who has sunk several holes from two hundred to two thousand feet deep, and he says, as the result of his experiments, that in this country there is no reliance to be placed in the commonly received doctrines of geology. Well, if geology will not tell the truth here, must Moses be put down as untruthful, merely because 'scientists' affirm that geology and the Bible are at variance? I know a place not ten miles from here where there is malachite now in a formation state. Two years ago it was softer than putty. At present it is quite hard. If it hardens as fast for two years more, it will be as hard as agate or jasper. Then let one of the 'scientists' of the present day look at it. He will put on his glasses, and look wise, and say, 'Well, that's malachite (from the Greek *malachae*). It is a native carbonate of copper; it occurs in mammillary masses, consisting of concentric layers having a fibrous structure,' etc. Then he tells its age, perhaps five or ten thousand years, with as much confidence or positiveness and pretence of philosophy as if he really knew much about it, and with the same positiveness he will turn around and say, These things being so, the Bible must necessarily be a humbug. I could then tell him that I wrote my name in that malachite only four years ago, when it was as soft as mud and as pliable as his science."

Business Law.—The following brief compilation of business law is worth a careful preservation, as it contains the essence of a large amount of legal verbiage :—

It is not legally necessary to say, on a note, "For value received."

A note made on Sunday is void.

Contracts made on Sunday cannot be enforced.

A note by a minor is void.

A contract made with a minor is void.

A contract made with a lunatic is void.

A note obtained by fraud, or from a person in a state of intoxication, cannot be collected.

If a note is lost or stolen, it does not release the maker; he must pay it, if the consideration for which it was given and the amount can be proven.

Notes bear interest only when so stated.

Principals are responsible for the acts of their agents.

Each individual in a partnership is responsible for the whole amount of the debts of the firm.

Ignorance of the law excuses no one.

It is a fraud to conceal a fraud.

The law compels no one to do impossibilities.

An agreement without consideration is void.

Signatures made with a lead pencil are good in law.

A receipt for money is not always conclusive.

The acts of one partner bind all the rest.

—Two Milesians were standing at the Fairmount water-works, watching the big wheels splashing the water, when one of them remarked : "Mike, is n't this a quare country, where they have to grind their water before they can use it?"

—John Randolph met a personal enemy in the street one day, who refused to give him half the sidewalk, saying that he never turned out for a rascal. "I do," said Randolph, stepping aside and politely raising his hat. "Pass on."

—Give a wise man health, and he will give himself everything else.

DIETETICS.

"Eat ye that which is Good." As a man Eateth, so is He.

"The Staff of Life."

Good bread is very appropriately styled "the staff of life;" but the dyspepsia-making product of the bakery which is sold as bread would be more appropriately called a bruised reed. Few people know anything about the rare deliciousness of really good bread. One is almost tempted to believe that millers, cooks, and bakers, have all conspired to cheat humanity—the civilized portion—out of one of the greatest luxuries. If there is religion in a loaf of good bread, as we are told, there certainly must be dyspepsia, misanthropy, infidelity, murder, and lunacy, in a lump of the stuff which commonly passes for bread.

Reader, just think a moment of how the miller defrauds us in making our flour. He takes the fine, plump wheat which is produced by the rich soil of our western prairies, crushes it between two stones, which are heated so intensely by the friction that the life of the grain is destroyed, and then puts it through a process of "bolting," by which he sorts out the best, richest, most palatable, and most nutritious portion of the grain. The poor residue, which is almost worthless for food—will starve a dog, in fact—being almost nothing but starch, he puts up in barrels, and labels XXX, superfine white flour. The other portion is fed to the miller's hogs. Is it any wonder that miller's hogs are fat? Is it strange that so many little boys and girls who are fed on fine-flour bread are poor, and lean, and sickly?

The outer portion of the grain contains the most nutritious elements of the whole kernel. Just underneath the horny shell which forms the outside of the grain is found the portion which contributes to the building up of brain, bone, and muscle. The whiter portion which forms the center is of the very slightest nutritive value. It will make good paste, or good starch for clothing; but it will not make either good brains, strong muscles, or solid bones. The early decay of the teeth of Americans, and the disease known as rickets, are attributed by many eminent physicians to the use of fine-flour bread, which does not contain a sufficient amount of the mineral element to nourish such tissues as the teeth and bones.

Then the cooks, how they damage our bread by their manner of making it! It must be bad enough at best, when made of fine flour; but when salt, soda, saleratus, and yeast are added to it, it becomes even worse. The caustic alkalies mentioned, injure the bread, the stomach, the blood, and every tissue of the body with which they come in contact. The yeast, which is itself a foul product of decay, not only contaminates the bread by its noxious presence, and the fetid, poisonous gases which it produces, but it destroys the sweetness of the grain, and all of its fine flavors.

But the bakers are even worse than the cooks. They aim to make as much money as possible out of their business, and many of them do not scruple respecting the means which they employ to attain this object. In order to make the flour absorb and retain more moisture, so as to increase the weight of their loaves, they add alum, blue vitriol, and similar poisons. In order to make their loaves large, they allow the process of fermentation to continue until it has destroyed every particle of the delicate natural flavors of the grain, which constitute nature's condiments. To give flavor to this tasteless mass, they add large quantities of salt, ammonia, etc. These caustic poisons will ruin the digestion of any one who habitually uses baker's bread.

DIRECTIONS FOR MAKING WHOLESOME BREAD.

Incredible as it may seem to one who has never seen the matter demonstrated, it is nevertheless a fact that bread possessing all the qualities of lightness and porosity may be produced without the introduction of any such deleterious substances as yeast, soda, saleratus, or cream of tartar. Neither will it be found necessary to allow the batter to stand until the process of decay is spontaneously induced. *Atmospheric air* and *soft water* are the only materials necessary to render bread as light as can be desired. These harmless agents are incorporated into the meal by proper mixing, and when heat is applied, the air expands, and the water is converted into steam, so that the bread is effectually raised without undergoing the process of decay, or being contaminated by any villainous chemical compounds.

Selection of Materials.—One of the

most important requisites is the selection of the proper kind of material. Good bread cannot be produced from poor flour by the most expert manipulations of a professional cook. Especially is good material important in making hygienic bread, since its excellence depends so largely upon the natural properties of the grain, and deficiencies and unpleasant properties cannot be obscured by the addition of foreign materials so frequently employed in the old methods of bread-making. First-class flour must possess each of the following qualities :—

1. It must be prepared from grain which has been fully matured, and which has not suffered deterioration from rust or mold, or from being exposed to moisture and heat.

2. The grain should be thoroughly purified from all foreign substances before grinding.

3. The flour must not be deprived of any of the nutritious elements of the grain by the process of "bolting," which is so generally resorted to, and which results in ruining the teeth and constitutions of thousands of persons every year, and involves the reckless waste of by far the most nutritious portions of our nutrient grains. In other words, fine flour should never be used. Wheat meal or graham flour, corn meal, oatmeal, barley meal, and rye meal can now be readily obtained in nearly all localities; and they should always be used instead of bolted flour.

4. The meal should be properly ground—neither too coarse nor too fine. If too coarse, the hulls of the grain will be irritating to the delicate digestive organs, especially to those whose stomachs are rendered morbidly sensitive by disease. If too fine, the bread made from it will be less likely to be as light as desirable.

5. Lastly, when water is used for making the batter, pure soft water only should be selected. Hard water toughens the dough and greatly diminishes the tenderness of the bread. No salt should ever be added to the water. Neither should any chemical be added for the purpose of "softening" the water, as the evil will only be increased.

Directions for Making.—After having selected the proper materials, much care and even dexterity is needed to produce good bread. The following general directions must be carefully attended to :—

1. Care must be exercised to select just the right proportion of the ingredients for the particular article to be produced. Whenever convenient, accurate measurement should be resorted to. But it must be borne in mind that different kinds of grain possess different absorbing qualities, and different qualities or grades of the same kind of grain will also vary in this respect. Hence the amount of water or other fluid to be incorporated with a certain quantity of flour must be subject to certain variations. But a little careful experimenting will readily fix the proper amount in all cases.

2. Since the lightness of unleavened bread depends so largely upon the expansion of atmospheric air, it is, evidently, quite important that care should be taken to incorporate into the batter as much of this harmless "raising" agent as possible.

3. Much also depends upon the condition of the oven, which must receive a due share of attention. The terms *quick* oven and *slow* oven are of frequent occurrence in the technology of cookery, but are often quite loosely employed. A *quick* oven is one which is so hot that the hand can be held in it but a very few seconds. An oven in which the hand can be held for a full half minute is termed a *slow* oven. These definitions are obviously not quite satisfactory, but perhaps they are as precise as can well be given without resorting to the thermometer, which is not always at hand.

4. All utensils employed must of course be kept scrupulously clean in order to preserve unimpaired the natural sweetness of the grain.

5. Do not be discouraged even after repeated failures. Still persevere, and final success is certain. The making of good, wholesome, hygienic bread is the very highest triumph of the culinary art; and when it is accomplished, one of the most efficient means of restoring and preserving health has been acquired. Bad bread is probably responsible for more despondent feelings, more ill-tempers, more crimes, perhaps more suicides, than any other article of food. And good bread is equally efficient in promoting health, cheerfulness, amiability, and even piety; for we fully credit the statement that there is "religion in a loaf of bread." Is not such a triumph, then, worth working for?

6. If it is desired that the bread should be tender and moist, it should be made with hot water. If dryness and brittleness are the qualities desired, cold water should be used, and the colder the better.

It is important that the meal should always be perfectly fresh, as all kinds of flour deteriorate very rapidly after grinding, especially when exposed to warmth and moisture. The best and cleanest grain should be selected.

Next month we will give a number of excellent recipes for making perfectly wholesome bread.

Amount of Nutriment in Foods.—The following table has been carefully prepared from the most recent scientific works on food and diet, chiefly from Dr. Smith's excellent work on "Foods":—

ARTICLES OF FOOD.	Amount of NUTRIMENT in 100 parts.
Beef,	27.0
Sheep,	26.4
Fowl,	26.3
Calf,	25.6
Fish,	22.0
Wheat,	86.0
Oats,	88.0
Maize,	93.0
Barley,	86.0
Rye,	85.0
Rice,	87.0
Millet,	87.0
Beans,	86.0
Peas,	85.0
Lentils,	77.0
Potatoes,	26.0
Turnips,	9.0
Carrots,	17.0
Parsnips,	18.0
Beets,	16.5
Cabbage,	5.6
Apples,	16.0
Pears,	14.0
Peaches,	15.0
Strawberries,	12.7
Figs,	81.3
Cherries,	23.7
Dates,	76.0

It will be observed that a pound of beef contains less than one-third as much nourishment as a pound of wheat or corn, while other kinds of flesh are still less nutritious. The popular notion that animal food is more nourishing than vegetable is thus shown to be wholly without foundation.

Poisoning by Goat's Milk.

THE *London Lancet*, a medical journal of note, records the following case of poisoning by the use of the milk of goats which had eaten poisonous herbs:—

"Throughout the month of June, the inhabitants of the Rione Borgo, in Rome, suffered from quite an epidemic of vomiting, pains of the bowels, with diarrhea, etc., traceable to the consumption of goats' milk, and more or less severe according to the quantity of milk consumed. In some cases a healthy reaction set in within the twenty-four hours; others took four or five days to get round. Veterinary surgeons examined the goats from which the milk was taken; but nothing was found wrong with them. Prof. Ratti, of the Sapienza, then subjected to chemical analysis the vomitings of the sufferers and the milk of the goats, and, in the first instance, found no trace of metallic poisoning. He next proceeded to the goats' pasturage, and found, among the herbage on which they browsed, four species of plants, all more or less poisonous—Conium maculatum, Clematis vitalbula, Colchicum autumnale, and Plumbago Europæa. Every one of these bore marks of having been nibbled by the goats. Fresh experiments were then made on the vomitings and the milk, and Prof. Ratti detected in both a solid matter of yellow color, which yielded the chemical reactions of colchicine. The Colchicum autumnale had passed in the form of its alkaloid from the plant to the milk, and the drastic and other symptoms from which the consumers of the milk had suffered were at once explained."

The above clearly illustrates with what facility any poison circulating in the blood of an animal may be communicated through the medium of its milk. In this way, consumption is often transmitted from cows to those who use the milk of the animals. It is well known that cows are especially liable to consumption of the lungs, or pulmonary tuberculosis. Stall-fed cattle are especially subject to the disease, it being engendered by their lack of exercise and fresh air, and the inhalation of their own putrid excretions. Milk is a healthy article of food for young children if obtained from a healthy source; but great care must be exercised lest it be derived from diseased animals.

The After-Dinner Nap.—It must be understood, remarks the *Sanitary Record*, that repose does not include the excess of repose, sleep. Whether from the diminished amount of oxygen absorbed, or from the torpidity of even reflex and unconscious nerve action during sleep, digestion is certainly very much retarded by it. And, moreover, sleep taken while the stomach is full is unrefreshing, excites abnormal feverishness and perspiration, and in some cases seems almost a sort of coma. We can judge how little it contributes to health by the confusion, languor, and sometimes headache, which are experienced on waking. It is especially the young who seem to suffer from sleeping after dinner. Old persons can often do it with impunity; perhaps from the mere force of habit they have become inured. But some ancients tell us that their night's sleep is sounder for not resisting a nap in their chair at this time. It is difficult, however, to credit this idiosyncrasy, and it may generally be set down as one of the fallacies of laziness.

Onions Better than Alcohol.—Frank Buckland says :—

"Mr. Parnaby, Troutdale Fishery, Keswick, informs me, that, when collecting salmon and trout eggs in the winter, he finds that common raw onions enable him and his men to bear the ice and cold of the semi-frozen water much better than spirits, beer, etc. The Arctic expedition just about to start should, therefore, take a good stock of onions."

We have no idea that there is any special calorific virtue in onions ; but they are undoubtedly superior to whisky, beer, wine, or any other alcoholic beverage. The notion that brandy or wine is warming, or strengthening, or capable of any other good thing, is a mischievous error which leads thousands to death and perdition, and cannot be too often exploded.

Scrofulous Mutton.—A few months since, we procured a sheep from a flock which was being fattened for the market. Upon making a careful dissection of the animal, we found its body teeming with scrofulous and tuberculous deposits. The mesenteric glands were all enlarged, presenting to the eye great nodules of scrofulous matter. Throughout the whole contents of the abdomen, the marks of disease were evident.

Suppose this animal had fallen into the hands of the butchers, as it would have done had we not procured it, who can tell the amount of disease which might have been communicated to the unsuspecting consumers of this diseased meat? It is well known that sheep die of themselves in a few years, being short-lived. They are especially liable to consumption. They do not usually die of acute disease, and must of course be more or less diseased for several years before they die. The owner of sheep usually exercises especial care to sell them for mutton before they are entirely disabled by disease, so that the butcher gets the start of nature a little in terminating the lives of the brutes, and human beings get the diseased carcasses as food.

Entertaining for Pork-Eaters.—The newspapers are full of accounts of terrible deaths from *trichinosis*, that horrible disease which is the result of eating pork containing trichinæ. Several cases were recently reported in Indianapolis. A physician from Kankakee, Ill., informs us that there were twenty-three cases in that city last season.

It is of no use for pork lovers to console themselves with the thought that sufficient heat will destroy the parasite, for the methods of cooking employed are seldom effective. The worms will stand a much higher degree of heat than is commonly supposed. Ordinary broiling will not kill them. But if they are killed, what a pleasant thought it must be for one to reflect that he is eating fried or boiled worms, vermin, loathsome parasites!

From the great increase of cases of poisoning by trichinæ, and from the researches of scientific men, it has become evident that the disease is rapidly increasing among swine, and that it is highly dangerous to use pork in any form. A person may get a few worms into his system, which will occasion what he thinks to be a slight attack of rheumatism or diarrhea, little thinking that his muscles are swarming with parasites, or that his intestines are being riddled with worm holes.

Cheese-Poisoning.—Recently, the employees of a large felt factory in New Jersey were taken suddenly sick. So large a proportion of the hands were affected that work was suspended. "The patients were suddenly taken with cramps in the bowels and lower extremities, with very severe vomiting. The symptoms in each case were alike, and the cause of the attack was easily traced to some cheese, more than twenty families having had portions of it on their supper tables. In all, about sixteen families are known to have been poisoned."

Cheese is often rendered poisonous by various coloring matters which are introduced into it, and by the development in it of poisonous acids which result from decomposition during the process of curing. The wonder is that more persons are not fatally poisoned in this way.

The Lapps and Animal Food.—The Lapps are a nation numbering about 20,000, who inhabit a small section north-west of Finland, in the northern part of Europe. They live wholly on animal food. We quote the following description of them, from which the reader may judge whether the influence of a carnivorous diet is salutary or not :—

"They are extremely small in stature, and their hair is black and straight, presenting a great contrast to the tall and blonde Norwegians and Swedes. Their skin is yellow, the forehead broad, the head poised on a short and rounded neck, the nose well formed, the cheek-bones protruding, the chin pointed, the cheeks hollow, the lips straight and thin. They are quickly exhausted by labor, rather from bodily weakness than laziness."

THE

HEALTH REFORMER

BATTLE CREEK, MICH., JANUARY, 1876.

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

The New Year.

BEFORE this number reaches our most distant subscribers, the first day of January, 1876, will have come, accompanied with the usual time-honored festivities, congratulations, and kindly wishes. We wish for all our patrons, what we hope for ourselves, a happy New Year; and we would improve the opportunity to suggest that the measure of happiness enjoyed during the year will depend mostly upon ourselves. If we obey the laws of our being, those which relate to physical and mental health, as well as morality, we shall undoubtedly be happy, even though many external circumstances may not be wholly pleasant.

During the year 1875, the REFORMER has been read by at least 50,000 persons. The activity of our noble co-laborers, who act the part of agents and pioneers in introducing hygienic literature into every village, city, and township in the land, together with the promptness with which our patrons during the past year are signifying their intentions of standing by us during 1876, warrants us in believing that our circulation will be still greatly increased. Although our subscription lists at present show a circulation several thousands in advance of all other health journals in this country, and, doubtless, in the world, we expect to more than double it in a short time.

The REFORMER will find its way each month during the coming year to every State and Territory in this country, to Scotland, England, Ireland, Switzerland, Prussia, Italy, China, and even to Australia, New South Wales, New Zealand, and South Africa. We are grateful for the able and earnest co-operation of the numerous friends of reform who have aided us by their energetic efforts to introduce the truths of reform into so many households. This noble work must be urged forward with still greater energy. Why will not the year 1876, the centennial of our national independence, be a fitting time for a grand rally for Hygeia?

Drugs Kill—Nature Cures.

TWENTY years ago, when a man had a fever the doctors thought he had too much vitality—too much life—and so they bled him, and purged him, and poisoned him with calomel, and blue mass, and sundry other poisons, for the purpose of taking away from him a part of his vitality—his life—in other words, killing him a little. If a man was extraordinarily tough, he survived in spite of the killative influence of both disease and doctors; the doctors got the credit of having barely saved his life by their consummate skill, when the fact in the case was that his recovery was wholly due to his strength of constitution. If the patient happened to be less hardy, he died. Then the doctors and friends consoled themselves with the thought that they had done all they could, given all the medicines (drugs and poisons) they knew the names of, and wondered at the mysterious (?) dealings of Providence!

After a time, a great doctor thought he had discovered that a fever was a *want* of vitality, and that bleeding and purging were what made so many fever patients die. He announced his discovery to the world, and the doctors stopped bleeding, and purging, and salivating, and began dosing their patients with brandy, wine, and other stimulants, with a view to increase their vitality by so doing.

The result remained the same, much to the astonishment of the savants of medical lore, who found no explanation of the difficulty

except in the absurd hypothesis that fevers had totally changed their character.

After a few years, another great doctor announced that brandy and milk was a sovereign remedy for fever, for more patients got well who took milk with their brandy than those who took the brandy alone.

Pretty soon, another doctor found that brandy and water—water outside and inside, in the form of drink and baths—was a still better remedy.

Numerous physicians adopted the brandy-and-milk cure, found it superior to the brandy cure alone, and extolled it to the skies. Very soon, an observing practitioner discovered that milk alone was a better remedy than milk and brandy, since a larger percentage of patients recovered under that mode of treatment than under the brandy system. "milk cure" for fever then attracted great attention for a time.

German physicians, experimenting with the brandy-water method, became convinced that this method was a little in advance of the milk-and-brandy mode, and finally discovered that *water alone* was still better than any of the other plans of treatment. Then came the announcement that "water cure" was the best remedy for fevers. And so, from bleeding, purging, depleting, and salivating, we have come to simple water. In former times, the mortality was fearful. Under the new treatment, it is very small. What makes the difference?

Under the old plan, a man was bled, physicked, and poisoned with mercury and other drugs, and was compelled to lie with parched lips, swollen tongue, and a burning skin—consumed by the fierce fever fire within, the hot blood rushing through his veins like molten lead, drying up the vital fluids and making his quick breath like the blast from a furnace—but no cooling draught to quench his torturing thirst, moisten his parched lips, and thin his thickened blood; no water to lave his throbbing brow or cool his burning skin; no pure, fresh, invigorating air to breathe—for an open window would be certain death!—and smothered under heavy blankets, quilts, and feather beds.

Is it any wonder that few patients could survive the ordeal of such a plan of treatment? Nature did her best to cure; art (unwittingly, perhaps) did its best to kill.

Under the stimulus of brandy, wine, and kindred drugs, about the same number of patients died. What else could be expected when the call for drink was only answered by such fiery beverages as brandy, rum, and other alcoholic liquors?

Brandy and milk was better. Milk is food; brandy is poison. A pint of food and a pint of poison are certainly preferable to two pints of poison. Less poison, fewer deaths.

Brandy and water was better yet. Water, to quench the consuming thirst and cool the feverish skin, with one half as much poison, and no bleeding—still less patients were killed. More patients recovered in *spite* of the poison.

Milk alone proved still better. Nutritious food and *no* poison ought to be better than equal quantities of food and poison. Even sour milk, or buttermilk, or whey, was better than brandy. The majority now recovered. Nature was neither aided nor hindered very much.

Water alone, within and without, in abundance, hot, cold, or tepid, to suit the patient's feelings, proved just the thing. Nature was not only not hindered, but was aided. The fever fire was quenched, and the skin was cooled. Fresh air and pure water were nature's best assistants. They did not *cure*, they only helped nature and gave her a chance to do her work. Nearly all the patients got well.

The same principles are true in other diseases. Nature's remedies are the best. Drugs are poisons. They cannot cure *patients*. They cure one *disease* by producing another.

Do physicians generally know this? Yes; they must, for the most eminent medical authors teach the doctrine, and many eminent German practitioners are beginning to practice it. Why, then, don't our physicians generally treat their patients in accordance with the better way? We dislike to say it, but we fear that many are too indolent. It is so much easier to administer a dover's powder than a wet-sheet pack—so much more convenient to carry a pill-box than a bath-tub.

Every man should learn to be his own physician. Every woman ought to know how to

treat herself and her children in all ordinary cases.

The best way of all is to learn to keep well by doing right; that is, obeying nature's laws.

"A Sound Mind in a Sound Body."

THIS was the motto of the ancient Greeks; and it led them to give to the maintenance of health a degree of attention seldom equaled in either ancient or modern times. The physical culture which they derived from their gymnasia and public games did more than simply strengthen their muscles; it developed them into a nation of poets, orators, and philosophers whose intellectual feats astonish the world and rival competition even in this cultured age.

It is not denied that vigorous mental activity may sometimes exist in connection with physical debility, or that, in occasional instances, a brilliant intellect may scintillate for a time in a feeble body; yet it is confidently claimed that the most powerful, efficient, and harmonious efforts of the human mind can only be manifested when generated and reinforced by a sound physical organism.

The brain is the organ of the mind. Whether the latter be, as claimed by many scientists, merely the product of the activities of the former, or whether it be a distinct entity which uses the brain as an instrument, as generally believed, we will not discuss here, since the conditions requisite for healthy action remain the same in either case. Impairment of the brain, either as the active organ or the passive instrument, has the same effect upon the result—mental activity.

The great majority of great thinkers, statesmen, generals, philosophers, discoverers, have been men of robust physical constitutions. Washington, Webster, Wellington, Humboldt, and scores of kindred names attest the truth of this. Yet there have been such prodigies as invalid philosophers; but these rare exceptions only prove the rule.

The only way in which to have a sound body, is to conform to the laws of health. A man who violates the laws of diet will soon suffer from indigestion. Badly digested food makes a poor brain, poor nerves, poor muscles, and poor bones. A poor brain produces poor, disjointed, disconnected thoughts and ideas. Perhaps a diseased stomach is responsible for quite a share of the illogical reasoning, absurd theories, and visionary projects in the world.

Insanity, melancholy, hypochondriasis and imbecility arise from disease of the brain, either of its structure or its function. Unsoundness of some other organ is the usual cause of brain diseases. A man has a torpid, inactive liver. In consequence, the gross, irritating matters which ought to be strained out by the liver are left to accumulate in the blood. The great blood supply of the brain carries much of this material to that organ, which is thereby impeded in its work. Dullness, headache, vertigo, and melancholy are the result.

"Softening of the brain," as the term is popularly used, is nothing more than a local disturbance produced by inactivity of the liver and indigestion. To be truly wise and happy, and strong in body and mind, a man must observe all of nature's laws respecting health.

If students and literary people generally would attend to even the commonest rules of health respecting physical exercise, diet, and sleep, they would never suffer from softening or congestion of the brain. They usually suffer far more from bad food and too little muscle work than from excessive mental labor.

Household Medicine.

NINETY-NINE out of a hundred of all the cases of illness which are constantly occurring in nearly every family are of such a character that they can be treated by any intelligent mother quite as well as, or even better than, by the doctor. Again, the necessary trouble of going for a physician for every trifling ailment, besides the useless expense in fees which it occasions, are weighty considerations. Important cases demand medical advice; but every parent ought to be sufficiently well informed to be able to attend promptly and efficiently to the great majority of the ailments to which all families are liable.

Medicine properly relates to the care of the sick, and not to drugs. We do not recommend the internal use of drugs of any kind, for drugs do not cure except by producing

other diseases. The cases in which drugs of any kind can be used beneficially are so exceptionally rare that they should be employed only by intelligent physicians. The less they are used, the better. Nature has furnished us with remedies which will aid nature instead of hindering her, and these are the ones which we shall recommend. These remedies will be fully described in future numbers.

COLDS.

At this season of the year nearly every one suffers more or less, and all are liable to suffer severely, from colds. Nearly all of the ailments and inconveniences which result from "taking cold" might be easily prevented by proper precaution in avoiding exposure, or by prompt and efficient treatment after a careless or necessary exposure.

What is a cold? Who will tell? There are as many theories as there are doctors. One says a cold is the result of closure of the pores of the skin. Another seems to regard it as a malignant sort of an entity which travels about and settles down upon its unfortunate victims at will. The most scientific view respecting a cold is that it is not a *cold* at all, but really a *heat*. In other words, it is a slight fever, accompanied by congestion of the mucous membrane of the lungs and air passages, and sometimes of other organs.

What is the cause of colds?

The real cause of a cold is disturbance of the circulation. Changes of temperature are the most active agents in producing such disturbances, and so colds are most often attributed to exposure to cold in some way. This general dread of cold and cold air has very little real foundation. Colds may be induced either by sudden transition from warm air to cool air, or from cool air to warm air. Going from a heated lecture room in a state of perspiration into the cold air out-of-doors, without sufficiently increasing the clothing, will almost always induce a severe cold. Going into a very warm room from the frosty air of a winter's morning will also produce a cold. Unequal exposure of the body to cold, is the most common cause of colds. This is the reason why draughts are so productive of colds. If the whole body were equally exposed to a draught, no cold would be taken. People who are clothed equably do not take cold when riding in the wind, in an open vehicle, even in winter. A very severe cold may result from riding in a railway carriage with the cold air striking the back of the neck from a small opening in the window. Colds are almost sure to result from remaining long in an impure atmosphere and then suddenly passing to a pure but cold one. A violent cold may result from getting the feet wet and then allowing them to become cold, when no cold would be taken if the whole body had been wetted.

In all of these cases the cold results from a contraction of the blood-vessels upon the surface of the body, or a part of it, occasioned by cold, and the congestion of the blood-vessels of internal organs, especially of the mucous membrane of the lungs and air passages. This congestion of the mucous membrane of the nose induces sneezing, which is thus an indication that a cold has been taken.

HOW TO PREVENT COLDS.

Live in the open air as much as possible. Soldiers do not take cold. Hunters and Indians, though exposed to the most inclement weather, do not suffer from colds. Frequent bathing with tepid water, accompanied by vigorous friction of the surface of the body, is an excellent preventive of colds. Avoid exposure. Upon going from a heated room into a cold one, or the open air, put on an extra coat, or a shawl or cloak. Never sit down in a cool place when in a state of perspiration. Even in summer there is danger of taking cold in this way. Do not sit down upon the cold, damp earth in the spring or autumn. Keep away from the fire upon first coming in from out-of-doors in winter. Live in well-ventilated rooms. Instead of sleeping with the cold air pouring down upon the head from a single opening in a window, draw the bed into the middle of the room, open all the windows and doors, and sleep with the whole body in a current of pure, fresh, invigorating air. Of course this might be overdone, in the coldest weather; every person must use good common sense for himself. If the feet are wetted, remove the wet shoes or boots and stockings at the earliest moment possible. Soak the feet for half an hour in hot water, dip them into cool water for a

minute or two, and then wipe and rub them dry.

HOW TO CURE A COLD.

But suppose Tommy, or Mary, or baby, or some other one of the children, or the family, has "caught a hard cold;" what shall we do? Do nothing, and let it wear off?

No; perhaps the patient will get well, may be his cold will become something worse.

Shall we give him ginger tea, red pepper, brandy sling, onion sirup, honey and lard, fat pork, castor-oil, licorice, hoarhound, molasses candy, boneset, catnip, mullen tea, or pennyroyal? or shall we apply a mustard plaster to his chest, a blister to the bottom of each foot, and fat pork with salt and pepper to his throat?

Do no such thing. Such trash put into his stomach, with such irritating applications outside, would make a well person sick. Now do this:—

In the first place, prevent the cold, if possible, by beginning in season. Perhaps the feet have been wet, and are damp and cold. Pull off the shoes or boots and stockings, and put the feet into a pail of water as hot as can well be borne, after first wetting the head with cool water. After fifteen minutes' soaking, pour a little cold water into the pail. Allow the feet to remain two or three minutes longer, then take out, wipe dry every part, between the toes and around the ankles, and then rub them until they glow with warmth. Put on dry, warm stockings, and send the patient to bed for an hour, or all night if it is evening. Instead of waking up in the morning with a headache, a sore throat, and a voice like a cracked fiddle, he will be quite well.

If a person has really got a cold, and is sneezing, and wheezing, and coughing, and expectorating, more thorough measures must be taken.

1. Eat little or nothing for a day or two. The popular adage, "Stuff a cold and starve a fever," is without foundation.

2. Rest. Sleep all that is possible. No time is lost in such a course. Timely rest may save serious illness.

3. Take some kind of hot bath, which will start the perspiration freely. Long sweating is debilitating; only start the action of the skin. The foot-bath combined with the sitz-bath, the wet-sheet pack, the vapor-bath, and the hot-air bath are alike suitable. These are severally described in works for sale at this Office. After the bath, go to bed.

Drink freely of water, the purer the better.

A day or two of such treatment will usually "break" the hardest cold, saving the patient several weeks of pain and annoyance, if not from chronic disease. Try it. The trouble is less than you think; and the results are splendid.

Connecticut Laws against Tobacco-Using.—The "Blue Laws" of Connecticut made the use of tobacco rather inconvenient to the devotees of the weed, as will be seen by the following sections relating to that filthy habit, which might be incorporated into the present code of laws of the same State with great profit to all of her citizens:—

"Forasmuch as it is observed that many abuses are crept in, and committed by frequent taking of tobacko. It is ordered by the authority of this court, that no person under the age of twenty-one years, nor any other that hath not already accustomed himself to the use thereof, shall take any tobacko until he hath brought a certificate under the hands of some who are approved for knowledge and skill in phisick, that it is useful for him, and also that he hath received a lycense from the courte for the same. And for the regulating of those who either by theire former taking it, have, to theire owne apprehensions, made it necessary to them, or uppon due advice, are persuaded to the use thereof—It is ordered that no man within this colonye, after the publication hereof, shall take any tobacko publiquely, in the street, highways, or any barne yardes, or uppon training days, in any open places, under penalty of sixpence for each offence against this order, in any of the perticulars thereof, to bee paid without gainsaying uppon conviction, by the testimony of one witness, that is without just exception, before any one magistrate. And the constables in the several towns are required to make presentment to each perticular courte, of such as they do understand and can evict to be transgressors of this order."

—A Sunday-school scholar being asked what became of men who deceived their fellow-men, promptly exclaimed, "They go to Europe."

PEOPLE'S DEPARTMENT.

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

A very Practical Joke.—One of our agents left the tract, "Startling Facts about Tobacco," on the table of a wealthy friend. A young man who was an inveterate tobacco-user called at the house, soon after, on a visit. The gentleman thought he would give the young man this tract as a sort of joke, as it portrays the filthy practice and its effects in somewhat vivid colors. The young man accepted the tract, and read it attentively. He has not used a particle of tobacco since. What a blessing to humanity it would be if every young man who uses tobacco could have such a joke played upon him with like results!

Work for Humanity.—A county superintendent of schools in Minnesota is buying hundreds of our tracts, and using them to good purpose, as the following note from one of his letters indicates:—

"God bless you in your work. I am scattering these tracts among my teachers, and am lecturing them upon the subject of hygiene. Your tracts are most admirable."

Minnesota is fortunate in having a few such county superintendents. If they were to be found in every county in the Union, we should soon see the American race evincing signs of physical regeneration. From a nation of precocious, dyspeptic, narrow-chested invalids, we should be transformed to better representations of the genus homo.

Salt and Digestion.—Among the many excuses for retaining salt as an article of diet, I believe the latest and most original comes from the Professor of Chemistry in Michigan University. He says that hydrochloric acid is produced by the action of lactic acid upon salt in the stomach, and is necessary for the digestion of food. He bases his assertion upon the fact that pepsin alone will not dissolve meat outside of the stomach, but if hydrochloric acid be added, it will be dissolved. He adds that the *cruel* experiment of depriving animals of salt has been tried with the result of starving them to death, although they ate ravenously all the while, because the food passed through the body undigested.

We have here another example of the rash, or perhaps we might say dishonest, statements to which even scientific men will resort in order to sustain an erroneous theory. The Professor wholly omits to add that hydrochloric acid will dissolve meat without pepsin, as will also many other chemicals which are not supplied to the stomach; but this does not prove that the stomach will not digest food which has been thoroughly masticated and insalivated, without the addition of any mineral acid.

The assertion that animals have died under the circumstances stated, if not false, was not substantiated; and the deaths must have resulted from some other cause, for numerous instances may be cited in which persons have not only retained their health, but have gained flesh, while discarding the use of salt as an article of diet. It was an amusing coincidence that several of the Professor's hearers had abstained from its use for several months, and were still in possession of excellent health and digestive powers.

Until people's appetites cease to influence their judgment, we cannot hope that they will reason fairly. JUNIOR MEDIC.

Professional Indolence.—The ease with which drug doctors find excuses for their practices, would be amusing if the results were not so serious. A short time ago, a noted physician was lecturing to his class on the treatment of typhoid fever. Among other things, he mentioned baths and packs, which he said had been used in Germany with considerable success as a means of reducing temperature. He said he thought this plan of treatment would become quite popular, and even showed his students how to give a bath properly.

He then spoke of a method, also in use among the Germans, which consisted in giving twenty to forty-five grains of quinine every few hours. He said he thought this mode of treatment would be used by physicians more generally than the other, on account of its greater convenience. It would, undoubtedly, be easier for the physicians; but the people will decide that it is more convenient to live than to die, and, being still in the majority, will demand the treatment which is based on common-sense principles.

NOVICE.

Hygienic Living Better than Drug Medication.—A young lady of my acquaintance, who had been for several years in declining health and under the care and treatment of a physician, about a year ago decided to leave off taking medicine and try the effect of living out the principles of health reform. The consequence is, she has been growing better, and now is in quite good health. She has been persevering in living on plain, simple, unstimulating food, discarding condiments almost entirely, using graham bread, and living much of her time in the open air when the weather would permit, and, in short, using the agencies and the means that nature has provided and placed within our reach. Now she rejoices in the prospect of health, the thing without which life is to a great degree destitute of enjoyment.

Let those who are sick try what healthful living will do. Try it, not for a day, a week, or a month, but as perseveringly as others try drug medication. Hold on. It is not a doubtful experiment. It will surely be productive of good; and in case restoration is possible, nature will work a cure. But if a full restoration is not possible, still the best that can be done is to adopt the health reform, and persevere in it. It is impossible for this course to result in harm; but it will certainly produce good results. There is no danger of evil results, as in drug experimentation.

R. F. COTTRELL.

Fruits of Labor in the Cause of Reform.—Mrs. M. J. Casselman sends us an interesting account of the good results which arose from the timely gift of a few tracts. A short time ago she called upon a neighbor, a young lady, who was out of health. She left with her a few health tracts, one of which was upon tea and coffee. The lady's mother-in-law, an old lady, was visiting at the place, and becoming interested in the tracts, she read them also, and became convinced that tea and coffee were injurious, and renounced their use, although upwards of sixty-five years of age. The change was marked by a manifest improvement in her health. The whole family soon abandoned the use of those poisons, and are now rejoicing in the benefits of health reform, and seeking to lead others into the good way.

Worth $20 a Year.—C. B. D. writes: I do not know how I could get along without the REFORMER; I think it grows better every month. I am sure it is worth more than twenty dollars a year to any family. I like what you say in regard to the foolish fashions. I am a dressmaker; but the fashions have become so abominable that I have rejected the popular styles and adopted the health-reform dress. I get but little custom; but I do not care as long as I can enjoy the privilege of wearing the dress myself. Let them laugh! what do I care?

A Good Example.—A young lady who has taken the REFORMER for some time, and become convinced of the truth of its teachings, sends us the subscription price with directions to send it to her friends, saying, "As I have taken the journal for some time, and like it very much, I thought I would send it home, as they need it there. They use both pork and tobacco, and I would like to see a reform in their diet."

Is there one among our thousands of subscribers who has not some friend who needs reforming? How easy it would be for each to send the REFORMER for the year 1876 to such ones. Many of them, if not all, will reform if they can only be enlightened. Try it, friends. Hundreds are trying it, as this young lady is doing, and the results which they report to us are glorious.

A Child's Idea of Hygiene.—The old time-worn adage says, "Children and fools always tell the truth;" and the Good Book records that out of the mouths of babes and sucklings "praise is ordained."

A small child one evening accompanied her father to a tenant house where its colored occupants reveled in tobacco smoke, and the effluvia of dirt and grease were well retained by close windows and doors. After enduring the unventilated odors of the place till nausea suggested fresh air, they departed. On getting out of doors, the little maid drew a few deep inspirations, and looking up into her parent's face innocently said, "Papa, I feel like praising the Lord for fresh air!"

SUBSCRIBER.

Questions and Answers.

We quote the following from a previous number of the Reformer for the benefit of correspondents, and to save us the labor of answering many letters :—

"We are daily in receipt of letters asking medical advice. In many cases we are requested to prescribe for the home treatment of a person suffering from some chronic disease or a complication of chronic maladies, through the columns of the Health Reformer. A little consideration will show that this would be quite inconsistent, if not quite impossible. In this department the most that can be done is to give brief, concise answers to as brief and concise questions. In order for a home prescription to be of value, it must be much more minute in detail than our space would possibly allow.

"It is also necessary that the account of symptoms should be much more minute than would be proper to appear in print. For these reasons, those who wish directions for home treatment should send us a full account of their case, so that we can give them a written home prescription. In order to secure a full and accurate statement of the case, we have prepared a list of questions to be answered, which we will forward to any one wishing a home prescription on receipt of application inclosing stamp. Many who have only slight ailments, or who are unable to visit a health institution, can be cured at home by faithfully following a carefully prepared prescription. Our terms for home prescription are $5.00 for the first prescription, and $1.00 for each subsequent letter of advice. The poor are treated at half price."

Brown's Troches, and Catarrh.—A. A. L., Mich., inquires : What would you advise to be used in place of Brown's troches for hoarseness and catarrh ?

Ans. You would do much better to use nothing at all than to use the quackish compound of which you speak. It seems to give relief, but the benefit, if such it be, is only temporary. Catarrh, and the hoarseness connected with it, are obstinate difficulties which are occasioned by constitutional causes. They cannot be relieved in a moment. Troches and other drugs can never cure them. The only cure will be found in paying careful attention to the laws of health, and removing the causes of the disease, as far as possible.

The diet should be simple and rather spare. Condiments, milk, sugar, and butter, should be avoided. Take a general bath twice a week, and a fomentation over the liver every other day. The nasal douche should be employed daily, the fountain syringe being used. A little salt may be added to the douche with benefit. Exercise freely in the open air.

Weak Back.—W. F., Maine, wishes to know the best remedy for a weak back.

Ans. If the muscles of the back are weak, they will become strong only by proper exercise. Do not exercise too violently at first. Begin carefully, and daily increase the amount. Rubbing and kneading the muscles of the back will do much toward strengthening them in conjunction with proper exercise. You may have some disease which is the cause of your weakness.

Indigestion—Neuralgia.—J. W. W., Iowa, has a child which lives mostly on fine-flour bread, and suffers from sick headache, pain in the stomach and bowels, and sudden pains in the eye and head. He wishes to know the disease and the remedy.

Ans. Your child is doubtless suffering from derangement of the digestive organs. Probably the bowels are costive. The sick headache and neuralgia result from impaired digestion. Feed the child wheat-meal, instead of fine-flour, bread. Oatmeal porridge would be an excellent article of food for her. Give her but two meals a day, or a very early and spare supper, if a third meal must be given. Two would be better. When the child is ill, apply hot cloths over the stomach and bowels, and over the head, and give a hot foot-bath at the same time. If the bowels are costive, relieve them by an enema.

Dumb Ague.—J. C., N. H. : We will describe the treatment of ague in the next number if space will permit. You will find the treatment of the disease described in the "Family Physician."

Torpid Liver.—S. A. M., asks : What is the cause of pimples or small sores breaking out on the shoulder and back, and pain in the shoulder and under the shoulder-blade ?

Ans. You have a torpid liver. You need a thorough course of strict living and careful treatment to get your liver in healthy condition. The diet should be plain. Condiments should be avoided.

Laryngitis.—J. Z., Tenn., asks for a remedy for laryngitis, which he has had very badly for two years.

Ans. The treatment of your difficulty depends very much upon its cause, and your other symptoms, which we are unable to make out from the meager information given.

Abscess.—C. L., Iowa, has an abscess near the ear, which was caused by a kick from a horse. He wishes a remedy.

Ans. We could not attempt to prescribe for you without more definite knowledge of the case. You will do well to consult a surgeon at once.

Beans for Weak Stomachs.—R. B. T., Mass., inquires: Can beans be cooked so that a person whose stomach is not very strong can partake with impunity?

Ans. Beans, properly cooked, are not very difficult of digestion. When mixed with fats of various sorts, pepper, salt, vinegar, mustard, and other unwholesome articles, they are an insult to any respectable stomach. If cooked according to recipes found in "Healthful Cookery," they may be eaten, in moderation, by almost any one.

Hair Oil—Camphor for Catarrh.—I. H., Ohio, asks: 1. Is hair oil, made of olive oil, and perfumed with bergamot, dangerous for the scalp? 2. Would a solution of camphor in alcohol be dangerous to use in case of catarrh or colds in the head?

Ans. No; but we do not advise the use of hair oil of any kind. When the scalp is healthy, nature furnishes a sufficient amount of oil for the hair. When the hair is unpleasantly dry, it is an indication of an unhealthy scalp. Pure soft water is the best dressing for the hair. 2. It might be. It could do no good.

FARM AND HOUSEHOLD.

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

To Cleanse the Hair.—Rub thoroughly into the hair the white of an egg. Wash with soft water until the egg is entirely removed. This leaves the hair soft and pliable. Never use alkalies or coarse soap on the hair.

To Restore Color.—When the color has been destroyed by acids, apply a little ammonia (hartshorn). The restoration will be the more perfect the more recent the application of the acid.

To Polish Furniture.—Mix equal parts of vinegar, spirits of turpentine, and sweet oil in a bottle, and apply with a flannel cloth, rubbing afterward with a chamois or piece of silk. It is better than a coat of varnish.

To Remove Old Paint.—Cover with a wash of three parts quick stone lime slaked in water, to which one part pearlash is added. Allow the coating to remain for sixteen hours, when the paint may be easily scraped off.

To Make Cloth Water-Proof.—Into a bucket of soft water put ½ lb. sugar of lead and ½ lb. powdered alum. Stir occasionally until the solution becomes clear, then pour it off into another bucket, and immerse the garment in it. Allow the garment to remain in the solution twenty-four hours. Scotch tweed is the best material for a water-proof cloak.

There are several other methods: 1. Moisten the cloth on the wrong side with a weak solution of isinglass. When this is dry, apply a solution of nut-galls. 2. Moisten with a strong solution of soap, and then with a solution of alum. 3. Spread the cloth on a smooth surface with the wrong side up. Rub it with pure bees-wax until it is gray. Pass a hot iron over it, and brush it while still warm.

Cement for Wood.—In a pint of soft water, dissolve 6 ozs. of best glue. Remove from the fire, and add ½ oz. of white lead, stirring it in well. Then stir in 3 gills of whisky. This cement will remain thin at all ordinary temperatures. It should be warmed and well stirred when it is to be applied. Good for wood, marble, glass, and china.

To Remove Grease from Silk.—Grease may be removed from silk and other delicate fabrics, thus: Upon a smooth surface, spread a woolen cloth. Lay upon this the silk with the right side down. Over the grease spot, lay a piece of coarse brown paper. Place upon this a flat-iron sufficiently hot to just scorch the paper. A very few seconds will suffice. Remove the flat-iron and paper, and rub the spot briskly with a piece of paper.

Perpetual Paste.—The *Scientific American* says, To make perpetual paste—which will remain sweet for a year—dissolve a teaspoonful of alum in a quart of water, to which add

sufficient flour to make a thick cream. Stir in half a teaspoonful of powdered resin and half a dozen cloves, to give a nice odor. Have on the fire a teacup of boiling water, pour the flour mixture into it, stirring well all the time. In a few minutes, it will be of the consistence of mush. Pour it into an earthen vessel, let it cool, lay a cover on, and put it in a cool place. When needed for use, take out a portion and soften it with warm water.

Farm Accounts.—The pleasure and profits of farming may be greatly increased by a careful system of keeping accounts. A number or name should be given to each field, and then it should be charged with everything which goes to it, as labor, seed, manure, or other expense. The field should be credited for what it produces. If a portion of the crop is fed to stock, the stock should be charged for the same at reasonable rates, and the field should be credited to the same amount. In this way the farmer will have the means of determining with certainty the relative profit to be derived from various crops.

Brooms and Sweeping.—If brooms are wet in boiling suds once a week, they will become very tough, will not cut the carpet, last much longer, and always sweep like a new broom. A very dusty carpet may be cleaned by setting a pail of cold water out by the door; wet the broom in it, knock it to get out all the drops, sweep a yard or so, then wash the broom again as before, and sweep again, being careful to shake all the drops off the broom, and not sweep far at a time. The water may need to be changed once or twice if the carpet is very dusty. Snow sprinkled over a carpet and swept off before it has time to melt and dissolve, is also nice for renovating a soiled carpet. Moistened Indian meal is used with good effect by some housekeepers.

Hints for Farm Work.—Pruning may be done to excellent advantage during this month, any time before the buds begin to swell. The first year's growth from buds or grafts should be cut back so that limbs will be induced to start near the base, and thus produce a stocky tree.

This is a good time to clean out old drains or make new ones where the ground is not much frozen. There will be less danger from the inhalation of foul gases which escape than in the warmer months.

Now is the proper time to examine all implements used about the farm, and make all necessary repairs, so that they may be in readiness for use when needed a few months hence. Wagons, plows, carts, and other utensils may be repainted, missing drag teeth replaced, loose nuts tightened on machinery, a broken hinge repaired, etc., etc. Iron implements should be protected from rust by a coat of paint or powdered lime. By this means the expense of new tools will be saved.

A few days of damp, thawing weather should be improved in scraping the dead bark from the trunks and large branches of fruit trees. This is best done after applying to the tree, with a brush, whale oil or soft soap.

Hot Baths for Horses.—The editor of the agricultural department of the N. Y. *Herald* makes the following remarks on this subject in a recent number:—

"It is reported that at a recent meeting of the Royal Agricultural Society of Ireland, some interesting statements were made concerning the use of hot-air, or Turkish, baths as a remedy for the diseases of domestic animals. Lord Scriven declared that his own experiments in the use of these baths, covering a period of over four years, proved conclusively that they would cure all ordinary diseases incidental to horses and all farm stock. The remedy is especially efficacious in cases of colic, dysentery, lung complaints, swellings and inflammations, and serves also as a protective against approaching diseases. A single application in the bath will cure the most severe cases of garget. In case of swelling or sprain, a vigorous rubbing adds materially to the good effect of the bath. We hear of the epizöoty and cattle disease spreading in all parts of the country. Here is a chance for a big speculation to some horse or stock man who knows enough to put up a Turkish bath for horses and cattle, buy up the sick ones, cure them and sell them, if people won't use the same means to save their own stock. Every farmer who owns horses and domestic animals should have a Turkish-bath apartment."

All cannot afford a Turkish bath; such will find the hot pack of almost equal efficiency. This can be very easily administered by means of blankets wrung out of *very hot* water. Dry blankets should be applied outside to retain the heat. We have known this treatment to be very effectual in severe cases of distemper in horses. The animal should be cooled by sponging with tepid water after the pack, and should then be rubbed dry and blanketed, to avoid taking cold. The feet and legs should be packed as well as the trunk of the body.

POPULAR SCIENCE.

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

Composition of the Air.

THE chief constituents of the air are nitrogen and oxygen. These two gases compose so nearly the whole bulk of the atmosphere that other elements need not be considered in estimating their relative proportions. Nitrogen is a neutral gas, serving merely to dilute the oxygen. It constitutes very nearly four-fifths of the air. Oxygen is that element which sustains the life of all animals. It forms only one-fifth of the great aerial ocean. These proportions are the same in the air found upon the tops of the highest mountains, and in the deepest valleys. If the proportion of oxygen is either increased or diminished to any appreciable extent, animal life is greatly interfered with.

But besides oxygen and nitrogen, there are various other gases found in the air. In fact, the air really contains a little of everything found upon the surface of the globe. Most of these elements are in such very minute proportions that they can have no material influence either beneficial or otherwise; but there are a few which are sources of serious mischief.

Carbonic acid, or carbon di-oxide, exists in air considered pure in the proportion of four parts in 10,000, by volume. In breathing, oxygen is taken into the lungs, and is absorbed by the blood, carried to all the different parts of the system, and finally appears at the lungs again, and is exhaled as carbon di-oxide. About four cubic inches of oxygen are taken into the lungs at each inspiration. Of this quantity, about one-fourth, or one cubic inch, is converted into carbon di-oxide and poured out into the air at every breath. All animals produce carbon di-oxide in this way, making an enormous aggregate daily production. Lamps, stoves, candles, gas-lights, and all processes of combustion and decay, add to the amount of this poisonous gas produced by animals. When the proportion becomes increased from four parts in 10,000 to six parts in the same quantity of air, it becomes a very grave cause of disease, producing consumption and other lung diseases, besides disturbing nearly every function of the body.

Various gases, such as sulphureted hydrogen and ammonia, escape from sewers, cesspools, and other places where organic decomposition is taking place, and poison the air, and thus become a source of disease.

One of the most remarkable constituents of the air is the organic matter present in it. This is made up of decomposing animal and vegetable matter, microscopic animals, and the spores and eggs of microscopic plants and animals. Many diseases are occasioned by the inhalation of germs of this character. They are even more poisonous than the gaseous poisons which contaminate the "breath of life."

Fruit in Prehistoric Times.—Mr. Messikomer has discovered, in making explorations of the cites of ancient European lakes, the fossil remains of many of the primitive inhabitants. Cooking utensils and other articles are found in abundance in the same localities. In many places the food of the ancient inhabitants is found in considerable quantities, preserved in a fossil state. It is an interesting fact, which corroborates the statements of history, that the remains of food found are almost invariably of a vegetable character, being chiefly fruits. This observation is so general that scientists have decided that the primitive inhabitants of those regions were vegetarians.

Sun-Spots. — The German astronomer, Schwabe, who watched the spots on the sun every fair day for about forty years, discovered that they occur with greater frequency at regular intervals of about eleven years. For five years or more they increase in number until they reach a maximum, and then they decrease for a similar period to a minimum. This discovery was followed by another no less remarkable; namely, that the daily variation of the magnetic needle has a period

of about eleven years, and the time of greatest variation coincides with the maximum of the sun-spots. It is also found that magnetic storms and the aurora have similar cycles, with maxima occurring at the same time with that of the spots.—*Boston Jour. of Chem.*

Magnetism and the Imagination.—Dr. Volpicelli, in a communication to the French Academy of Sciences, describes certain experiments made by him to determine whether a magnet can have any influence upon persons of nervous constitution. The first person experimented on was a patient of the hospital Santo Espirito, in Rome, whom the sight of a magnet was sufficient to throw into convulsions. Volpicelli brought with him a simple piece of unmagnetized iron; this, however, produced all the effects attributed to the magnet. The second experiment was made by a person similarly affected with nervous disorder. Volpicelli placed a magnet in this person's hand, and soon the super-excitation was such that it had to be taken away. A few days later the subject of this experiment presided at a meeting of scientific men. All unknown to him, magnets had been introduced into his chair, into the drawer of his table, under his feet—in short, all around him. The meeting lasted for two hours, and, at its close, on being asked how he felt, he declared that he was perfectly well. "It appears to me," continues Dr. Volpicelli, "that these two experiments are sufficient to prove that magnetism has no effect upon the nervous system, and that the cause of the effects produced by the presence of a magnet is to be attributed only to the imagination. As I have shown, if we bring one or more powerful magnets near to a patient without his suspecting their presence, no appreciable effect is produced. For the physiologist, the most interesting circumstances connected with these experiments is the diversity of effects produced by the imagination in nervous subjects when they see a magnet, or suppose the presence of one. The diversity of these effects will, perhaps, lead to the discovery of some new truths."—*Pop. Sci. Month.*

Humblebees and Red Clover.—It has been discovered by naturalists that the existence of red clover is dependent upon the humblebee. The pollen of this variety of clover is formed near the bottom of its narrow, tube-shaped flowers. The humblebee, in seeking for honey, collects this pollen upon its long proboscis, carries it from one flower to another, and thus fertilizes them and causes the production of seed. If this were not done, no seed would be produced, so that the plant would soon run out. It happens that the humblebee is the only insect which visits red clover that has a proboscis long enough to reach down to the pollen; consequently, if all our humblebees should freeze to death some cold winter, there would be no clover seed the next season.

In countries where the humblebee is not found, red clover cannot grow. Recognizing this fact, the Acclimatization Society of New Zealand who are endeavoring to introduce the red clover into their country, recently sent to England for an army of humblebees. Mr. Frank Buckland has already sent them two nests, which are expected to reach them about New Year's. It is hoped that by the valuable services of these homely insects, the red clover may be made to flourish in New Zealand.

Waterspouts.—Mr. Charles H. Allen, F. R. G. S., writes to the London *Times*: "Being in Calais in August, 1870, I noticed while walking on the beach, a very black cloud, which hung like a thick curtain over the sea, and stood out in singular contrast to the brightness of the surrounding sky. Presently a flash of lightning came from the cloud, and it was immediately followed by a funnel-shaped projection, which was continued as a thin belt to the surface of the sea. Its apparent hight was about a mile. The water on the sea was boiling in fierce commotion as though vast masses of rain-water were being poured upon it in a single stream. This continued for about ten minutes, during which time the long streamer waved about in the wind; the cloud gradually became less black, and at last the waving belt broke asunder. The spout moved along the surface of the sea rapidly, and had it met with a large vessel, or had its course been over the land, your pages would have some great disaster to chronicle. I believe this spout had its origin in the black cloud, and was not water raised by a whirlwind. I have seen dust columns carried to a great hight in Australia; but their motion was upward and not downward, as in the case of this great waterspout."

A Singing Toad.—Dr. Livingstone gives a description of a singing toad which he found in an African jungle, which was no larger than his finger nail, but possessed such wonderful vocal powers that it filled the air with most delightful music. Whether this was a distinct variety of the toad species to which musical powers are common, or a freak of nature, like singing mice, was not determined.

NEWS AND MISCELLANY.

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

—The President's message intimates that he will not be a candidate for a third term.

—A recent hurricane in the Phillipine Islands destroyed 250 lives and 3,800 houses.

—Mr. Moulton has commenced suit against Mr. Beecher for $50,000, for malicious prosecution.

—Mt. Vesuvius is in a lively eruption. The amount of fire and smoke emitted is daily increasing.

—Prof. Marsh has recently published an illustrated paper descriptive of several fossil birds, found in Kansas, which possessed teeth.

—Dec. 6, about 140 persons were killed by a terrific explosion in an English coal mine, which was caused by the inefficiency of the Davy safety lamp.

—The notorious Boss Tweed escaped from his jailors early in December, while on a visit to his home. Nothing is known of his whereabouts. It is believed that his keepers were party to his escape.

—In some English cities the death rate is very high. In Manchester, 32 persons in 1000 die annually. In Liverpool, the annual number of deaths per 1000 is 36. In cities, the ratio of deaths in children under five years is 103 in 1000.

—According to the *Popular Science Monthly*, Siberia, with a territory as large as all Europe, and a population of 6,000,000, supports only fifty-five doctors. It is worth mentioning in this connection that the Siberians are vegetarians and do not eat salt.

—A project is on foot to connect the Atlantic and Pacific Oceans by means of a ship canal through Guatemala. This would shorten the distance to California—by water exclusively—more than one-half, and would thereby greatly lessen the cost of freights.

—Jay Gould is endeavoring to avoid settling the losses which he has suffered in consequence of speculations in Wall Street, on the ground that the mode of transacting business in that famous locality is nothing more nor less than gambling, and hence as illegal as betting, or a faro bank.

—The great astronomer of Paris, Leverrier, who discovered the planet Neptune, which could eat up this little earth of ours and not suffer from indigestion in consequence, has made a prediction which is noteworthy. It is that the winter of 1875–76 will be uncommonly severe. Enormous quantities of snow are to fall in December and January.

—The Beecher scandal is to be thoroughly revived again by the investigation demanded by Mrs. Moulton which will be instituted by a council of Congregational churches. The New York *Herald* advises Mr. Beecher to "step down and out," as he told Moulton he was willing to do, and spend the remainder of his days as a private citizen, so that the reproach which is now attached to his name, in the minds of many, at least, may be removed from the sacred office which he still holds.

—A traveler writes from Rome that the Pope shuts himself in the Vatican like a prisoner, although he is at liberty to leave it at pleasure. His evident design is to excite sympathy in this manner. In Germany and Ireland pictures are circulated which represent the old gentleman behind iron bars in a felon's cell.

—England has recently surprised her European neighbors by purchasing the Sultan's share in the Suez Canal, thus gaining the control of that important and lucrative enterprise. The negotiations for purchase were made with so much secresy that no other nation had any knowledge of the matter until the bargain was consummated.

—Some idea of the fearful destructive capacity of modern instruments of war may be formed from the report of the trial of an 81-ton gun at Woolwich arsenal. A 1,250-pound ball was fired with a charge of 170 lbs. of powder. It penetrated into a sand bank a distance of 45 feet. The recoil of the gun was 23⅓ feet. With a charge of 190 lbs. of powder, the distance penetrated was 50 feet, and the recoil was 32 feet. The charge is to be increased to 300 lbs.

—Microscopic examination of the tissues of a wild boar lately shot in the forests of Saxony showed it to be full of trichinæ. This is the first case in which this parasite has been found in the wild boar, it having been generally believed that only the domesticated hog was affected by it. It is more than probable that the scrofulous race has always been affected by this loathsome disease, the diminutive size of the worm having prevented its discovery until the invention of the microscope.

—An English writer describes in *Chamber's Journal* several cases of contagious disease in which the disease was transmitted in a manner which should excite a greater amount of carefulness to prevent the spread of such diseases as scarlet fever, small-pox, and cholera. In one case, a servant girl died of scarlet fever. Her clothing was sent back to her parents in a box. While the box was in the depot, the station master's children played about it. After it was opened, the garments were distributed among

the neighbors. The children of the station master, and all who received the clothing, were stricken with scarlet fever. A man who was at work upon the roof of a wash-room while the clothing of a cholera patient was "in the wash," sickened and died of the same disease. In another case a retriever pup which had been reared in a house where scarlatina was present, carried the infection to another house in which two children sickened and died of the disease in consequence. Several cases were noted in which a very loathsome skin disease was communicated to children from cats which had in turn received it from infected mice.

—Dr. E. P. Miller, of New York, is a strong believer in the claims of the Eddy brothers, who profess to cause dead people to appear in tangible shape at will. Several months ago, Dr. Miller offered to wager $5,000.00 that the manifestations at the residence of the Eddy brothers were genuine materializations, and not jugglery, as claimed by Dr. Beard and others who have investigated the matter. A gentleman has recently accepted the challenge, and claims to be able to not only prove that the manifestations are mere trickery, but to reproduce the same without the aid of any supernatural agency.

—The poisoning of women's legs by colored stockings has been reported on by Prof. Marriner, a Chicago chemist. He says that the seal-brown and reddish-brown hues contain picric acid, which will poison the flesh with which it comes in close contact. He adds: "As these dyes are used not only in coloring all kinds of fabrics, but also for confectionery, liquor, cosmetics, and a great variety of objects, the danger attending their use can be readily appreciated."

—In the island of Ceylon large apes are regularly employed to pull cocoanuts. These animals are imported from Acheen in batches, and are marched around the plantations by their owners, who let them out on hire. A line is first attached to each of these peculiar laborers, and he is then sent up a tree, where he is said to select suitable fruit with great discrimination, and to twist the nut round and round until it falls to the ground. Each successive fall of a nut is hailed by the hairy worker above with a jump and a chuckle of satisfaction.

—An adequate punishment for those human brutes who vent their despicable passions in murderous assaults on women and children, is suggested by the authors of the "Unseen Universe." "It is probable," they write, "that before many years have passed, electricity will be called upon by an enlightened legislature to produce absolutely indescribable torture, thrilling through every fiber of such miscreants."

—Somebody has made the calculation that each acre of a coal seam in England, four feet in thickness, and yielding one yard net of pure fuel, is equivalent to about five thousand tons, and possesses, therefore, a reservoir of mechanical strength in its fuel equal to the life-labor of more than sixteen hundred men. Each square mile of one such single coal bed contains eight million tons of fuel, equivalent to one million of men laboring through twenty years.

Literary Notices.

MANUAL OF HYGIENE. By Charles A. Cameron, M. D. Dublin: Hodges, Foster, & Co.

This is a very exhaustive treatise on sanitary science. Its value to the health commissioner or medical practitioner must be very great indeed; but it is decidedly too technical to benefit the general reader.

SOJOURNER TRUTH.—This is the title of a very interesting book, the narrative of a remarkable and interesting person, whose name it bears. Sojourner Truth was for many years a slave, being liberated in the early part of the century. She has spent many years of her life as a public speaker in the cause of freedom, visiting the large cities of the Union, and always attracting great attention by her witty and eccentric speeches. She has been favorably noticed by a large number of the most distinguished personages of the country at various times, and once made a speech in Congress. The book is well written, and has an introduction by Wm. Loyd Garrison. It is well worth perusal. Published for Sojourner Truth, by Mrs. F. W. Titus, Battle Creek, Mich., to whom orders should be addressed. Price, post-paid, $1.25.

SPENCERIAN PENS. We have tested with much pleasure an assortment of these pens and find them superior to any other in the market. They are remarkably elastic and durable. They are manufactured by Ivison, Blakeman, Taylor, & Co., 138 Grand St., New York, who will send a specimen card of fifteen pens on receipt of 25 cts.

THE *Signs of the Times*, published at Oakland, Cal., is a weekly paper which is ably edited and neatly printed. All who want a first-class family religious paper should subscribe for it. The price is $3.00 a year.

THE SANITARIAN continues to meet the expectations of its friends as a first-class journal of sanitary science. It is especially adapted to the wants of medical practitioners. The good advice which it gives each month is invaluable, and the positions which it takes upon most questions are free from popular errors.

THE *Lansing Republican*, one of the most ably conducted papers in the State, recently published the following notice:—

"The HEALTH REFORMER, a monthly journal published at Battle Creek, is enlarged by the addition of science, general news, and other departments, and is in several other respects much improved; yet the old price of $1.00 a year is retained. This periodical is one of gentle instruction, and not one of quarrelsome controversy."

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.

☞ Our patrons seem to be well pleased with the several changes which have recently been made in the journal, if we may judge from the numerous complimentary letters which we have received since the issue of the last number.

☞ Persons who have in their possession all the numbers of Vol. I. of the REFORMER, will do us a favor by forwarding them to us, if they are willing to part with them, and will be credited, therefor, to one year's subscription in advance.

☞ For $1.00, we will send fourteen copies of the Almanac, post-paid, by return mail. Copies of the extra edition are fifteen cents each by the single copy. Eight will be sent, post-paid, for $1.00.

☞ We have been unexpectedly delayed this month by the necessary stoppage of the press upon which the REFORMER is printed, for repairs. Hereafter, we shall mail the journal to subscribers upon the twenty-fifth of each month.

☞ The REFORMER for 1875, bound with leather back and tips, makes a very nice volume of 384 pp. All should have a copy so that the single numbers can be given away or loaned to friends. The price, post-paid, is only $1.50.

☞ Those who wish to renew their subscriptions have only to inclose $1.00 with the slip which they will find with the present number, after filling out the blank lines properly, and forward the same to us. If the money is placed in a strong envelope, and properly addressed, we will be responsible for all sums not exceeding $2.00. Losses seldom occur.

☞ Here is what the *Lansing Republican* says of the Almanac :—

"The Health Almanac, published at Battle Creek, is the prettiest and most useful thing we have ever seen in the shape of an almanac. It has no medicine or specialty to advertise, and therefore cannot be exactly given away; but the price is only 10 cents, and this is wonderful, considering that there are 40 pages of most carefully selected health items, printed on clean, white, heavy book paper, and bound with handsome covers."

☞ We would call the especial attention of canvassers and missionary workers to the "People's Department." We hope to make this one of the most interesting departments of the REFORMER. It may be such if each agent in the field will send us brief accounts of the numerous interesting items and incidents with which every live worker is sure to meet. Speak out, friends; do not keep all of these good things to yourselves.

☞ As stated last month, if any are in such circumstances that they cannot pay the subscription price at once, their names will be retained until they can do so more conveniently, if they will simply send us a card signifying their desire to have the journal during the year 1876.

No one need discontinue on accouut of poverty. They can better afford to pay $1.00 for the journal than to be without it; and we will have long forbearance with the needy if they will inform us at once of their circumstances.

☞ Although our published terms strictly require payment in advance, we send this number to all of our subscribers, whether they have yet renewed their subscriptions or not. This is done to give all ample time to renew their subscriptions, with the hope that we shall lose none of our patrons. Many who intend to renew, are a little slack in so doing, so that we are obliged to strike their names from our lists, only to replace them again in a few weeks. We are always happy to place such names upon the lists again, notwithstanding the extra trouble; but how much better it would be not to drop them at all. Pay up promptly, friends, and save us annoyance as well as yourselves.

Family Health Almanac.

THE demand for our Almanac for 1876 has been much larger than we had anticipated. We have been entirely unable to supply the demand for them up to the present, although more than fifty thousand copies have been printed. Wherever they were sold last year, they find a ready sale again, and canvassers are anxious to get them early. The following is from the pen of Eld. S. N. Haskell, who has probably circulated as much hygienic literature during the last twenty years as any man in America :—

"I ordered one thousand Family Health Almanacs. In less than one week from the time they were received, all of them were disposed of, and many more might have been, had we had them. I now order with this a sufficient number to make up ten thousand copies. No unprejudiced person can read it but will at once pronounce it a decided success. Children that sold them last year were anxious to procure them this, that they might commence to sell them immediately. Others were stimulated to do the same."