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BIBLE HYGIENE.

"CLEANLINESS IS NEXT TO GODLINESS."

BY ELDER JAMES WHITE.

THE expression "Cleanliness is next to godliness," is not found in the Sacred Scriptures, as many suppose. It is a splendid maxim, however, of the Jewish Talmud. And he who reads the books of Moses attentively will not fail to observe that in those moral lessons which were given the people through Moses, cleanliness holds a high rank among the preparatory acts for acceptance with God.

The great God, in his dealings with the Hebrews, not only restricted their diet to the simple manna in the wilderness, hence their murmurings, but he also taught them cleanliness. Both these were for their health. Gluttony and physical and moral filth are base companions; while temperance and cleanliness are congenial friends.

When the Hebrews were about to assemble at the base of Sinai to witness the grandeur of the Lord as he should descend upon the mount, wrapped in a cloud of glory, to speak the ten precepts of his holy law in the audience of all the people, among the specified preparations for the occasion, we read: "Go unto the people, and sanctify them to-day and to-morrow, and let them wash their clothes." Ex. 19:10. "And they washed their clothes." Verse 14.

This act of cleanliness entering so fully into the sacred record, makes it one of importance. This was not simply because our Heavenly Father was pleased to see his children dressed in cleanly apparel; but it was

to impress them with a sense of his purity, and that he cared for their physical and moral well-being.

Again: while the vast camp of the Hebrews were in the wilderness, it was necessary for their physical and moral good that they should be particularly neat and cleanly in their common habits. In the following particulars, we hardly need to apologize for giving the plain language of Scripture:—

"If there be among you any man that is not clean by reason of uncleanness that chanceth him by night, then shall he go abroad out of the camp, he shall not come within the camp. But it shall be, when evening cometh on, he shall wash himself with water; and when the sun is down, he shall come into the camp again. Thou shalt have a place also without the camp, whither thou shalt go forth abroad. And thou shalt have a paddle upon thy weapon; and it shall be, when thou wilt ease thyself abroad, thou shalt dig therewith, and shalt turn back and cover that which cometh from thee. For the Lord thy God walketh in the midst of thy camp, to deliver thee, and to give up thine enemies before thee; therefore shall thy camp be holy, that he see no unclean thing in thee, and turn away from thee." Deut. 23: 10-14.

The gross carelessness in very many instances that is manifest in neglected privies is probably attributable in a great degree to that mistaken modesty which leads writers and speakers to be silent upon this subject. God, being judge of propriety, and of the importance of the subject, speaks plainly.

The God of Israel has not changed. The

particular and holy God of the Hebrews, who could not view moral or physical impurities with complacency, is the Christian's God. The death of his Son for the sins of men, and the world-wide proclamation of his glorious gospel, were never designed to give the idea that the Christian should be less particular and cleanly in common habits of life than the Hebrew. Anciently these were necessary to physical and moral health. And from the very nature of the case, the same necessity exists in our time.

It is the most degrading and miserable fanaticism to suppose that the freedom of the gospel consists in slovenly and filthy dress, in rough, clownish, and irreverent words and actions, or in careless and filthy habits of life. It is painful to state that there is much that passes with certain classes as plain, humble religion, that is a living disgrace to the Christian name. This is in consequence of the mistaken idea that God has abolished his rules of cleanliness, goodness, justice, and righteousness, found in the books of Moses, and that the gospel frees us from their restraint.

God is the same, yesterday, to-day, and forever. The same practical instructions which he gave to the Hebrews through Moses, for their physical and moral benefit, he also impressed in substance upon the minds of the inspired writers of the New Testament. Paul exhorts to the point: "Wherefore come out from among them and be ye separate, saith the Lord, and touch not the unclean thing; and I will receive you, and will be a Father unto you, and ye shall be my sons and daughters, saith the Lord Almighty." 2 Cor. 6:17, 18.

Acceptance and heirship are the greatest blessings that God can offer on conditional promise to mortal men. Paul continues, in the very next verse: "Having therefore these promises, dearly beloved, let us cleanse ourselves from all filthiness of the flesh and spirit, perfecting holiness in the fear of God." Chap. 7:1.

In these impressive words, the purity or impurity of the physical and moral are connected. The one is dependent upon the other. The man whose habits are filthy, has a filthy spirit. And the man who obtains

real purity of spirit, will be led to cleanly habits of life. Cleanliness, health, and purity of spirit, are all of the same piece, and are priceless adornments of the Christian's pathway to Heaven.

God pity the poor. These labor under disadvantages. But they can be cleanly, neat, and orderly. While it is admitted that poverty, in many cases, tends to make people slack, disorderly, and filthy, it is denied that this is necessarily the case. The log cabin, with its scanty, rude furniture, may show as many marks of tidiness as the mansion of the wealthy. And the scanty clothing may be clean. Though patch may be put upon patch, all may show the rough beauty and cleanliness of a hand and heart that is moved by the true spirit of reform.

But what can we say of the gross carelessness of many professing Christians relative to their privies? We know of no language that will fully meet the case. We may write the words unhealthful, pestilential, terrible, horrible; but when compared with what the itinerant sometimes meets as he may come near an August or September privy, such words mean really nothing. The sense of smell, and even of taste, can sometimes recognize the existence of such poisonous, demoralizing abominations at almost any distance in the neighborhood.

Diseases are received into the system by improper food, bad water, and impure air. The food and water may be right, but if the air we breathe be corrupt, the system will become poisoned, and sooner or later, sickness must follow. In our frequent tours in New England, and in the middle and north-western States, we have visited many sick persons. When searching for the cause of their sickness, if we have failed to detect it as hereditary, or caused by improper diet, or by impure water, we have usually found it existing in a bad condition of the privy.

Whole families will be prostrated with fevers, and more or less deaths occur, and the good people will gravely and tearfully talk of the mysterious providence of God that has caused so much sickness and removed valuable relatives and neighbors, when the chief cause of the suffering, and perhaps of premature death, was in their

own yard. These often are simply the dispensation of a vile and horrible privy.

We do not recommend vaults for the farm or the village, nor anywhere else, where dry earth can be used. Five minutes at the close of each day is abundance of time, with the use of dry, or even damp earth, to make the privy as sweet as the well-ventilated sleeping-room. And the man of strength who is too stupid to inform himself in this matter, and too lazy to spend five minutes each day in securing such results, in point of moral decency can hardly compare with some domestic animals.

We wish to arouse the people upon the subject of securing health, moral elevation, and happiness, by providing themselves with the most healthful food, good water, and pure air. If the people will secure these, and have their other habits temperate and good, they may give the doctor's drugs to the dogs, save pain and money, and be well.

Personal cleanliness by proper bathing is not only a healthful luxury, but a virtue. Again we quote Paul where he connects physical and moral cleanliness: "Let us draw near with a true heart in full assurance of faith, having our hearts sprinkled from an evil conscience, and our bodies washed with pure water." Heb. 10:22.

The word rendered "washed," in the expression, "our bodies washed with pure water," is *lavo*, which is defined by Robinson thus: "to bathe, to wash, but only the person or the whole body; not merely the hands and face, which is expressed by *nipto*."

Liddell and Scott give a similar definition: "To wash, especially to wash the body, *nizo* being used especially of the hands and feet, *pluno* of clothes. Most usually in mid. to wash one's self, to bathe." The derivatives of this word seem to have exclusive reference to bathing. Thus *loutroon* is defined, a bath, a bathing place; *loutroforeo*, to carry water for bathing; *loutrochoreo*, to pour water into the bath, etc.

The effort of immersionists to press this text into the service of their mode of baptism is an utter failure. Baptism by immersion does not wash the body. Another apostle says of Christian baptism, It is "not the putting away of the filth of the flesh."

1 Pet. 3:21. This ends the matter. The expression of Paul, then, "Having our hearts sprinkled from an evil conscience, and our bodies washed with pure water," refers to moral and physical cleanliness. These words simply embrace the work of divine grace upon the mind and heart, and the bathing of the body in pure water. Dear reader, you see that our views of Bible Hygiene lead us to adopt the position that the blessing of personal cleanliness was not secured to the Hebrew alone, but that the glorious gospel of God's dear Son recognizes the bathtub as verily as it does the communion cups.

Between the tabernacle of the Hebrew congregation and the altar was the brazen laver containing water, in which the Jewish priests were to wash themselves before putting on the pure linen garments, preparatory to entering the sanctuary to minister before God. And it is distinctly stated that they must do this, "that they die not." Here we are again impressed with the purity of God, and how particular he was to impress the Hebrews that cleanliness was, to say the least, closely connected with acceptable worship.

Has the change of dispensations changed the character and mind of God in this respect? Has the death of his Son given license to Christians to pollute their bodies and souls with filthy indulgencies, which in the former dispensation would have been prohibited on pain of death? No! No!! God is the same in all dispensations. And those moral teachings found in the books of Moses, which contain rules to secure moral goodness, cleanliness, justice, and the favor of God, are as changeless as the throne of Heaven.

God save us from that Christian (?) dissipation that suffers the professed minister of the holy Jesus to ascend the pulpit with his blood, and breath, and, perhaps, his lips, clothes, and flesh, tainted with the filth of tobacco. But we forbear, lest what we might add in truth should offend some whose moral sense and piety are still enslaved by morbid appetite.

—The smallest perfect achievement is nobler than the grandest failure.

ANATOMY, PHYSIOLOGY, AND HYGIENE.

BY THE EDITOR.

DIFFERENCES BETWEEN INORGANIC AND ORGANIZED MATTER.—Matter that does not manifest life in any form is called inorganic; living matter is said to be organized, because life depends upon organization. The following table exhibits the principal differences between these two forms of matter:—

INORGANIC MATTER.	ORGANIZED MATTER
1. Not alive.	Alive.
2. Usually has angular outlines.	Characterized by rounded forms.
3. Has a crystalline structure.	Has a cellular structure.
4. Grows by accretion.	Grows by assimilation.
5. Does not reproduce itself.	Reproduces itself.
6. Does not ferment or decay.	Ferments or decays.

1. Inorganic matter, such as sand, rocks, and all forms of mineral, earthy, and gaseous bodies and chemical compounds, never exhibits the peculiar phenomena which are commonly known as life. These phenomena are confined wholly to plants and animals.

2. Nearly all inorganic objects, unless artificially modified in form, have angular outlines, being usually bounded by straight lines. Organized bodies are bounded by curved and graceful outlines.

3. Most inorganic bodies are crystalline in structure, or are made up of particles which at some time have been crystals. Organized bodies, on the other hand, are generally composed of cells. A cell consists of a mass of protoplasm, which is sometimes surrounded by a thin wall.

4. Inorganic bodies grow by accretion, that is, by additions to the outside, of matter of the same kind. The increase in size of a snow-ball is a good illustration of growth by accretion. Organized bodies, on the contrary, grow by assimilation, that is, by taking into themselves, from the outside, matter of an unlike character and making it into their own kind of tissue. Thus, a plant grows by taking in food through its roots and leaves; an animal, by taking food into its stomach, assimilation taking place in both.

5. Reproduction is a process wholly pecul-

iar to organized beings. Stones never reproduce their kind. All organized bodies possess the power to create new beings like themselves. Reproduction is really a process of creation, and as such is the most wonderful of all the phenomena of life.

6. Fermentation and decay are processes by which a living organism returns to the inorganic state, which is commonly known as death. As inorganic bodies do not possess life, of course they cannot lose it.

The classification of all objects into inorganic and organized is not strictly correct, since this division does not include a peculiar class of substances not strictly belonging to either of the two mentioned, since it possesses some of the properties of each. These substances may be distinguished as organic. They are not organized, since they have not a cellular structure, and are often crystalline; yet they are manifestly not wholly inorganic, since they are subject to fermentation. Sugar, starch, fat, albumen, and sundry other substances which are generally known as proximate elements, belong to this class.

ANIMALS AND VEGETABLES.—If we should scrape from the surface of an old watering-trough some of the slime which is commonly found in such places, and submit it to examination with the microscope, we should find it to be composed almost wholly of living creatures of almost every imaginable form, possessing wonderful activity, and going through the various processes of life common to higher orders of living beings. Should the question be asked, Are these curious organisms animals or vegetables? we might find it more difficult to answer than would be at first imagined. Very likely we should at first call them all animals, since they appear to be swimming about, seemingly possessing volition as distinctly developed as in fishes, birds, and larger animals. But a more careful study of the subject would show us our mistake. The general ideas respecting the distinctions between animals and vegetables hold good only regarding the higher orders of animals and vegetables. In the lower orders nearly all of these distinctions disappear. For example, it is generally supposed that animals alone possess the power

of locomotion, vegetables remaining stationary wherever they happen to begin their growth. This is not true with the lower orders, as microscopic vegetables move about in the water as freely, and apparently with as much volitional power, as animals. These minute plants are indeed actually provided with organs for swimming or otherwise propelling themselves in the water.

The same discrepancy is found respecting the other distinctions formerly laid down. The difference between the two classes is, in fact, finally narrowed down to a mere question of diet. If carefully watched, the various minute organisms under observation will be seen to take different kinds of food. Individuals of one class draw nutriment from the inorganic matters held in solution in the fluid in which they float; those of the other subsist upon solid particles of organized matter, perhaps even indulging in an occasional meal upon creatures of their own kind. Here is the primary distinction which, with a single exception, holds good with all the various species of animals and vegetables: vegetables feed upon inorganic matter, animals upon organized matter. There is no exception to this rule among animals; but among vegetables there is the one exception of the class of cryptogamous plants known as *fungi*, which subsist upon organic and organized matter instead of upon inorganic.

GENERAL ANATOMY, OR HISTOLOGY.—We must now confine our study more closely to the structure of the human body, and we shall begin where students in their study usually leave off; viz., with the minute elements of which the body is composed, the tissues. All the various vital processes upon the proper performance of which the life of each individual depends, are performed by the minute tissue elements which we are about to consider, and cannot be understood without a careful study of these elements. Hence it seems to us to be eminently philosophical to begin at the foundation in order that we may secure an accurate knowledge of the subject under investigation.

HOW A HUMAN MACHINE IS BUILT.—The human body may be regarded as the most marvelously constructed of all mechanisms. Its parts are far more delicate, and their

mutual adjustments infinitely more accurate, than those of the most perfect chronometer ever constructed. In order to understand the structure of this wonderful mechanism, let us go back to the earliest period of its existence. At this time we find the body to be but a mere speck of matter, a single cell, a delicate little mass of jelly-like protoplasm so small that a hundred or two would not measure more than an inch if arranged in a row. Under proper circumstances this little cell grows, expands, and finally subdivides into two, through the operations of the protoplasm which chiefly composes it. The same activity occasions another subdivision, making four cells of the two. Still another division produces eight cells. Thus the processes of growth and division continue until the one original cell has developed into hundreds, even thousands and millions, under the active working of the protoplasm, which is the chief component of the cells, and the potent agent in their activities. Development and division still continue, while a new process of folding and reduplication is set up, layers of cells being formed, groups and sub-groups being set off, which develop into special systems and organs in accordance with the wants of the organism, until by and by the whole complex organism which we call man is developed. Throughout the whole process, protoplasm is the active agent, the skillful workman that builds and fashions and molds the crude material out of which human tissue is made and brought into its final delicate and wondrous harmony and beauty.

Let us now study with greater care the mode of working. The little masses of protoplasm already described are untiring workers. They also work in a great diversity of ways. For instance, a single mass of protoplasm will sometimes build a delicate wall about itself, when it becomes a true cell, being shut up in a tiny house of its own construction. The protoplasmic body may remain in its self-made prison during its whole life, and die there; or, through a wonderful property it possesses, it may escape from its prison cell by passing directly through the wall, and proceed to build other cells similar to the first, thus building a large number in

the course of its lifetime. An army of protoplasmic bodies working in this way may in time construct a huge tree. Indeed, it is in exactly this manner that trees are built.

But protoplasm does not always operate in this way. In animals, particularly, it usually works in a different fashion. Instead of building a wall about itself, it makes fibres, tubes, bands, and a great diversity of other structures, such as are needed in a complicated mechanism like the human organism. The structures thus formed in the construction of the human body are known as *anatomical elements*. These we will now describe.

THE ANATOMICAL ELEMENTS.—Notwithstanding the great complexity of the human organism, its great variety of structure, and the wonderful diversity of function performed by its different parts, it is wholly made up of a very few simple elementary structures, not more than six or at most seven in number. These may be divided into two classes: 1. Those which possess a very low grade of life, being simply useful in supporting or holding together or protecting more highly vitalized and more important parts; and, 2. Those possessed of a high degree of vitality, being chiefly composed of protoplasm, and upon which all the activities of the system really depend. The first class consists of the connective tissues, comprising the two varieties of fibrous tissue, adipose tissue, osseous tissue, and cartilaginous tissue; the second class comprises nervous and muscular tissue. We will now proceed to describe each of these tissue elements separately.

White Fibrous Tissue.—Fig. 9. This, the most abundant of all the anatomical elements in the body, when viewed under the micro-

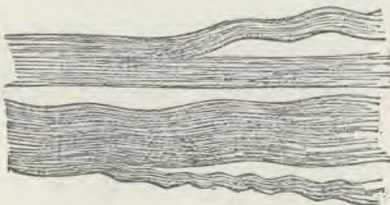


FIG. 9. White Fibrous Tissue.

scope is found to be composed of minute fibres varying in thickness from one forty-

thousandth ($\frac{1}{40000}$) to one twelve-thousandth ($\frac{1}{12000}$) of an inch in diameter, and of varying length. The fibres are white in color, and wholly inelastic. White fibrous tissue constitutes the chief element of tendons, ligaments, and other parts where firmness is required. This element is also found intimately interwoven with all the other elements of the body, serving to unite them together and give firmness and solidity to the whole.

White fibrous tissue possesses the curious property of being soluble in some acids. Acetic acid will dissolve its fibres and cause them to entirely disappear from view under the microscope.

Yellow Elastic Tissue.—Fig. 10. This tissue is perhaps the next most abundant element, being found in greater or less abun-



FIG. 10. Yellow Fibrous Tissue.

dance in all parts of the body. It differs much from white fibrous tissue, its fibres being yellow in color, and very elastic. The fibres, instead of being straight, are more or less curled and branched, and are much larger than those of white fibrous tissue. Yellow elastic tissue is quite abundant in the skin and all other animal membranes, to which the high degree of elasticity of membranes is due. The *ligamentum nuchæ*, a ligament located at the back of the neck, is composed almost wholly of this tissue. In the ox and other grazing animals this ligament is greatly developed, and serves the animal a very important purpose, holding the head in position without the action of muscles when the animal is not reaching down for its food. In the giraffe this ligament is six feet in length, and possesses such a high degree of elasticity that it is said that it can be stretched to the length of twenty feet.

Connective Tissue.—Fig. 11. This tissue is not an anatomical element, being wholly made up of the two former. It constitutes a great share of the bulk of the body, forming,

in fact, a framework by which the various parts are held together, and serving to bind together the several elements of which the different organs are composed. The skin and other membranes are almost wholly made up of connective tissue. The white and yellow fibres are in this compound tissue interwoven in such a manner as to form a fine network with meshes. These interspaces are usually occupied by the fluid part of the blood, which bathes the minute elements of the body in every part, and supplies them with the needed nutriment. It is in these

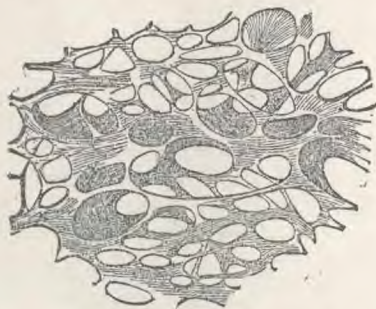


FIG. 11. Connective Tissue, showing spaces produced by drawing the fibres apart.

spaces that the lymph channels, the set of vessels which run from all parts of the body toward the center of the circulation, have their beginning. In general dropsy, or œdema, these spaces are distended with serum. Cases sometimes occur in which the spaces become filled with air, as in injuries to the lungs, in which the pulmonary cavity is made to communicate with the connective-tissue spaces, when by a sort of pumping action the process of respiration has been known to cause enormous distension of the whole body. Some years ago a couple of unnatural parents were arrested for the most revolting cruelty to a little girl whom they were exhibiting about the country. The child was shown as a monstrosity, its head being distended to enormous proportions. Upon investigation of the case, it was found that the child's scalp had been gradually distended to its unnatural proportions by means of inflation with air through a pipe-stem. It is a well-known practice with butchers to thus distend the connective tissue of sheep in dressing them for the market, by which means they are rendered much

more attractive than they would otherwise be.

Adipose Tissue.—Fig. 12. This tissue really consists of connective tissue in which the spaces between the fibres have been filled



FIG. 12. Adipose Tissue, showing fat cells deposited in the connective-tissue spaces.

with fat cells, the size of which is variable, but probably averages about one one-hundred-and-twenty-fifth ($\frac{1}{125}$) of an inch. Adipose tissue is found in greater or less quantities in nearly all parts of the organism, but particularly just beneath the skin, where a layer is deposited, seemingly as a protection from cold. Adipose tissue is much more abundant in winter than in summer, being then needed much more than in the warmer seasons of the year.

CAUSES OF DYSPEPSIA.*

BY THE EDITOR.

CONDIMENTS.—By condiments are meant all substances added to food for the mere purpose of rendering it more palatable, though possessing no nutritive value in themselves. Mustard, vinegar, pepper, cinnamon, and various other spices, are included in this category, together with salt, although the last-named article is by some held to be of the nature of a food, supposing it to supply some want in the body.

Mustard, pepper, pepper-sauce, cinnamon, cloves, cardamoms, and similar substances, are of an irritating, stimulating character, and work a two-fold injury upon the stomach. By contact, they irritate the mucous membrane, causing congestion and diminished secretion of gastric juice when taken in any but quite small quantities. This fact was demonstrated by the observations of Dr. Beaumont upon St.

*Digestion and Dyspepsia: Good Health Pub. Co.

Martin. After several years' careful study of the relations of various foods, drinks, etc., to the stomach, Dr. Beaumont stated, in summing up his experiments, that "stimulating condiments are injurious to the healthy stomach." He often saw congestion produced in the mucous membrane of St. Martin's stomach by eating food containing mustard, pepper, and similar condiments.

When taken in quantities so small as to occasion no considerable irritation of the mucous membrane, condiments may still work injury by their stimulating effects, when long continued. The stomach being at first excited to more than natural activity, afterward suffers from reaction, and is left in an inactive, diseased state, incapable of secreting sufficient gastric juice to supply the needs of the system in digesting food. This final result is often averted for some time by increasing the quantity of the artificial stimulus, in the form of pepper, mustard, salt, etc., but nature gives way at last, and chronic disease is the result.

In the case of salt, there are several further objections to be urged, which are at least cogent against its excessive use; and by excessive use we mean a quantity which causes thirst either at or after meals, occasioned by the feverish state of the stomach induced by the caustic properties of the saline element.

1. Salt is antiseptic. As already seen, anything which prevents fermentation will interfere with the action of the gastric juice. Hence salt, in any except very small quantities, must materially interfere with digestion.

2. It is an irritant, not only to the stomach, but to other parts of the system as well, as is indicated by the quickened pulse, thirst, and other symptoms of a febrile character experienced by a person after taking a slightly larger quantity than usual.

3. Being a purely mineral substance, in no degree prepared by association with organized life in plants for assimilation, as is necessary in the case of all mineral substances, it is exceedingly doubtful whether it is a food in the sense that fruit, vegetables, grains, or their several nutritive elements are foods, and whether it can be assimilated, or made to take part in the vital processes of the body in any way, in larger quantities than it is found in food.

4. Experimental evidence shows that human beings, as well as animals of all classes, live and thrive as well without salt as with it, other conditions being equally favorable. This statement is made with a full knowledge of counter arguments and experiments, and with abundant testimony to support the position taken.

We may, in conclusion, remark that though we do not, except in rare instances, advise the entire discontinuance of the use of salt, on account of its having been so long employed as an ingredient of food, we believe that it may be greatly reduced in quantity by all who use it, without detriment, and with real benefit. The manner in which it is treated by the system, being retained in the blood instead of being deposited in the solid tissues to any extent, and washed out through the skin, mucous membrane, kidneys, and liver, and thus rapidly eliminated in proportion to the quantity taken, is at least a hint that a very large quantity is not needed.

Salted food is generally known to be very hard of digestion; and when it is taken for a long time, the stomach often fails. A piece of fresh fish which will digest well in one hour and a half, requires four hours after salting, according to Dr. Beaumont.

PICKLES.—Cucumbers, peaches, green tomatoes, and numerous other fruits and vegetables, are sometimes preserved by saturation with strong vinegar. Sometimes whisky or some other alcoholic liquor is added to increase the preservative property of vinegar. The same process which makes it impossible for a fruit or vegetable to ferment or decay, makes its digestion equally difficult, as already explained. Pickles are exceedingly unwholesome as articles of food, and often cause acute dyspepsia in those who eat of them. Young ladies addicted to the free use of pickles may be assured that they must certainly part with their favorite dainty, or bid farewell to good digestion. Cucumbers preserved with salt or vinegar, are next to impossible of digestion. The proverbial unhealthfulness of this vegetable is a popular notion based on experience with the article prepared with vinegar and salt. Those chemical agents harden the delicate structures of the vegetable, and render it almost unapproachable by the digestive juices. The pure

vegetable, unsophisticated by condiments, is as harmless as other green vegetables. We would not hesitate to eat it freely thus, if need be, and in "cholera times."

VINEGAR.—As the use of vinegar is constantly increasing, attention should be called to the fact that it may be a cause of disease. Ordinary vinegar contains about five per cent of acetic acid, its principal ingredient. Like alcoholic liquors, vinegar is a product of fermentation, being the result of carrying a little farther the same process by which alcohol is produced. Vinegar is much more irritating to the digestive organs than an alcoholic liquor of the same strength. It is extremely debilitating to the stomach when much used, though for the time being exciting. Vinegar is not infrequently employed in considerable quantities by young ladies who are anxious to look pale and interesting, and it never fails to produce the desired effect. It can be well recommended for such a purpose, since it so greatly impairs the digestion as to soon interfere seriously with nutrition. The moderate use of a light wine or of ale or beer is much less destructive to the digestive organs than the large use of vinegar which is not uncommon among hearty eaters. There is really no need of resorting to so inferior a source for a mild acid, as we have the want met most perfectly in lemons, limes, citrons, and other acid fruits. As a dressing for some kinds of vegetable food, lemon juice is a perfect substitute for vinegar.

TEA AND COFFEE.—In classing these favorite beverages with causes of dyspepsia, we shall certainly call forth a loud protest from the numerous devotees of "the fragrant cup;" and among the number of those who argue for their use we shall find numerous learned professors, as well as nearly the whole sisterhood of the wives, maidens, mothers, and grandmothers of the nation, along with a good proportion of the husbands, fathers, brothers, and grandfathers as well. Nevertheless, it can be easily shown that whatever action may be assigned to these beverages it is unfavorable to digestion, rather than otherwise. Leaving out of consideration the objections which may be urged against the use of tea and coffee on other grounds, the following may be offered as reasons why they are objectionable on account of exerting an injurious influence upon the digestive organs:—

1. Both tea and coffee contain an element resembling tannin, which precipitates or neutralizes the pepsin of the gastric juice, and so weakens its digestive power.

2. Theine and caffeine, the active principles of tea and coffee, are toxic elements which at first increase and then diminish vital action, thus occasioning debility of the digestive organs from long-continued use.

3. Both tea and coffee are objectionable on the same ground as other beverages in connection with meals, on account of disturbing the digestion by dilution and consequent weakening of the gastric juice, and overtaxing the absorbents, delaying the digestion of the food and thus giving rise to fermentation. When taken hot, as is the usual custom, these beverages, as do others, at first stimulate but ultimately relax and debilitate the stomach.

The objections mentioned as applying to tea and coffee may be urged with equal force against cocoa and chocolate, the effects of which differ from the effects of tea and coffee chiefly in degree.

ALCOHOL.—We have not space in this connection to dwell at length upon the damaging effects of alcohol upon the human system, nor in full detail of its effects upon the stomach. The following facts, however, are well worth the consideration of those who believe in the use of alcohol either moderately or with greater freedom:—

1. Alcohol itself is an active poison, which when received into the stomach in a concentrated state is almost as quickly fatal to life as is prussic acid or strychnia. It precipitates the pepsin of the gastric juice, rendering it inert.

2. It irritates the gastric mucous membrane when taken in any but extremely small quantities, even beer and the weaker liquors having this effect when long continued.

3. The ultimate effect of alcohol is to cause degeneration of the secreting glands of the stomach, by which its utility as a digesting organ is destroyed.

Dr. Beaumont's observations on the effects of alcohol are very positive and distinct in their indications. St. Martin being an intemperate man, occasionally indulging freely in drink, Dr. Beaumont had an opportunity of observing the effects of its use, as he was able to look directly into his stomach by the aid of a strong light,

through the window provided by the remarkable accident from which he had suffered. After he had been drinking freely for several days, Dr. Beaumont found the mucous membrane exhibiting inflamed and ulcerous patches, and the secretions very greatly vitiated, the gastric juice being diminished in quantity, viscid and unhealthy, although St. Martin did not complain of any unusual feelings, his appetite being apparently unimpaired. The condition continued to become still more aggravated for a couple of days, when the Doctor found that "the inner membrane of the stomach was exceedingly morbid, the erythematic appearance more extensive, and the spots still more livid. From the surface of some of them exuded small drops of grumous blood; the aphthous patches were large and very numerous,—the mucus covering thicker than common, and the gastric secretions very greatly vitiated. The gastric fluids extracted were mixed with a large proportion of thick, ropy mucus, and a considerable muco-purulent discharge slightly tinged with blood, resembling the discharge from the bowels in some cases of dysentery."

It will be remarked that notwithstanding the very serious condition of his stomach, St. Martin was unconscious of any great disturbance there. This was partly due, no doubt, to the paralyzing effect of alcohol upon the nerves of sensibility. It is owing to this fact that so many suppose that alcoholic drinks have no specially bad influence upon the stomach, when really their stomachs are well-nigh useless from disease, but too insensible to indicate their condition.

Liquor of any sort taken upon an empty stomach is especially injurious.

TOBACCO.—Not infrequently, though less often than is the case with alcoholic liquors, this narcotic drug is recommended as a remedy for dyspepsia. Nevertheless, in the case of tobacco, as in that of alcohol, the remedy suggested is itself an active cause of stomach disease. Only on the *similia similibus* plan could either one be reasonably employed. Both smoking and chewing weaken and debilitate the digestive organs, though both of these practices are thought by those who indulge them to stimulate the process of digestion. This it probably does for the time being, but only at the expense of subsequent injury. Snuff-taking, es-

pecially, produces gastric irritability, probably by reflex sympathy of the mucous membrane of the stomach with that of the nasal cavity, which is irritated by the direct contact of the acrid drug.

The immense waste of saliva occasioned by chewing and smoking may fairly be considered as one of the means by which the system sustains loss and injury through the use of tobacco. Those who chew or smoke to prevent excess of fat, should understand that any drug which will exert such an influence upon the system must be a powerfully destructive agent. Those who succeed in keeping down fat by the use of tobacco may depend upon it that they are doing so only at the ruinous expense of their digestive organs, and may look forward with certainty to the breaking down of their nervous systems.

Going Barefoot.—The *London Lancet*, in speaking of the provincial schools, recommends the adoption of the plan of going barefoot, a practice which is prevalent in Scotland and Ireland, and in some large districts on the continent. Going barefoot is thought far preferable to going with bad shoes that let in water and are constantly soaked, and stockings rarely changed. The *Lancet* maintains that Nature will be her own shoemaker and will afford abundant protection, while the constant exposure will render the person less liable to take cold than when "protected." "Habit and fashion alone enjoin the wearing of shoes, and those who go without suffer no hardship, but enjoy an immunity from chilblains, corns, and cramped toes."

Trichinous Pork.—In a single year, 172,800 cases of trichinous pork have been observed in Prussia. In one small district, one hundred cases, which were recognized as such, occurred in human beings; and undoubtedly many more which were unrecognized were observed.

One for the Doctors.—The *American Medical Bi-Weekly* says that the following *bon mot* is of French origin: "A lady in delicate health asks a cynical friend whether she shall consult an allopathic or a homeopathic practitioner. 'It matters but little,' is the reply; 'the first will kill you, the second will let you die.'"

TEA AND COFFEE.*(Concluded.)*

Moral Effects.—The long-continued use of tea has a distinct effect upon the character. This has been too often noticed and remarked to be questioned. An eminent neurologist, writing in a recent number of the *Journal of Mental and Nervous Disease*, calls attention to this fact in the following remarks:—

“Irritability of temper, like dyspepsia, belongs in the category of symptoms produced by long-continued tea-drinking.

“There are ‘tea sots’ in every great charitable institution—particularly those for the maintenance of the aged. Their symptoms are, generally, mental irritability, muscular tremors, and sleeplessness.”

The eminent Dr. Bock, of Leipsic, writes as follows respecting the influence of tea and coffee on character:—

“The nervousness and peevishness of our times are chiefly attributable to tea and coffee; the digestive organs of confirmed coffee drinkers are in a state of chronic derangement, which reacts on the brain, producing fretful and lachrymose moods. Fine ladies addicted to strong coffee have a characteristic temper, which I might describe as a mania for acting the persecuted saint. Chocolate is neutral in its psychic effects, and is really the most harmless of our fashionable drinks. The snappish, petulant humor of the Chinese can certainly be ascribed to their immoderate fondness for tea.”

Tea-Drinker's Disorder.—That there is a distinct class of symptoms characteristic of the effects of alcohol, of tobacco, of absinthe, and of opium, has long been generally recognized; it is only recently, however, that the morbid effects of tea have been sufficiently well studied by eminent physicians to secure the recognition of the fact that tea and coffee, as well as the other poisons mentioned, produce such a distinct class of symptoms. It is now conceded, however, that the use of tea may, and often does, produce a morbid condition which has been appropriately termed tea-drinker's disorder.

Less than a year ago, Dr. W. J. Morton of New York City, a physician of eminence, was led, by observing the symptoms of a case

which occurred in his practice, to believe that tea is far from being the harmless agent by many supposed. He at once began an investigation of the subject, and directed his attention to a large class of persons to be found in most large cities, known as “tea-tasters.”

The facts which his investigation elicited are so valuable in this connection that we shall quote quite liberally from his paper on the subject which appeared in the *Journal of Mental and Nervous Disease* for October, 1879. We quote as follows:—

“The pernicious effects of tea-tasting upon many of its followers, are well recognized by all their number. It seems to be accepted among them, without discussion, that many break down and are obliged to give up the business, or else pursue it with much caution and at constant inconvenience to their health. And those of the public who are at all familiar with the facts, entertain the same view. Indeed, I may say that if I were now to express an opinion, based upon my present, it is true not yet sufficiently extensive, information upon the subject, I should feel inclined to say, that no one engages for several years in the profession of ‘tea-tasting’ without suffering both immediate and permanent harm to health.”

“This feeling is well illustrated in the remark of a prominent wealthy tea-merchant, who said, ‘I would rather give a hundred thousand dollars than have my son become a tea-taster.’

“At first glance, to witness the operation of tasting, it would hardly seem possible that the very small amount of tea used at any one time could result in harm. This amount is only equal in weight to a five-cent piece, about fifteen grains. About two ounces of well-boiled water are turned on to this, and the infusion is allowed to ‘draw’ perhaps fifteen minutes. Of this infusion the taster takes but a few spoonfuls into his mouth, and often spits it out again; he also at intervals inhales the steam. But the harm comes, of course, from the constant repetition of these acts.

“The cases which I propose to relate exhibit the extreme physiological action of an infusion of tea. They are cases of acknowledged excess; and in this lies their interest,

for by familiarity with the symptoms of excess, we shall be able to thread our way back to those of moderation, and to point out, it may be, that what many, perhaps, consider moderation is, in reality, abuse, and that certain symptoms put down as 'nervousness,' 'nervous irritability,' and 'nervous exhaustion,' as well as the more clearly defined ailments of dyspepsia, hypochondria and hyperæmia, may sometimes be attributed to the misuse of a common domestic beverage. Indeed, I am forced to think that many people, unconsciously to themselves and to their physicians, suffer from a train of symptoms due to tea (or its congener, coffee). We often find people taking tea to relieve the very set of symptoms which its abuse, as will be shown later, produces; and it is often the fact that patients date their recovery from a dyspepsia or nerve exhaustion from the time when they gave up their tea."

The following is an account of one of the cases observed:—

"The immediate effects upon him are as follows: In about ten minutes the face becomes flushed, the whole body feels warm or heated, and a sort of intellectual intoxication comes on, much the same in character, it would seem, as that which occurs in the rarefied air of a mountain. He feels elated, exhilarated, troubles and cares vanish, everything seems bright and cheerful, his body feels light and elastic, his mind clear, his ideas abundant, vivid, and flowing fluently into words. He has found from experience that the workings of his intellect are really more clear and vigorous than at any other time. This is not a delusion on his part, for at this time he can 'talk a man over' and make a more advantageous bargain than at others.

"At the end of about an hour's tasting a slight reaction begins to set in; some headache comes on; the face feels wrinkled and shriveled, particularly about the eyes, which also get dark under the lids.

"At the end of two hours this reaction has become fully established, the flushed, warm feeling has passed off, the hands and feet are cold, a nervous tremor comes on, accompanied with great mental depression. And he is now so excitable that every noise startles

him; he is in a state of complete unrest and mental exhaustion; he has no courage to do anything; he can neither walk nor sit down, owing to his mental condition, and he settles into a complete gloom. His body in the meanwhile does not feel weary. Copious and frequent urination is always present, as also certain dyspeptic symptoms, such as eructations of wind, sour taste, and others.

"The above described immediate effects follow a single afternoon's tea-tasting. They may be summed up briefly, as, excited circulation, intellectual intoxication, with actual increased vigor of mind power, increased urination; then a period of collapse indicated by cold extremities, tremulousness, mental irritability and anxiety. It will be several days before this condition of affairs is amended. And at this time the temptation to take alcoholic stimulants is very strong.

"The chronic effects are few and decided. Headache is frequent, principally frontal and vertical; a ringing and buzzing in the ears is very constant; black spots often flit before the eyes, and he sees flashes of light. Vertigo also is very persistently present; he cannot look up at a clock on a steeple without staggering. Insomnia exists to a considerable extent; he seldom has a good night's sleep, and he dreams much, but his dreams are of a pleasant character; he sometimes sees visions when not sleeping. Dyspepsia is more troublesome than any of the foregoing three symptoms. This the patient assigns strictly to tea-tasting, since it is made worse by tea, and improves when he abstains from it, though now becoming confirmed. His appetite is captious, he feels heavy at the epigastrium, he has eructations and a sour taste, and finds that certain kinds of food distress him. He has a frequent gurgling, and is in the habit of 'working' his whole chest and abdomen to make the gas pass on.

"His mental condition is peculiar. He lives in a state of dread that some accident may happen to him; in the omnibus, fears a collision; crossing the street, fears he will be crushed by passing teams; walking on the sidewalks, fears that a sign may fall, or watches the eaves of the houses, thinking that a brick may fall down and kill him; under the apprehension that every dog he meets is going

to bite the calves of his legs, he carries an umbrella in all weathers as a defense against such an attack. He often dreads entering his office for fear of being told that some business friend has failed; and in short, lives in a state of constant foreboding of impending evil. At times his left leg drags and feels numb, and he is conscious of an unsteady gait. He has also often a twitching of the muscles of the face and eyelids.

"The chronic effects as above described, as distinguished from the immediate effects, are, in brief, vertigo, headache, insomnia, dyspepsia, mental depression almost amounting to delusions, and also some slight subjective and objective signs of a central disturbance of both sensibility and motility.

"I omit negative evidence indicating that otherwise than as related, he is in sound health.

"A certain group of his symptoms point to hyperemia of the brain, another to disorder of the digestive function, and still another to morbid alterations of intellection, sensibility, and motility; all taken together presenting, as I venture to suggest, a clinical picture of tea-poisoning."

Similar effects were observed in all the cases investigated. In order to still more conclusively establish the relation between the effects described and the use of tea, Dr. Morton conducted a series of experiments in the use of tea by himself, and obtained similar effects to those described by the persons interviewed. Since the publication and circulation of his observations, an attempt has been made to discredit his statements, which was undoubtedly prompted by those engaged in the business, and who were fearful of suffering pecuniarily through the diminution of the use of tea. The observations of Dr. Morton are, however, so well confirmed by other observers that the attempt has proved a futile one.

To the eminent medical testimony against tea already given, we may add the following from Dr. B. W. Richardson:—

"Some functional nervous derangements are excited by fluids commonly consumed with, or as, foods. Tea taken in excess is one of these disturbing agents. Tea exerts an astringent action, and by the presence in it of an organic substance, theine, it exercises a

special influence over the nervous system, which, to say the least, is temporarily injurious. I believe the effects from tea are more severely felt by the young, and that as middle age approaches, they are less severe.

"The symptoms which indicate the injurious action of this article of food are sufficiently characteristic. They are, intensely severe headaches, constipation of the bowels with what is usually considered to be deficiency of bilious secretion, flatulency, an unsteadiness and feebleness of muscular power, and, not unfrequently, a lowness of spirits amounting to hypochondriacal despondency. In children under the influence of tea this lowness of spirits is often very severe, so severe that the occurrence of the simplest natural phenomena, as the approach of darkness, the cast of a large shadow, or the spreading over the sky of dark clouds, is sufficient to create dismay and fear.

"In poverty-stricken districts, amongst the women who take tea at every meal, this extremely nervous semi-hysterical condition from the action of tea is all but universal. In London and other fashionable centers in which the custom of tea-drinking in the afternoon has lately been revived under the old name of 'the druni,' these same nervous symptoms have been developed in the richer classes of society, who, unfortunately, too often seek to counteract the mischief by resorting to alcoholic stimulants. Thus one evil breeds another that is worse.

"The flatulency induced by tea taken late in the evening has the effect of interfering with the processes of sleep; it prevents or disturbs sleep by dreams and muscular startings, and is a common cause of that peculiarly painful symptom known as nightmare.

"The extremely injurious effects of tea are best seen in some of those who are charged with the commercial duty of what is called 'tea-tasting.' A professed 'tea-taster' who was so seriously affected by the process that he thought it proper to consult me on the symptoms induced, defined the symptoms very clearly as follows: 'Deficiency of saliva; destruction of taste for food; biliousness; nausea; constipation; an extreme and undefinable nervousness; and nightmare whenever sleep is obtained.'

"The symptoms from which habitual tea-drinkers suffer are identical in character, but minor in degree.

"Coffee, like tea, induces dyspepsia, and perhaps, with even more activity than tea, it keeps the brain awake when that wearied organ ought, according to nature, to be asleep."

J. H. K.

LITERARY MISCELLANY.

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

THE GOLDEN SIDE.

THERE is many a rest on the road of life,
If we only would stop to take it;
And many a tone from the better land,
If the querulous heart would wake it!
To the sunny soul that is full of hope,
And whose beautiful trust ne'er faileth,
The grass is green and the flowers are bright,
Though the winter storm prevaileth.

Better to hope, though the clouds hang low,
And to keep the eyes still lifted;
For the sweet blue sky will soon peep through,
When the ominous clouds are rifted!
There was never a night without a day,
Or an evening without a morning;
And the darkest hour, as the proverb goes,
Is the hour before the dawning.

There is many a gem in the path of life,
Which we pass in our idle pleasure,
That is richer far than the jeweled crown,
Or the miser's hoarded treasure;
It may be the love of a little child,
Or a mother's prayers to Heaven,
Or only a beggar's grateful thanks
For a cup of water given.

Better to weave in the web of life,
A bright and golden filling,
And to do God's will with a ready heart,
And hands that are swift and willing,
Than to snap the delicate, minute threads,
Of our curious lives asunder,
And then blame Heaven for the tangled ends,
And sit, and grieve, and wonder.—*Sel.*

INFLUENCE OF WOMAN.

BY MRS. E. G. WHITE.

THE mother's influence never ceases. It is ever active, either for good or for evil; and if she would have her work abide the test of the Judgment, she must make God her trust, and labor with an eye single to his glory. Her first duty is to her children, to so mold their characters that they may be happy in this life, and secure the future, immortal life. She should not be influenced by what Mrs. Scand-so does, nor by the remarks of Mrs. A. or B., in reference to her being so odd, so different from other people in her dress, or in

the arrangement of her house for comfort rather than display, or in the management of her children.

God has given the mother, in the education of her children, a responsibility paramount to everything else. She has an individual duty which her neighbors cannot do for her. If she does this work to glorify God, she will not follow the popular path, and will have to stand in defiance of popular customs.

There are but few women who have the courage to stand at their post, and valiantly battle against the customs and fashions which are ruining their children for a practical life. We feel in earnest in trying to rouse to activity the moral powers of sisters and mothers especially, to see and battle with the great evils which are permitted to ruin our youth.

We wish mothers to ask the questions in the fear of God, realizing their responsibility, What part have we in this matter of reform? How can we work to change the order of things? Wrong habits and pernicious fashions are deteriorating our families, physically, mentally, and morally. What can women do to change the purpose and the character of those with whom we associate? What can we do to stay the moral evils which threaten to ruin our children and debase society? You may, my sisters, come up to the help of God, and do anything and everything you can do and do well. Everything must be done with a love for souls, and in the fear and love of God. You may exercise the faculties which God has given you. "Dare to do right, dare to be true," whatever the opinions of others may be. We must each answer to our Maker for the improvement or abuse of the powers he has given us. We each have an individual responsibility, and we should study the pattern given us in the life of Christ, and copy it, irrespective of censure or applause.

All have not the same work. There are

distinct and individual duties for each to perform; yet with these varied duties there may be a beautiful harmony, binding the work of all together in perfect fitness. Our Heavenly Father requires of none to whom he has given but one talent, the improvement of five. But if the one be wisely used, the possessor will soon have gained more, and may continually increase her power of influence and sphere of usefulness, by making the best use of the talents which God has given her. Her individuality may be distinctly preserved, and yet she be part of the great whole in advancing the work of reform so greatly needed.

Woman, if she wisely improves her time and her faculties, relying upon God for wisdom and strength, may stand on an equality with her husband as adviser, counselor, companion, and co-worker, and yet lose none of her womanly grace or modesty. She may elevate her own character, and just as she does this she is elevating and ennobling the characters of her family, and exerting a powerful though unconscious influence upon others around her. Why should not women cultivate the intellect? Why should they not answer the purpose of God in their existence? Why may they not understand their own powers, and realizing that these powers are given of God, strive to make use of them to the fullest extent in doing good to others, in advancing the work of reform, of truth and real goodness, in the world? Satan knows that women have a power of influence for good or for evil; therefore he seeks to enlist them in his cause. He invents multitudinous fashions, and tempts the women of the present day, as he did Eve to pluck and eat, to adopt and practice these ever-changing, never-satisfying modes.

Sisters and mothers, we have a higher aim, a more noble work than to study the latest fashion, and form garments with needless adorning to meet the standard of this modern Moloch. We may become its slave, and sacrifice upon its altars our own and the present and future happiness of our children. But what do we gain in the end? We have sown to the flesh; we shall reap corruption. Our works cannot bear the inspection of God. We shall see at last how many souls might have

been blessed and redeemed from darkness and error by our influence, which, instead, encouraged them in pride and outward display, to the neglect of the inward adorning.

Our words, looks, and actions have a direct bearing upon the characters of our children, and upon others; hence we should ever maintain the most perfect self-possession and self-control.

THE MAJOR'S CIGAR.

"How are you, Quartermaster?"

"Well, Major, is that you? How are you?"

We met at a railway junction, and if he had not spoken first, I should not have recognized my Virginia comrade of '64. It was not merely the disguise of a silken hat, and shaven cheek, but—as I told him after we had chatted a little about each other's ups and downs since the war—I was sure this was the first time I ever saw him away from the table without a cigar in his mouth.

"Have n't smoked for five years," was his reply. "I'm down on tobacco as thoroughly as you ever were."

"Good! Tell me all about it."

We locked arms, and sauntered up and down the platform. Dropping the dialogue, this was, in substance, his story:—

"It was n't a sudden conversion. I never was quite so easy in my mind over it, when you used to banter me about it, as I pretended to be. I intended, all the time, to taper off when I got home from the army, and not smoke so much. And I did—smoked less in three weeks than I used to in one. But one summer I went off on some business for our company, which kept me up in the mountains, among the charcoal burners, three days longer than I expected. I got out of cigars, and could n't get any for love or money. In forty-eight hours I was more uncomfortable and unstrung than I ever was before in all my life. I actually borrowed an old Irishman's filthy clay pipe, and tried to smoke it. I thought of that miserable summer we spent crawling about the trenches in Virginia, and I wished I was there again, with a cigar in my mouth. Then I began to realize what a shameful bondage I was in to a mere self-indulgence. I, a fellow who secretly prided

himself on his self-control, nerve, and manliness,—who never flinched at hard fare or rough weather,—a downright slave to a bad habit; unnerved and actually unfit for business for lack of a cigar. It made me angry at myself; I despised myself for my pusillanimity.

“Going into the matter a little further, I found that the money I had spent for cigars in a dozen years would have paid for my house and furnished it—would have met all the bills for my wife’s little summer trip to Europe, which has been her one air-castle so long. I saw that I had actually smoked away more money than I had laid out for our library, our periodicals, and our intellectual culture generally. Cigars had cost me nearly twice as much as I had given to church work, missions, and charity. My conscience rose up at the record. I knew I could not plead any equivalent for the outlay; it had not fed me; it had not strengthened me; it had simply drugged me. Every cigar had made the next cigar a little more necessary to my comfort. To use the mildest word, it had been a *useless* expenditure.

“My detention up there in the mountains was calculated to open my eyes to my domestic shortcomings, and I saw, as I never saw before, how selfishly unsocial tobacco had made me at home. I smoked before I was married, and my wife never entered any protest against my cigars afterward. But our first baby was a nervous child, and the doctor told me it would not do for it to breathe tobacco smoke. So I got in the way of shutting myself up in the library of evenings, and after every meal, to enjoy my cigars. As I look at it now, nothing is more absurd than to call it a social habit. It’s a poor pretense of sociability, where a man is simply intent on his own enjoyment. My wife owns up now, that my tobacco-tainted breath and tobacco-saturated clothing were always more or less a trial to her. The satisfaction it has given her to be rid of a tobacco atmosphere, and the thought of my contemptibly selfish indifference to her comfort all those years, have humbled me, I tell you. And I would n’t exchange my own daily satisfaction nowadays in being a *cleaner* man—inside and outside—for the delight that anybody gets out of his cigars.

“I didn’t need to go outside of my own doors to find reasons enough for giving up the habit; but I think I found still stronger ones, after all, when I went away from home. The more I thought about the harm tobacco does in the community at large, the more sure I felt that it was time for me to stop giving it the moral support of my example. I know I smoked too much, and that my nervous system is the worse for it; and I think the people who are likely to be hurt the most by it are just the ones who are most likely to smoke excessively. And then, I’ve noticed that the medical men who stand up for tobacco, are always men who use it, and are liable to the suspicion of straining a point in justification of their own self-indulgence.

“On one point, though, I believe the authorities agree. No one denies it is a damaging indulgence for boys. It means a good deal when smoking is forbidden to the pupils in the polytechnic schools in Paris, and the military schools in Germany, purely on hygienic grounds. The governments of these smoking nations are not likely to be notional on that matter. But the use of tobacco by our American boys and men is excessive and alarming. We ought to save our rising generation for better work than they can do if tobacco saps the strength of their growing years, and makes the descent easier, as no doubt it often does, to worse vices. I don’t know how to forgive myself for the temptation I set before my Sabbath-school class of bright boys, year after year, by my smoking habits. I always hoped that they didn’t know I smoked, but of course they did.

“It is n’t in the family, either, that the selfishness of the habit is most apparent. I don’t believe, other things being equal, there is any other class of men who show such a disregard in public for other people’s comfort as tobacco-users do. I don’t mean the chewers who spit in country churches, and leave their filthy puddles on car floors; they’re hogs. A man would be considered a rowdy or a boor who should willfully spatter mud on the clothing of a lady as she passed him on the sidewalk. But a lady to whom tobacco fumes are more offensive than mud, can hardly walk the streets in these days, but that men who call themselves gentlemen—and who *are* gentlemen in most other respects—blow their ci-

gar smoke into her face at almost every step. Smokers drive non-smokers out of the gentlemen's cabins on the ferry boats, and the gentlemen's waiting rooms in railway stations, monopolizing these rooms as coolly as if *they* only had any rights in them. I can't explain such phenomena except on the theory that tobacco befogs the moral sense, and makes men specially selfish. Take the people of Germany, for instance. No other western people are such smokers, and no other so boorish in their behavior—especially toward women. I do not insist that one fact explains the other; but I have my suspicions."

The Major's train pulled in just then, and as he took my hand to say good-by, its smoking car drew his parting shot: "See there! Did you ever reflect how the tobacco habit levies its taxes on everybody? The railway company furnishes an extra seat to every smoker, which, in the nature of the case, must be paid for by an extra charge on the tickets of all the passengers. What a rumpus it would raise, if the legislature should attempt to furnish luxuries to any special class, at public cost, in this way. How we'd vote 'em down! I vote against *this* thing by throwing away my cigar!"—*S. S. Times*.

HELP YOURSELF.

BE self-reliant. Help yourself. Do not be a mere dependent on some one else. Accept assistance if it is offered, and you need it; but if you have no one to help you, do not despond or despair, nerve yourself for the conflict, go to work, do what you can, and the best you can, and continue to do it, and you will succeed. It takes some strain on brain and muscle to develop men, and to increase their power. The best thing for a man sometimes, and especially a young man, is to be thrown on his own resources,—to be made to feel that he must do or die, that he must tax brain and muscle, that he must plan and labor to secure even the common comforts of life.

We do not know what strength we possess, or what efforts we can put forth, until we are put to the test. Every development of strength, and every successful effort put forth, increases our confidence in ourselves and the confidence of others in us, and

places us on a higher level. "God helps them that help themselves," and a man who will not help himself, who will not do what he can to succeed in life, has no right to expect either God or man to help him.

The question for you to consider is not what you could do under other circumstances, but what you can do in the circumstances that actually surround you, and with the appliances at your command. No labor that is right and lawful is dishonorable. Better soil your hands than your reputation. If you would reach the top of the ladder, you must begin at the lowest round. If you do not take the first step, you are not likely to take the last.

Go, then, to work. If you cannot get what you desire, take the best you can get. If you have no opportunity to work with your hands, work with your head. Employ your spare time in improving your mind. "Knowledge is power." The more you know, the better you will be prepared for work, and the wider the field of usefulness that will open up before you. Never think of failure. A man who does the best he can, and perseveres, will never fail. Determine, then, whether others help you or not, that you will do what you can, and help yourself.—*Sel.*

WHAT TO TEACH BOYS.

A PHILOSOPHER has said that true education for boys is to teach them what they ought to know when they become men. What is it they ought to know then?

1. To be true; to be genuine. No education is worth anything that does not include this. A man might better not know how to read, he might better never learn a letter of the alphabet, and be true and genuine in thought and action, rather than being learned in all the sciences and all the languages, to be at the same time false in heart and counterfeit in life. Above all things, teach the boys that truth is more than riches, more than culture, more than earthly power or position.

2. To be pure in thought, language, and life; pure in mind and body. An impure man, young or old, poisoning the society where he moves with smutty stories and impure examples, is a moral ulcer, a plague

spot, a leper who ought to be treated as were the lepers of old, who were banished from society and compelled to cry "unclean" as a warning to others to avoid the pestilence.

3. To be unselfish; to care for the feelings and comfort of others; to be polite; to be generous, noble, manly. This will include a genuine reverence for the aged and for things sacred.

4. To be self-reliant and self-helpful, even from early childhood; to be industrious always, and self-supporting at the earliest possible age. Teach them that all honest work is honorable, and that an idle, useless life of dependence on others, is disgraceful.

When a boy has learned these four things, —when he has made these ideas a part of his being,—however young he may be, however poor or however rich, he has learned some of the most important things he ought to know when he becomes a man. With these four properly mastered, it will be easy to find all the rest.—*Sel.*

ANTIQUITY OF THE APPLE-TREE.

THE early history of the apple-tree is very ancient, connected as it is with many legends of remote antiquity. In former days this tree was supposed to have been the tree of knowledge, to whose fruit may be traced all the miseries of mankind; and our first mother, Eve, is generally represented, in the pictures of the temptation, holding an apple in her hand; this is not, however, particularized in the Bible. The apple is mentioned only five times in the Scriptures, and it is a disputed point if the fruit referred to was the same as the apple of the present day. The climate of Palestine is unfitted for the cultivation of this tree except in the higher regions.

In the mythologies of the Greeks, the Scandinavians, and Druids, we find the apple-tree mentioned. The golden fruit of the Hesperides, which it was one of the labors of Hercules to procure, in spite of the fierce dragon that guarded them and never slept, was said to be apples, though modern writers suppose them to be oranges.

The Thebans used to offer apples on the altars dedicated to Hercules, a custom derived from the following circumstance: On one occasion the river Asopus overflowed its banks

to such an extent that it was found impossible to bring a sheep for sacrifice across it, when some youths, recollecting that the Greek word "*melon*" signified both sheep and an apple, stuck four wooden pegs into the fruit to represent legs, and brought this vegetable quadruped as a substitute for the usual offering, after which the apple was always considered as especially devoted to Hercules.

Carbonized apples have been found in the Lake dwellings discovered at Concise in Lake Neuchâtel and other similar localities in Switzerland.

Greece in ancient days produced most excellent apples. Whether the Greeks used to indulge in eating too many apples at their marriage feasts, or that a rare and expensive kind graced the table, cannot now be determined; but it is certain from Strabo that the Athenian lawgiver, Solon, made a decree prohibiting the bridegroom at any rate eating more than one on such an occasion.

The cultivation of apples became so important in the reign of Henry VIII., that barking of apple-trees was declared to be felony.

Apple-trees were introduced into America by the early settlers, and were first planted on an island in Boston Harbor, which still bears the name of Apple Island.—*Hardwick's Science-Gossip.*

CONCERNING THE CARPET BEETLE.

DR. H. A. HAGEN, of Cambridge, Mass., in a paper read before the Boston Society of Natural History on "House and Museum Pests," gave the following practical hints for destroying the carpet bug which has become such a pest to housekeepers during the past few years:—

"Acting on the theory that prevention is better than cure, I think," says the Doctor, "the best way to be followed would be first to prevent the entrance of the insect. Therefore every new carpet and rug should be considered as dangerous and treated as the old ones; that is, exposed in the open air, in the sunshine if possible, as the larvæ cannot stand sunlight, and strongly beaten before it is laid in the rooms. The common custom, to order new carpets in the stores and lay them directly in

the rooms, is apparently the most dangerous course to be pursued.

“Further, as it is observed that the beetles by preference follow the cracks in the floor, all should be made tight, or at least filled with tallow. The tallow is a very dangerous substance for the larvæ and eagerly avoided by them, as the fat easily attaches to the spiracles with killing effect. Therefore, the most common candle tallow, being softer, is better than the purified. For the same purpose, I should recommend tallowed paper to be put along the walls, only a foot or two underneath the carpets, as just the places near the walls are the most chosen abode. Of course a careful and more frequent inspection of the carpets will be necessary, if the number of the larvæ seems to be in any way alarming. I think it will be impossible to get rid of them entirely, but it will be certainly possible to keep them within limits, so that they will be not more dangerous than any other house pest.”

Moral Training of Children.—A most essential part of a child's moral training is the cultivation of right motives. To present a child no higher motives for doing right than the hope of securing some pleasant reward, or the fear of suffering some terrible punishment, is the surest way to make of him a supremely selfish man, with no higher aim than to secure good to himself, no matter what may become of other people. And if he can convince himself that the pleasure he will secure by the commission of a certain act will more than counterbalance the probable risk of suffering, he will not hesitate to commit it, leaving wholly out of the consideration the question, Is it right? or noble? or pure? A love of right for its own sake is the only solid basis upon which to build a moral character. Children should not be taught to do right in order to avoid a whipping, or imprisonment in a dark closet,—a horrid kind of punishment sometimes resorted to,—or even to escape “the lake of fire and brimstone.” Neither should they be constantly coaxed to right-doing by promised rewards,—a new toy, a book, an excursion, nor even the pleasures of Heaven. All of these incentives are selfish, and invariably narrow the character and belittle life when made the chief motives

of action. But rather begin at the earliest possible moment to instill into the child's mind a love for right, and truth, and purity, and virtue, and an abhorrence for their contraries; then will he have a worthy principle by which to square his life; then will he be safe from the assaults of passion, of vice, of lust. A mind so trained stands upon an eminence from which all evil men and devils combined can-not displace it, so long as it adheres to its noble principles.—*Plain Facts for Old and Young.*

The Elegance of Home.—I never saw a garment too fine for man or maid; there never was a chair too good for a cobbler or a cooper, or a king to sit in; never a house too fine to shelter the human head. These elements about us, the glorious sky, the imperial sun, are not too good for the human race. Elegance fits man. But do we not value these tools for housekeeping a little more than they are worth, and sometimes mortgage a house for the mahogany we bring into it? I had rather eat my dinner off the head of a barrel, or dress after the fashion of John the Baptist in the wilderness, or sit on a block all my life, than consume all myself before I got to a home, and to take so much pains with the outside that the inside was as hollow as an empty nut. Beauty is a great thing, but beauty of garment, house, and furniture, are tawdry ornaments compared with domestic love. All the elegance in the world will not make a home, and I would give more for a spoonful of real hearty love than for whole ship-loads of furniture, and all the gorgeousness all the upholsterers in the world can gather.—*Dr. Holmes.*

Two Kinds of Discontent.—It is both the curse and the blessing of our American life that we are never quite content. We all expect to go somewhere before we die, and have a better time when we get there than we can have at home. The bane of our life is discontent. We say we will work so long, and then we will enjoy ourselves. But we find it just as Thackeray has expressed it: “When I was a boy,” he said, “I wanted some taffy—it was a shilling—I hadn't one. When I was a man I had a shilling, but I

didn't want any taffy." But I say not a word against that splendid discontent that all the time makes a man strike for something better. I like this idea that every boy born in America dreams of being President. No man has any right to be content not to do his best, and not to do better to-morrow than he is doing to-day. But all that will come by keeping close to a manly and dutiful life. While we are going steadily along to whatever future awaits us, the grandest thing we can do is to feel sure that what we are doing for a day's work, with all that we do besides, is just the most blessed, so far as we can do, and that we are very likely having the best time that can ever come to our life; that this work and wife and home and children, all they are and all they mean, beats the world. The saddest thing in our life is our discontent when we ought to be most contented. It is our birthright to get the good of life as we go along, in these simple and pure things that to all true man and womanhood are like rain and sunshine to an apple-tree. But when we will not believe this, and dream that the best of our life is to come when we have made our fortune, then we sell our birthright for a mess of pottage; but worse than Esau, the pottage gives us the dyspepsia, and then we lose the good of birthright and pottage together.—*Robert Collyer.*

The Grumbler.—It is natural for us to grumble about what we don't like.

Whether in church, State, or family, when things don't move to suit us, we feel like grumbling. And it is a habit that grows stronger the more it is indulged.

Some people are always grumbling about State affairs. Everything with them goes wrong. The taxes are unreasonable; public affairs are in general badly managed, and every public man in the country is corrupt.

Men who continually grumble about what is wrong, will soon get to growling about what is not wrong.

A grumbler in the family is the most disagreeable of mortals. The other members of the family, coming in constant contact with him, are continually made unhappy by his daily snarling. You can't please him, and it is needless to try. Do what you may, it is

all wrong with him. And no matter what position you take on any question, he is on the other side.

A grumbler in the church is a nuisance. He is a perpetual clog upon church work. He claims to be exceedingly anxious for work to be done. But he can't get anything done right. The preaching is poor. The prayer-meeting is dull and formal. The Sabbath-school is all wrong. And the members of the church generally are in disorder. Everything is going to the bad, and going rapidly. Thus the grumbler makes himself universally disagreeable.

Let us make ourselves as agreeable as possible, and even if things do go wrong, follow the advice of the Psalmist,—

“Fret not thyself because of evil-doers.”

What to Teach.—A philosopher was asked by a teacher this question: “What shall I teach my pupils?” He answered, “Teach them thoroughly these five things: 1. To live morally and usefully; 2. To think comprehensively; 3. To reckon mathematically; 4. To converse fluently; 5. To write grammatically. If you successfully teach them these five things, you will have nobly done your duty to your pupils, to their parents, to your country, and to yourself.

POPULAR SCIENCE.

The Famous Comet.—Prof. Benjamin Pierce says he is fully persuaded that the great comet seen in South America recently, and for which an anxious outlook has been kept ever since in this hemisphere, is the comet of 1843, once more visiting the sun. If this is so, and if the comet becomes visible here, the year 1880 stands a chance of being memorable in astronomical annals. The comet of 1843 was one of the most wonderful ever seen. Assuming that Prof. Pierce's computation of this comet's previous returns is correct, it has had an astonishing history. In 1106 it blazed with a brightness that was compared to that of the sun itself; in 1402 it was so brilliant as to be visible at noon-day; in 1454 it is said to have eclipsed the moon; in 1689 it spread terror among the

ignorant throughout the world, and in 1843 it gave aid and comfort to the Millerites in their predictions of a speedy burning up of the world. If it return this year with its accustomed style, it will confirm the faith of those who read in the hidden chambers of the great pyramid momentous prophecies for 1881. All the visits of this comet, however, have not been equally brilliant.—*Philadelphia Times.*

A New Electric Light.—According to a recent scientific periodical, Dr. Phipson has proposed a new method of solving the question of a cheap household light. He has succeeded, with a comparatively feeble electric current, in perceptibly increasing the phosphorescence of certain bodies which are made faintly light by the rays of the sun. He incloses in a Geissler tube, containing a gas in a more or less rarified condition, a phosphorescent body, the sulphuret of barium, for instance. By causing a constant current of a certain intensity to pass through the tube, he obtains a uniform and an agreeable light, at an expense which he estimates to be less than that of gaslight.

Echoes in Buildings.—Cords stretched in a kind of network near the ceiling have been recommended for destroying echoes in churches and public halls, and have been tried satisfactorily in St. Peter's Church, Geneva, and in the Assembly Hall of the city offices of Bordeaux, France. When metallic wires are used in the same manner, the resonance is greatly diminished, and is sometimes converted into a musical sound. A remarkable resonance has been noticed in connection with the great staircase of stone in the Walhalla at Regensburg, Germany. The visitor, after going up the first stairs, steps upon a landing from which two other staircases rise in opposite directions. At this point every step calls out a metallic ringing, as if the whole stairs were made of brass. A stamp of the foot on the middle of the landing is answered by a clear, resounding, musical tone. The ringing continues as the visitor goes up the stairs, growing weaker as he approaches the second landing, and finally ceases. The phenomenon is believed to be due to the rapid

reflections of the sound-waves between the opposite staircases.—*Sel.*

Fertilization of the Algerian Sahara.—Some remarkable transformations in the character of the Algerian Sahara have been effected by irrigation. Under its operation a soil has been constituted, in which the inter-tropical plants grow with great vigor. A cultivator at Ouargla received several medals at the Parisian Exposition for plants which he had raised on a soil thus prepared. The stories that have been told of the productiveness of the Sahara tax the imagination. Fertility is not limited to any one point. It is exhibited wherever water has been brought to the surface of the soil. Most of the Saharan valleys and the beds of the subterranean streams have water in abundance, and only a small effort is needed to bring it to the surface. Sahara is not all a desert, but contains many considerable tracts which are already fit for cultivation. The success which has attended the efforts so far made to introduce tillage renders it nearly certain that a like reward may be gained from similar applications of labor in other parts. Henceforth it will be safe to say that the transformation of the Sahara is only a question of time, labor, artesian wells, means of communication, and security.—*Popular Science Monthly.*

Curiosities of the Earth.—At the city of Medina, in Italy, and about four miles around it, wherever the earth is dug, when the workmen arrive at the distance of 63 feet, they come to a bed of chalk, which they bore with an augur, five feet deep. They then withdraw from the pit before the augur is removed, and upon its extraction the water bursts up through the aperture with great violence, and quickly fills the newly made well, which continues full, and is affected neither by rains nor drouth. But what is the most remarkable in this operation is the layer of earth as we descend. At the depth of 14 feet are found the ruins of an ancient city, paved streets, houses, floors, and different pieces of mason work. Under this is found a soft, oozy earth, made up of vegetables, and at 26 feet deep large trees, with the walnuts still sticking to the stem, and the leaves and branches in a perfect state of preservation. At 28 feet deep a soft chalk is found, mixed with a vast quantity of shells, and the bed is 14 feet thick. Under this vegetables are found again.—*Sel.*

GOOD HEALTH.

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

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MIND-READING.

THE recently developed phenomena of mind-reading, so called, have been taken by many as positive evidence of the existence of some hidden means by which one mind may communicate with another otherwise than through the medium of the senses. We have been much interested in the phenomena exhibited by persons professing to have this power, and have taken some pains to investigate them.

We enjoyed the opportunity of being present, by invitation, at a meeting of scientists, clergymen, physicians, and lawyers, held for the purpose of testing the claims of the first mind-reader who appeared before the public, a few years since. The operation called mind-reading consisted in the operator's taking the hand of the person whose mind was to be read and pressing it firmly against his forehead, after having been securely blindfolded, and then leading him to some place in which the individual had previously secreted some object without the knowledge of the operator. In nearly every case this was done successfully, no matter how distant the spot nor how circuitous the route taken in secreting it.

The operator claimed to put his mind in communication with that of the person with whom he was operating, and to learn by this means the location of the object. The result of the investigation was to show very clearly that the pretended mind-reader could not read the mind of any one but himself, and that he had no means of getting information except through the senses; but that he possessed an uncommonly fine sense of touch, by which he could appreciate very slight, and to the individual operated with, involuntary muscular movements. It was always neces-

sary that the subject should keep his mind intently occupied with the object during the whole experiment, otherwise it was never successful. This would naturally incline the individual to make the slightest resistance when moving in the direction of the object. This is undoubtedly the correct explanation of the mind-reading mystery. Dr. Geo. M. Beard, of New York, and other eminent scientists, have carefully investigated the same phenomena, and have arrived at essentially the conclusions stated respecting them.

HOW TO WALK.

It may seem at first ridiculous to pretend to teach grown people how to walk, as though they had not learned this in infancy. But we are willing to venture the assertion that not one person in twenty knows how to walk well. How few people are there who do not feel slightly embarrassed when obliged to walk across a large room in which are many persons seated so as to observe well each movement! How many public speakers there are who appear well upon the platform so long as they remain standing still, or nearly so, but who become almost ridiculous as soon as they attempt to walk about. Good walkers are scarce. As we step along the street, we are often looking out for good walkers, and we very seldom find them. What is good walking? We answer, Easy, graceful, natural walking. Nearly all the good walkers there are, will be found among gentlemen, since fashion insists on so trammeling a woman that she cannot possibly walk well, can scarcely make a natural movement, in fact. To walk naturally, requires the harmonious action of nearly every muscle in the body. A good walker walks all over; not with a universal swing and swag-

ger, as though each bone were a pendulum with its own separate hanging, but easily, gracefully. Not only the muscles of the lower limbs, but those of the trunk, even of the neck, as well as those of the arms, are all called into action in natural walking. A person who keeps his trunk and upper extremities rigid while walking, gives one the impression of an automaton with pedal extremities set on hinges. Nothing could be more ungraceful than the mincing, wriggling gait which the majority of young ladies exhibit in their walk. They are scarcely to be held responsible, however, since fashion requires them to dress themselves in such a way as to make it impossible to walk otherwise than awkwardly and unnaturally.

We cannot attempt to describe the numerous varieties of unnatural gaits, and will leave the subject with a few suggestions about correct walking.

1. Hold the head erect, with the shoulders well drawn back and the chin drawn in. Nothing looks more awkward and disagreeable than a person walking with the head thrown back and the nose and chin elevated.

2. Step lightly, with elasticity,—not with a teetering gait,—setting the foot down squarely upon the walk and raising it sufficiently high to clear the walk in swinging it forward. A shuffling gait denotes a shiftless character. But do not go to the other extreme, stepping along like a horse with "string halt." A person with a firm, light, elastic gait, will walk much farther without weariness than one who shuffles along. A kind of measured tread or rhythm in the walk also seems to add to the power of endurance, though, for persons who have long distances to travel, an occasional change in the time will be advantageous.

3. In walking, do not attempt to keep any part of the body rigid, but leave all free to adapt themselves to the varying circumstances which a constant change of position occasions. The arms naturally swing gently, but not violently. The object of this is to maintain the balance of the body, as also by the gentle swinging motion to aid in propelling the body along.

Correct walking should be cultivated. It ought to be taught along with the arts and

sciences. In our military schools it is taught; but these schools can be attended by but few. Invalids especially should take great pains to learn to walk well, as by so doing they will gain more than double the amount of benefit they will otherwise derive from the exercise.

TOBACCO AND SCHOLARSHIP.

WE are glad to note that there is a growing disposition on the part of the religious press to condemn the use of tobacco. The great and increasing prevalence of the vice is an evil which demands the most serious attention of all workers for the good of humanity. We take pleasure in copying the following significant quotation from the *New York Tribune*, with excellent comments by Rev. A. H. Lewis, from the *Sabbath Recorder*:

"The anti-tobacco reformers may find encouragement to continue their crusade against the weed in some statistics lately published concerning smoking at Yale. Each class is graded in divisions according to scholarship, the best scholars being in the first, and so on down to the fourth, where they are, in the slang of the campus, 'not too good' scholars, but 'just good enough' to keep hanging by the eyelids. In the Junior Class it was found that only 10 out of 40 in the first division were addicted to smoking; 18 out of 37 in the second; 20 out of 27 in the third; and 22 out of 26 in the fourth. The proportion of smokers, it will be observed, increases in regular ratio with the falling off in scholarship. The obvious inference is that fumigation does not promote education.'

"Parents, teachers, students, and all candid men who are tobacco-users, will do well to respect such facts. It is easy to turn away from them with a sneer, or to read them with indifference; but neither sneers nor indifference will change or avert the facts. When similar facts have been quoted as being shown by similar experiments in the schools of Europe, many men have affected to disbelieve them. 'They were too far away to be true.'

"The above is too near home to be denied, and too important to be disregarded. That such facts are generally disregarded by those who are the victims of tobacco intoxication,

is clear proof of the benumbing and blinding influence which the poison exerts on the mental faculties. It is equally well attested that the habit blunts the moral sense in a similar way. Alcohol, tobacco, and opium all hold their victims by inducing the delusion that they are harmless, or at least are *necessary*, and by blunting and benumbing the conscience that otherwise would rise up against them. In the opium habit, untruthfulness is a prominent symptom; in alcoholism, the characteristic symptom is an unreliable excitability; in tobacco, a quiet, but growing indifference.

"These delusions render the work of reform doubly difficult. Being unconscious of the injury which he is constantly receiving, or only partly conscious, the tobacco-user is likely to consider the one who urges the reform either as a personal enemy, whose words are to be resented, or as a mistaken fanatic, whose warnings are to be disregarded, while he is pitied. The writer is not speaking wholly from theory. He remembers well when those who urged that he was doing a sinful thing in being constantly intoxicated with tobacco were deemed to be visionary and hyper-religious. It took some months for the oft-repeated truth to reach his smoke-befogged conscience, and awake it to a just conception of the case. It seemed preposterous that anything which gave so much *fancied* comfort could be sinful.

"There are thousands of men who are on the same ground of hesitation and debate. They are weary of their slavery; ashamed of the habit as indecent, they wince under the expensiveness of a habit so much worse than useless, and yet continue the indulgence, dallying with the temptation, and growing weaker each day. The evidence that the better judgment of men condemns the practice, is also seen in the fact that users generally advise boys and the uninitiated not to form the habit. "I wish I had never used it," is the common expression of the smoker, as he lights his cigar for a new indulgence, and of the chewer who empties his much-abused mouth, that he may testify against himself. That many use it, does not lessen the wrong; it rather widens the evil. A father may say every day, "I wish I could stop; I know I

ought to;" but this does not keep the poison from his blood and brain, nor prevent him from passing both the appetite and its deleterious effects down to his child by the law of transmission. Wishing for freedom does not bring it, and hoping does not manufacture moral stamina and backbone.

"Meanwhile, facts are accumulating which will not be set aside. Germany forbids her boys under sixteen to smoke, under penalty, because it unfits them for military service. Paralysis, cancers, and sudden death bear testimony to the increase of the evil. We hope that there is some gain in the matter of reform; but the boys of to-day are sowing the seed of thorns, which will bring measureless evil to the coming generation. It is sad to know that we must wait in dumb endurance the growth and gathering of such harvests of mental and moral evil, when the grace of God and the clear grit of manhood doing what almost all acknowledge *ought* to be, would soon give freedom."

ANIMAL MAGNETISM AGAIN.

A READER of GOOD HEALTH takes exceptions to our position on the subject of animal magnetism, claiming to possess positive evidence of the existence of an occult force by means of which the cures attributed to animal magnetism are effected. As he does not give the evidence, we are left to believe that it is of the same nature as that which has been so often examined and found wanting. We will offer a premium of one hundred dollars cash for the performance of a cure by animal magnetism under test conditions. The so-called cures, as before remarked, are to be attributed either to the imagination of the patient or the mechanical manipulation. We quote a couple of anecdotes told by *All the Year Round*. It will readily be seen that if animal magnetism had been the pretended remedy employed the results would undoubtedly have been the same, and the pretended force would have received the credit. It appears to us, indeed, that a powerful magnet would exert an influence upon the body, either curative or otherwise, infinitely greater than a human hand, which cannot be shown to possess any magnetism whatever. The anecdotes are as follows:—

"Sir Humphrey Davy was once tempted into playing an amusing practical joke by way of testing the curative power of the imagination. When the properties of nitrous oxide were discovered, Dr. Beddoes, jumping to the conclusion that it must be a specific for paralysis, chose a subject upon whom to try it, and Sir Humphrey consented to administer the gas. Before doing so, Davy, desiring to note the degree of animal temperature, placed a small thermometer under the paralytic's tongue. Thanks to Dr. Beddoes, the poor fellow felt sure of being cured by the new process, although utterly in the dark as to the nature of it. Fancying that the thermometer was the magical instrument which was to make a new man of him, he no sooner felt it under his tongue than he declared that it acted like a charm throughout his body. Sir Humphrey wickedly accepted the cue, and day after day for a fortnight went through the same simple ceremony, when he was able conscientiously to pronounce the patient cured.

"M. Volcicelli, a Roman physician, played a similar trick upon some of his hospital patients, who were greatly affected whenever powerful magnets were brought near them. Placing them under exactly the same conditions to all appearance, but taking particular care to exclude magnetic influence, he found that every one of them was disturbed in the same degree as when the magnets were actually employed."

PARASITES IN WILD GAME.

THE idea is entertained by many persons that if domestic animals are subject to diseases such as *trichiniasis*, measles, etc., which render them unfit for food, wild animals, fowls, and game of all sorts, are free from this objection. That this is not the case is strongly suggested by the following paragraph, which recently appeared in the *Forest and Stream*, from the pen of a correspondent of that journal:—

"Through the kindness of a professional colleague I had the opportunity of examining a wild duck (mallard) a few days ago, which was, I think, of sufficient interest to warrant the begging of a few lines of your valuable space. The duck was infested with a large

number of encysted parasites of the same general nature as the trichinae found in the muscles of pigs, *i. e.*, an encysted form of entozoa. It had been bought in the market by a gentleman, but when his cook came to prepare it for the spit, she noticed an unusual appearance of the flesh of the breast, the skin being torn in one place, and called the master's attention to it, and it was by him submitted to my friend, who, after sending out a piece cut from the heart to the Zoological Museum, at Cambridge, was kind enough to send the bird to me, knowing that I was interested in everything pertaining to field sports.

"The muscles of the duck were crowded with the encysted parasites, more especially the pectorals, and they seemed to be more numerous at the surface, *i. e.*, just under the skin. The cysts were from $\frac{5}{32}$ to $\frac{6}{32}$ of an inch long by about $\frac{1}{8}$ in width, being all very nearly of the same dimensions. They may be described as cylindrical, with rather bluntly rounded off ends, about the color of fat, or rather light-colored butter, and were imbedded in the muscles, between the fibres, with the long diameter parallel with the muscular fibres. I cannot think of any better well-known object to which to compare them than small pieces of that form of Italian paste which we call vermicelli. Their number may be appreciated when I say that in the space of a square inch on the breast, the skin of which had been stripped off, fifteen were seen on the surface. I have it at second hand, that Prof. Hagen, of the Museum at Cambridge, states that they are cysts of *Psorospermia*, the immature, encysted stage of the *Gregarina*, and that he has never before known of these entozoa being found in the muscles of birds.

"If these parasites are capable of development in the intestinal tract of men, it ought to be known, as from the semi-cooked state in which we eat our ducks, the cysts would be very apt to be ingested without having their vitality destroyed. On the other hand, if as large and as numerous as in the specimen I saw, nobody, with eyes open, could fail to notice the presence of unusual bodies.

"My object in making this communication

is two-fold; First, to get any scientific knowledge that your many scientific readers may be able to give on the subject, and second, to find out from the sportsmen whether the presence of these parasites has been previously noticed in ducks. So far I have not been able to hear of any similar case."

A note from Dr. Hagen, of Harvard University, addressed to the editor of the same paper, confirms the observation above described, and states that the *Psorospermia* is also very common in hams, about ten per cent of which are affected. In the ham the parasites are much smaller, and hence are not so easily discovered as in the duck. Dr. Hagen also mentions the discovery of disgusting parasites in bear-flesh. He says: "I received yesterday bear-flesh from the market. It contained in the cellular tissue next to the veins, cysts containing thin white worms, four inches long and less than one-twelfth thick. This is a very interesting parasite, described in 1672 by Fr. Redi, Italy, and since seen by nobody. Rudolphi quotes it as *Strongylus ursi*, and Diering as *Nematoidium*, but both only after Redi's description, which was made after the parasites of the European brown bear, which is the same species with our bear."

SMALL-POX AND VACCINATION.

THIS question is at present exciting so much discussion that our readers may be interested to learn something more in regard to it than is generally known except to those familiar with medical works.

For more than a thousand years all civilized parts of the globe have suffered more or less with that most loathsome and fatal of febrile diseases, small-pox. The disease has probably existed in Europe at least fifteen hundred years. During this time its ravages have sometimes been so terrible as to decimate whole countries. During the last two decades of the last century the mortality from this disease constituted one-twelfth of the total mortality in Berlin. During the same century the mortality from small-pox amounted to 30,000 persons annually. During the seventeenth and eighteenth centuries the deaths from this disease in England amounted to one-eleventh of the total mortality. Ac-

ording to the eminent Dr. Curschmann, of Berlin, from whose exhaustive article in Ziemssen's Cyclopaedia of Medicine we cull these facts, small-pox came to be dreaded more than the plague. The disease continued its ravages notwithstanding the most earnest efforts of the most eminent physicians to stay its progress. It even penetrated to the jungles of Africa and the wilds of North and South America, where it carried off whole tribes of savages.

It was early observed that a person who has once had the disease is not very liable to suffer from it a second time. Experiments made in China and India at a very early period showed that when the disease was induced by inoculation it was much less severe than when contracted in the usual way. This led to the employment in those countries of inoculation as a means of prevention of the disease. The same practice was introduced into Europe. It never became popular, however, from the fact that deaths not infrequently occurred in consequence of inoculation, and it was found that the disease was as violent when communicated by those suffering from the effects of inoculation as when acquired in the usual way.

In the eighteenth century the supposed discovery was made in various parts of the world that a disease known as cow-pox was identical with small-pox in human beings. According to Humboldt, this was known to the mountaineers of Mexico for many years before the time of Jenner. In Gloucestershire, England, there was a traditional belief that persons who had acquired cow-pox by milking cows affected by the disease were thereby protected from small-pox. This belief led Jenner to experiment with the virus found in cow-pox, and his experiments resulted in the invention of vaccination as a means of protection from small-pox.

The peculiarity of small-pox in lower animals is that its manifestation is chiefly local. In the cow, the pocks or pustules occur almost exclusively upon the udder and teats. In horses the disease is confined to the foot-joints. Sheep, goats, pigs, asses, dogs, and monkeys are also subject to this disease.

The evidence is very strong that the so-called small-pox of animals is really the same

disease as affects human beings, but the eminent authority quoted freely admits that the facts relied upon "do not absolutely prove it." Experience does seem to show, however, that inoculation with the virus of cow-pox, or with that obtained from the same disease in other animals, will produce a disease supposed to be modified small-pox, which will to some extent exercise the same preventive influence as the real disease itself. On this point the author before mentioned says:—

"In spite of the efforts of its opponents, no unprejudiced person at the present day can any longer be in doubt as to the efficacy and eminent practical value of vaccination. In countries where it has been introduced, and in a measure systematically carried out, the number, the intensity, and the extent of small-pox epidemics have been notably diminished, and in a manner which of itself renders the idea of mere coincidence inadmissible. In this connection nothing could be more convincing than the exceedingly interesting and graphic account which Kussmaul gives of the mortality from variola, in Sweden, during a period of one hundred years, in the latter half of which vaccination was universally practiced. Moreover, for Germany, France, and England a somewhat similar decrease in the small-pox mortality might be demonstrated. If, notwithstanding all these proofs, we for the moment entertain the supposition, improbable as it is, that this decrease in the epidemics is a matter of mere accident, it at once falls to the ground as soon as we proceed further into detail. We see, first of all, that where vaccination is regularly practiced in very early life, the mortality of children from small-pox, instead of being as enormous as amongst those not vaccinated, is almost *nil*. We notice, further, that where the vaccination of adults, as for example in the Prussian army, is performed with regularity, epidemics of the disease no longer occur. With these facts before us, the idea of mere coincidence is out of the question. The trial of vaccination in the Prussian army has conclusively demonstrated the efficacy of the measure, to test which we have only to compare the relative immunity of soldiers during great epidemics of small-

pox with the mortality in classes of the same general age in the civil community where vaccination is imperfectly carried out."

Dr. Alonzo Clarke, professor of the theory and practice of medicine in the College of Physicians and Surgeons in New York City, and one of the most eminent physicians of this country, in a lecture on small-pox reported in the *Medical Record*, remarked as follows:—

"Vaccination has been generally practiced in civilized nations for seventy years; it took it about ten years to acquire general favor, since which time almost everybody has been vaccinated. And the history of the last seventy years gives us a longer duration of human life every succeeding ten years (a less number of deaths in proportion to the number living); and if everybody be vaccinated, and everybody's life is made shorter by vaccination, you observe that this is rather a singular commentary. Every ten years is marked as giving additional length to human life (diminishing the proportion of deaths every year to the number living). I know no other commentary that need be made in regard to it."

The above quotation, for which we have to thank our friend Dr. H. B. Baker, who directed our attention to the paragraph, presents a practical argument which those who oppose vaccination under any and all circumstances will find hard to meet unless they can show that the statement respecting the length of human life is incorrect.

It is admitted by all who are in any degree conversant with the subject that vaccination is not free from disadvantages and even dangers. Experience shows very clearly that it affords immunity only for a period of eight to twelve years. It is settled beyond question that it may be the means of communicating the worst and most loathsome diseases, when humanized lymph is employed, though this evil may be wholly avoided by the use of bovine virus, or that taken direct from a calf suffering with the disease. It appears to us that in all cases in which vaccination is employed, only the latter kind of virus should be used. We have never known of any injury arising from bovine virus, and think the evidence is very clear that the disease may be prevented in this way by vaccination.

ORIENTAL SAND AND MUD BATHS.

DR. XAVIER LANDERES, of Athens, Greece, communicates to a medical journal the following account of the sand and mud baths of that country:—

“In many low plains in the neighborhood of the sea, immense quantities of sand are constantly deposited from the in-rolling waves, particularly at the promontory Sunium, near Missolonghi, near Corinth, and on some of the islands. These places are visited by persons affected with chronic rheumatism, anchylosis, chronic synovitis of knee-joint, for the purpose of taking a sand-bath. The patients, who are generally of the poorer classes, bury themselves in the sand, or cause others to cover them with it, so that only the head, which is covered with a night-cap or straw hat, remains free. It is a ludicrous sight to see twenty or thirty such odd-looking heads sticking out of the sand. In consequence of the weight and the saline character of the sand, the skin of the patient becomes so red that, when they emerge from their sandy bed—which they occupy as long as possible—they look like boiled lobsters. Wooden huts or tents improvised with oleander and plantain branches, are used as bathing houses, and a piece of bread, some grapes, and a glass of wine generally constitute the meal of a patient. Direct inquiry from the patients has elicited the fact that the effects of this sand treatment are decidedly beneficial.

“Another variety of bath is likewise not uncommon, namely, the so-called mud-bath. In the canals and ditches, into which the seawater is allowed to flow, in order to obtain common salt by spontaneous evaporation, a mother-water containing chiefly magnesium bromide remains behind, after the crystallized salt has been removed. At the same time, an aluminous mud collects at the bottom. This mother-water, together with the mud, is used by patients affected with chronic splenitis caused by the frequent malarial fevers prevailing among the workmen in these localities, and with intestinal infarctions. The method consists in smearing the whole body with saline mud, and in exposing themselves afterward to the rays of the

sun until the coating has become dry, when it is washed off with the saline mother-water. Sometimes both the sand and the mud-baths are used locally on a special portion of the body only, as, for instance, the legs or feet.”

FISH AS BRAIN FOOD.

THE question is still asked by patients and correspondents, “Are fish brain food?” When asked the question, we always think of the reply made by Artemas Ward to a young man who inquired of him how much fish he ought to eat per diem to properly nourish his brain. The answer received was to the effect that a small whale would probably be required. The idea that phosphorus in an inorganic state can be assimilated by the brain or any other organ of the body, is wholly opposed to the most fundamental principles of animal physiology. If the brain needs phosphorus it can procure it only in the same way that it procures other elements, by receiving them as food in an organized form.

A contemporary has a paragraph on this subject which is so much to the point that we will quote it, as follows:—

“Since during the acts of sensation and intellection phosphorus is consumed in the brain and nervous system, there arises a necessity to restore the portions so consumed, or, as the popular expression is, to use brain food. Now, as every one knows, it is the property of phosphorus to shine in the dark, and, as fish in a certain stage of putrefactive decay often emit light, or become phosphorescent, it has been thought that this is due to the abundance of phosphorus their flesh contains, and hence that they are eminently suitable for the nervous system, and are an invaluable brain food. Under that idea many persons resort to a diet of fish, and persuade themselves that they derive advantage from it in an increased vividness of thought—a signal improvement in the reasoning powers. But the flesh of fish contains no excess of phosphorus, nor does its shining depend on that element. Decaying willow shines even more brilliantly than decaying fish. It may sometimes be discerned afar off at night. The shining in the two cases is due to the same cause,—the oxidation of carbon, not of phosphorus, in organic substances containing, perhaps, not a perceptible trait of the latter

element. Yet, surely, no one ever found himself rising to a poetic fervor by tasting decaying willow wood, though it ought, on these principles, to be a better brain food than a much larger quantity of fish."

HIGH HEELS AND WEAK EYES.

THE small, high heels set forward under the hollow of the foot are really instruments of torture which would compare well with some of the contrivances of the Roman Inquisition. Scarcely a day passes that we do not have occasion to trace to this abuse of a sensitive part of the body some pain or weakness in other parts. According to a Boston journal, an oculist in that city has lately discovered that French heels are a cause of weakness and disease of the eyes. A young lady went to him one day "with a trouble with her eyes that threatened frightful results. She was already in a state where reading was out of the question, and other entertainment was fast becoming a torment. The oculist looked at her with his professional wisdom, asked her various questions, and then suddenly amazed her by asking her to put out her foot. The foot in its kid boot with a wicked little high heel was thrust forth. The doctor eyed it a moment with stolid face. 'Go home,' he said, 'and take off those heels; keep them off for a month, and then come to me again and we'll see how the eyes are!' In a month the eyes were well, and the young lady learned by her experience and a little wise talk how near she had come to having no eyes at all. It serves to show that there is the possibility that with that instrument of torture constantly at work in the center of the foot, where so many delicate nerves and tendons lie that so intimately connect with all the other delicate nerves of the body, there must presently come some disarrangement and disease that may work fatal mischief with the health."

Clean Up.—People who don't want to have the typhoid, bilious, or intermittent fever, who wish to avoid the pains and dangers of dysentery, diarrhoea, and cholera-morbus, who prefer not to run the risk of losing their little ones with cholera infantum,

or other diseases which threaten life during the summer months, will at once begin to clean up their premises if they have not already done so. Stale and decaying vegetables in cellars and basements will be removed and a plentiful supply of whitewash applied. Foul cisterns should be cleansed, the back yard should be cleaned up, garbage of all sorts, rubbish, and everything decomposable, removed. A thorough renovation of the entire premises should be secured. Not the slightest trace of organic filth should be tolerated in the vicinity of any human habitation. Where there is a bad smell, be sure there is danger. Such active germ generators as hog-pens, chicken coops, decaying sawdust heaps, sidewalks, etc., should be thoroughly eradicated. Eternal sanitary vigilance is the price of immunity from disease. Some of the most dangerous and fatal diseases are those which arise from filth. They are to be avoided by cleaning up.

A Layman's Prescription.—The following prescription was given by the editor of the *Journal of Commerce* to a correspondent who wrote for advice for the relief of nervousness and sleeplessness; it might be followed with advantage by many a nervous dyspeptic:—

"Cast physic to the dogs.' Fresh air, cold water, a wholesale temperate diet, active exercise in ministering to others, and a clear conscience, will do more than all the contents of a drug-store to give strong nerves and quiet rest. Too much attention to one's self, in addition to other bad habits, is the more frequent cause of depression of spirits. A life of unselfish devotion to others is the antidote, after the physical causes are corrected. No man ever found peace, comfort, rest, or satisfaction, in counting his own pulse, or looking into his own heart."

Fiji Death Certificates.—The *Sanitary Journal* is responsible for the statement that "when a death occurs in Fiji, it has to be registered, and the native scribes not infrequently fill the blank left for 'cause of death' with the words, 'medicine supplied by the missionaries.'"

LITERARY NOTICES.

TRANSITION: PROHIBITION OF ALCOHOL—SOCIAL, MEDICALLY, RELIGIOUSLY, AND POLITICALLY. By Dr. J. N. Cadieux. Muskegon, Mich.: Chronicle Print.

The title of this pamphlet hardly indicates what the author attempts to treat. While temperance receives considerable attention, he introduces a large number of topics which have little if any bearing upon the subject. The author has introduced some excellent quotations in regard to alcohol, but in giving his own opinions he has been more or less dogmatic. The work is intended chiefly for temperance people.

F.

SEASICKNESS. By Geo. M. Beard, M. D. New York: E. B. Treat, 757 Broadway.

To travelers by the sea this little book will be of special interest. Seasickness has long been regarded as a serious obstacle, whether the traveler wished to make a long or a short voyage. Dr. Beard thinks that travel would be ten-fold greater, especially travel for pleasure, "were it not for the horrors of seasickness." How far his plan of treatment will be successful cannot as yet be determined. That it will be adopted by many, is beyond question.

In the preface he says: "The philosophy advocated in this work is that seasickness is a *functional disease of the central nervous system*. The treatment proposed is in harmony with the philosophy, and has already been tested, not only by myself, but by a number of medical observers, with most satisfactory results. "The position taken is that seasickness, like any other form of sickness, is an evil to be avoided, and that by the plan of treatment here proposed, it can in the majority of cases, be prevented or greatly relieved.

"It is designed to make the work clear and practical, and to adapt it to meet the wants of both practitioners of medicine and travelers by the sea."

F.

"**CARE OF THE SICK**" is a pamphlet for distribution to the policy-holders of the Mutual Life Insurance Company of New York. It contains much wholesome reading pertaining to the care of the sick, and some valuable recipes. If carefully read it will serve as an introduction to hygienic literature, and in many instances will arouse an interest in the subject of health.

SEA-AIR AND SEA-BATHING. By John H. Packard, M. D., Surgeon to the Episcopal Hospital, etc. Philadelphia: Presley Blakiston. (50 cts.)

This is the eleventh of that excellent series, "The American Health Primers." It contains much valuable information pertaining to the subject concern-

ing which it is written, and any person would be well rewarded for the time spent in reading it, while visitors to the sea-shore will find in it just the information needed. One chapter of the book is devoted to the subject of the accidents which most frequently occur to persons while sea-bathing, pointing out the way in which such accidents may be avoided, and also the proper course to be pursued with persons apparently drowned.

FREE TRADE AND ENGLISH COMMERCE. By Augustus Mongredien. London, Paris, New York: Cassell, Petter, Galpin & Co.

This is a little monograph in which is given a "review of the present position of the free-trade question in respect to the world at large, and especially in respect to the commerce of England." The bearings of free trade on the commerce of nations generally is presented; and the question of the real causes of the present condition of English commerce examined. The subject is treated from a practical as also from a scientific point of view. The work is undoubtedly a valuable acquisition to the literature of Political Economy.

ANNUAL REPORT OF THE STATE BOARD OF HEALTH OF WISCONSIN. Madison, Wis.

This is the fourth annual report of the Wisconsin State Board of Health. After a general review of the work of the Board and the annual report of the Secretary, seven excellent papers are presented which are exceedingly valuable acquisitions to the still meager literature of the country on sanitary subjects. They are as follows: Homes for the People, by Gen. J. Bintliff; Our Public Schools, by J. T. Reeve, M. D.; Our School-Houses, by Prof. T. W. Chittenden; Ground Air, by G. F. Witter, M. D.; The Adulteration of Foods, by Prof. T. C. Chamberlin; Inspection of Public Buildings, by Gen. J. Bintliff; Report on Typhoid Fever, by A. J. Schweichler, M. D.

The *Popular Science Monthly* for June has its usual number of highly instructive articles. Its power as an educator is felt throughout the United States. It stimulates thousands of readers and induces them to give science much careful attention. This actually leads to a realization of a larger measure of success in many of life's vocations. Its field will continue to widen in every respect.

In the first article, "The Classics that Educate Us," by Paul R. Shipman, a strong plea is made in behalf of a knowledge of the mother-tongue. Dr. Charles Richet, in his second article on "Hysteria and Demonism," is even more interesting than in the first.

"The Crossing of the Human Races," by A. De Quatrefages, will be of special interest to those who have become interested in the progress of anthropology. The attractive article, "Recent Geograph-

ical Explorations," by Chief Justice Daly, is followed by an invaluable paper on "Dress in Relation to Health," by Dr. B. W. Richardson. "Studies in Experimental Geology," by Stanislas Meunier, is an illustrated article showing how the changes of physical geology are brought about. Lorimer Fison, a missionary to the Fiji Islands, presents a paper on "Views of Primitive Marriage," in which theories of eminent scientists are discussed from the standpoint of an actual observer.

"Goethe's Theory of Colors," by Prof. John Tyndall, is interesting from the fact that it shows Goethe to have been other than a genius whenever he "dipped into science." "How Animals Eat," by Herman L. Fairchild, "About Carpenters," by Maurice Mauris, and the "Availability of Energy," by W. D. Miller, are suggestive articles. Dr. Delpech discusses "The Infectious and Contagious Diseases of Children," giving such information as heads of families very much need. "The Rate of Animal Development," by Dr. J. W. Slater, and "Artificial Diamonds," are articles full of interest. The sketch of Prof. Otto Wilhelm Struve, the eminent astronomer, by Prof. Newcomb, is brief yet highly satisfactory. The "Editor's Table," "Literary Notices," "Popular Miscellany," and "Notes" are unusually rich and attractive.

THE PROBLEMS OF INSANITY. By George M. Beard, M. D. New York City.

This interesting paper is a reprint from the *Physician and Bulletin* of the Medico-Legal Society. The problems of insanity enumerated and discussed are: How to Define Insanity; its General Causation and the Reason of its Increasing Frequency; Why its Real or Apparent Increase of Late Years has been among the Poorer Classes; and How to Diagnosticate it. The paper evinces extensive research on the part of the author, and contains many excellent thoughts upon this important subject.

SOUTHERN LAW JOURNAL AND REPORTER. H. G. McCall, editor. Montgomery, Ala.

This journal is a monthly publication devoted to the legal literature of the day. Each number presents an interesting table of contents, embracing a large variety of subjects pertaining to the various departments of the law. It is a journal undoubtedly well adapted to the wants of those for whom it is designed, and ought to be largely patronized by the members of the legal profession.

PHONOGRAPHIC WORKS. By Andrew J. Graham. 69 Bible House, New York.

"Brief Long-Hand" is the title of a little work of 84 pp. which gives instruction in three different styles of abbreviation of long-hand. The first style, it is claimed, will enable the writer to save fifteen per cent of the time of writing; the second, thirty per cent; and the third, fifty per cent. These sys-

tems of abbreviation display a wonderful amount of ingenuity, and careful, painstaking investigation.

They have the advantage over short-hand writing that they do not require the learning of new characters and can be acquired by any one in a very short time. The first and second styles are so easily read that they can be readily made out even by a person who is unacquainted with the system. The general adoption of these systems in ordinary correspondence, and especially in note-taking, would save a great amount of labor.

"The Synopsis of Standard Phonography" is an admirable summary of Standard Phonography as taught by Mr. Graham, who is undoubtedly the most profound expositor of the phonographic art in this country, and perhaps in the world. The work contains in its first twenty-eight pages, the essence of the whole subject boiled down to the last degree of conciseness. Every student of phonography ought to have a copy.

"Standard Phonographic Dictionary." In his dictionary Mr. Graham has done for phonography what Johnson and Webster did for the English language. This work gives the pronunciation and best phonographic outlines of about 60,000 words, and the forms of about the same number of phrases. No other work of the kind at all compares with it. It is an invaluable aid to all who are seeking to acquire the art of verbatim writing. The art of short-hand writing is far too little appreciated except by those who have tested its merits. For years we have been more or less dependent upon this means of saving time, and now that we are unusually overwhelmed with work demanding immediate attention, we find the services of a phonographer indispensable. We have tried Mr. Graham's system very thoroughly for years, and consider him rightfully entitled to the position of father of American short-hand writing.

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The above tracts are larger and in finer type than any heretofore issued from this publishing house, yet they are sold at the same price as heretofore, 800 pages for \$1.00 at retail, and 1,600 pages for \$1.00 in large quantities for gratuitous distribution.

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Publishers' Page.

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OUR ENGLISH DEPOSITORY.—For the convenience of our friends and patrons in Great Britain and other parts of Europe, a full supply of all our health and temperance publications is kept constantly on hand by Eld. J. N. Loughborough, of Ravenswood, Shirley Road, Southampton, Eng., to whom all orders for our books and other publications should be sent. Eld. Loughborough has been an enthusiastic worker in the cause of health and temperance reform for many years, and we are glad to see already some tangible fruits of his efforts in his new field of work.

We hope our friends will not fail to examine into the merits of the Odorless Excavating Apparatus, advertised on another page. We know it to be all that is claimed for it. It is an invaluable auxiliary of sanitary work, and ought to be introduced into every city and town of any size in the country.

The temperance song book is progressing finely, and will be ready for the market in a few days. The price will be thirty cents a copy, or \$25 per hundred copies. It will be unquestionably the best temperance song book published, and will supply a greatly felt want among Health and Temperance Clubs and all other temperance organizations. Orders should be addressed to the Health and Temperance Association, Battle Creek, Mich.

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