GOOD HEALTH.

A JOURNAL OF HYGIENE.

MENS SANA IN CORPORE SANO.

VOL. 15. BATTLE CREEK, MICH., AUGUST, 1880. NO. 8.

BIBLE HYGIENE.

BY ELDER JAMES WHITE.

THE impression is very general, even among Christian people, that the restrictions of the hygienic system are not sustained by the Sacred Scriptures. And there are not a few who have certain passages from the teachings of Christ and his apostles, ever at their tongue's end, which they regard as opposed to the health and temperance reformation. In order that these texts be not wrested from their true meaning, the state of things in the early church at the time they were written should be understood.

The New Testament was written at a time when the minds of the people were agitated with subjects which related to changes from the Jewish to the Christian age. Feast-days and ceremonies of the Jewish religion were passing away before the light of the glorious gospel of the Son of God, and matters touching festivals, meats, and drinks, were being discussed.

Changes in matters of religious faith progress slowly. They advanced much more slowly in the first century than they do in the nineteenth. The Jews had been the chosen and favored people of God. They were in advance of the nations around them. Their religious principles were firmly fixed, and as the world's Redeemer, in his humility, did not meet their expectations, they rejected him, and settled back with greater confidence in the services of the law of Moses, to which they had added traditions almost without number.

The converts to the Christian faith were gathered from both Jews and Gentiles. And while those from the Gentiles did not revere the ceremonies of the Jewish system, but, rather, viewed them with feelings of prejudice, those from the Jews were disposed to cling to them, and incorporate them into the new system introduced by Christ and his apostles. Long-established forms and customs were being called in question, and the spirit of debate and strife for the mastery was threatening the peace and prosperity of the church. With these facts in view, the reader may more clearly understand the apostles in certain portions of their epistles, and comprehend the meaning of their conciliatory words:

"Him that is weak in the faith receive ye, but not to doubtful disputations. For one believeth that he may eat all things. Another, who is weak, eateth herbs. Let not him that eateth, despise him that eateth not; and let not him which eateth not, judge him that eateth; for God hath received him. Who art thou that judgest another man's servant? To his own master he standeth or falleth. Yea, he shall be holden up; for God is able to make him stand. One man esteemeth one day above another; another esteemeth every day alike. Let every man be fully persuaded in his own mind." Rom. 14:1–5.

"Blotting out the handwriting of ordinances that was against us, which was contrary to us, and took it out of the way, nailing it to his cross. And having spoiled principalities and powers, he made a show of them openly, triumphing over them in it. Let no

man therefore judge you in meat, or in drink, or in respect of a holyday, or of the new moon, or of the Sabbath days; which are a shadow of things to come; but the body is of Christ." Col. 2:14–17.

In the foregoing quotations, the apostle speaks of the feast-days, annual sabbaths, and meat and drink offerings of the Jews. These shadows were abolished when the body which cast them was reached at the cross of Christ. Paul was evidently impressing lessons of mutual forbearance upon the minds of the Christians at Rome and at Colosse, and had no reference whatever to articles of general diet, or to the weekly Sabbath of the Bible.

The change from the local worship of God by the Jews at Jerusalem, to that form of worship and that work which embraced all nations in its blessings, was a great change. Christ, during his public ministry, had led his disciples along, step by step, into the field of truth and duty, as they could bear it. "I have many things to say unto you, but ye cannot bear them now." John 16:12. They did not take in the breadth of their Master's mission and ministry. They were ignorant of the fact that he was to become a sacrifice for the sins of the whole world, and supposed that the blessings which he had come to confer were for the Jews only. His orders to the twelve as he sent them forth could be easily interpreted by them as excluding the Gentiles from the blessings of the gospel: "Go not into the way of the Gentiles, and into any city of the Samaritans enter ye not. But go rather to the lost sheep of the house of Israel." Matt. 10:5, 6.

The experience of the apostle Peter, as recorded by Luke in the tenth and eleventh chapters of the Acts of the Apostles, shows that even this apostle of our Lord, who enjoyed the personal teachings of his divine Master, and the special endowment of the Holy Ghost on the day of pentecost, had severe struggles with those Jewish prejudices which were deeply rooted in his ardent nature. But, by a series of special manifestations of the Holy Ghost, he is finally led to surrender his prejudices and to bear the following testimony: "Of a truth I perceive that God is no respecter of persons; but in every nation he that feareth him, and worketh righteousness, is accepted with him." Acts 10:34, 35.

1. The angel of God visits Cornelius, "a devout man, and one that feared God with all his house, who gave much alms to the people, and prayed to God always."

2. Cornelius was ordered to "send men to Joppa, and call for one Simon, whose surname is Peter."

3. As the messengers drew near the city, Peter was upon the housetop in prayer, and in a trance "saw heaven opened, and a certain vessel descending unto him, as it had been a great sheet knit at the four corners, and let down to the earth, wherein were all manner of fourfooted beasts of the earth, and wild beasts, and creeping things, and fowls of the air. And there came a voice to him, Rise, Peter; kill, and eat. But Peter said, Not so, Lord; for I have never eaten anything that is common or unclean. And the voice spake unto him again the second time, What God hath cleansed, that call not thou common. This was done thrice, and the vessel was received up again into heaven." Acts 10:11–16.

It is safe to conclude that the Lord had a specific object in these manifestations. What they did not signify, and what they were designed to teach, the reader should candidly consider.

1. The vessel, in appearance like a "great sheet knit at the four corners," laden with its living freight, representing all nations, did not contain food for the hungry apostle, but was simply in appearance, and taught the lesson that the gospel of Jesus Christ was to be extended to all nations.

2. The object of this manifestation was not to teach Peter that "all manner of fourfooted beasts of the earth, and wild beasts, and creeping things, and fowls of the air," were suitable articles of diet. This is not the subject under consideration. The object of the vision was evidently to remove his prejudices, and lead him out of his exclusiveness, and to open before him the whole world as the future field of the gospel of the Son of God. The object was gained, the result reached, as seen by his frank confession.

If the apostle had made this horrible con-

fession, "Of a truth I perceive that" it is the will of God that Christians should eat all manner of fourfooted beasts, creeping things, and fowls—including, of necessity, swine, dogs, cats, rats, toads, mice, lizards, snakes, snails, spiders, vultures, owls, ravens, and bats—then we might safely conclude that an unrestricted diet is the subject impressed upon the mind of the apostle, and not the great truth that the blessings of the gospel were designed for all nations.

That which proves too much, proves nothing to the point. Those opposed to the restrictions of the hygienic system quote this wonderful experience of Peter to show that swine's flesh, forbidden in the old dispensation, is a proper article of food for Christians. They ought to see that their evidence for swine-eating is equally good to justify Christians in eating all the beasts, reptiles, and offensive fowls in existence.

ANATOMY, PHYSIOLOGY, AND HYGIENE.

BY THE EDITOR.

MEMBRANES.—Membranes are chiefly made up of connective tissue. They are not anatomical elements, but simple combinations of elements. A membrane consists essentially of a layer of connective tissue which forms the basis, over which are spread several layers of cells, or protoplasmic bodies, called *epithelium*. Besides the skin, which is a form of membrane, there are three other kinds of membrane,—*mucous*, *serous*, and *synovial*. Mucous membranes line cavities which communicate directly with the outside of the body, as the mouth and the whole digestive tract, the air passages, and the urinary cavities and passages. Serous membranes line closed cavities. Synovial membranes partially line the cavities of joints. Each of these several kinds of membrane, including the skin, secretes a fluid peculiar to itself. The skin produces perspiration, or sweat, by means of the sweat glands. Mucous membrane produces mucus, from its mucous follicles. The serous membrane produces a serous fluid; and the synovial membrane secretes a fluid for the lubrication of the joints.

The cells, or epithelium, covering these various membranes, differ very considerably, and also differ on the same kind of membrane in different parts of the body. Some forms of epithelium are exceedingly curious and interesting. For example, a kind known as *ciliated* epithelium is covered with delicate hairs, which are kept in constant and rapid motion during the life of the cell. A small section of mucous membrane having this kind of cells, when viewed under a microscope, presents the appearance of a field of grain waving in the breeze. Specimens of this kind of cells can be obtained for examination from the air passage or from the mouth of a frog, or, better, from what is termed "the beard" of a live oyster. Fig. 18 exhibits a number of varieties of epithelial cells.

FIG. 18. Specimens of Epithelial Cells of various sorts.

As the other tissues will receive ample consideration in connection with the description of the various organs in which they are found, we will not devote more space here to the subject of general anatomy, or histology, although it is a subject of great interest.

A GENERAL VIEW OF THE HUMAN MECHANISM.—Having now viewed quite minutely the anatomical elements, the brick and mortar, so to speak, of the human body, let us briefly glance at this wonderful machine as a whole, before beginning a minute description of its several organs and their functions, as by this means we shall be better able to understand the relations of each part to the whole.

The human body may be considered as a machine constructed for the purpose of thinking, feeling, and acting; at any rate, these three things comprise all the capabilities of any human being. For the performance of these functions there is necessary,—

1. A set of organs capable of thinking and feeling. This we have in the *nervous system*. Certain of the nerve cells of the brain are undoubtedly endowed with the

power to think. Their activity is thought. By means of certain accessory apparatus, the organs of sense, which comprise hearing, sight, taste, smell, touch, the sense of weight, and the power to distinguish temperature, the thought or mind cells of the brain are able to take cognizance of external things; in other words, to feel, or receive sensations. Through the almost infinite ramifications of the delicate nerve fibrillæ already described, all parts of the body are not only made tributary to the brain, but are brought under its domination.

2. There is needed a special set of organs by means of which motions of various sorts can be executed. This want is exactly supplied by the *muscular system*, acting in connection with the bones and the nervous system. The bones serve as points of attachment for the muscles, by which they are employed as levers. The nervous system furnishes the impulse, and the muscles execute the order by contracting in accordance with the directions given to them through the nerve telegraphic communications from the brain.

If the human machine operated without friction or wear, this would be all we should require to perform all the necessary functions of individual life; but every thought, every sensation, every motion or muscular action, is at the expense of tissue. The vital machinery wears and wastes as do all other mechanisms. This necessitates a constant supply of fresh material, and a system of repair. The new material is supplied by the *circulatory apparatus*, which comprises the heart and the blood-vessels, the chief object of which is to distribute the material for repairs wherever it may be needed throughout the system, the nutrient fluid, the blood, being itself replenished through the *digestive apparatus*, which is specially designed for the purpose. Unlike any machine of human invention or construction, this wonderful mechanism possesses the power, within certain limits, to repair itself and keep its own parts in order. Each particular part possesses the power to repair and renovate itself; and so long as this power remains intact, provided the proper amount of new material is furnished, so long will the machine continue to run.

But our machine is not yet wholly complete. The waste products which result from the wear and tear of the tissues in action must be disposed of. If allowed to remain in the system, they would very soon obstruct the delicate machinery so that proper action would be impossible, and activity would speedily cease. This necessitates a special set of cleansing organs to dispose of waste and worn-out particles. This want is supplied in the *eliminative system*, comprising the lungs, which throw off a pound of gaseous filth every day, the skin, which is almost equally active, the kidneys, the liver, and the bowels. These five active organs are constantly at work removing from the body substances that are of no use, and which will obstruct and retard vital action if retained. The human machine clears itself of obstructions. The blood also plays an important part in this work, since in addition to distributing nutriment where needed, it bathes and washes every tissue free from the obstructions which may have accumulated in or about it, and hurries them off to the proper organ which is designed to eliminate or remove them.

As a certain temperature is necessary for the perfect action of this delicate mechanism, nature has so planned that all the various processes named shall result in the production of animal heat, so that this want is supplied at the least possible expense to the vital economy. As uniformity of temperature is also necessary for the proper performance of the various bodily functions, special means are provided by which a deficient supply of heat may be economized and a superabundance rapidly dispersed so as to protect the body from extremes.

So far as the individual man is concerned, the mechanism is now complete; but as the machine ultimately wears out, it is important that there should be some means provided for the perpetuation of the race. This necessity is met by the *reproductive apparatus*, by which new individuals, possessing essentially the same qualities and capable of performing the same functions, may be produced. As we shall elsewhere see, this is one of the most remarkable of all the bodily functions. Indeed, the mysteries of generation are as much beyond the power of the

human mind to solve as are the problems which cluster about the origin of all things. In his reproductive function, man approaches nearest to the Creator, though in this he only uses a power delegated to him by the Creator in common with all other living things.

Thus we have complete, in every detail, this marvelous human machine, which stands as an unanswerable argument against all the sophistry that can be invented to sustain atheism, establishing beyond the possibility of cavil that there must have been at some time at work an intelligent power as much superior to the highest type of human power and intellect, as this delicate mechanism is above the most ingenious piece of workmanship the most skilled mechanic has ever produced.

Having taken a general survey of the human system, its various systems of organs and their general functions, let us now look a little more carefully into the details of structure and function, so that by a thorough understanding of the nature of the various parts and organs of the body we may be the better able to understand what means are necessary to preserve them in health and to prevent and cure them in disease. Our attention is naturally directed to the bones, which, as we have already seen, constitute the framework of the body.

THE BONES.

Although the bones are the firmest parts of the system, they are not, as many suppose, possessed of a very small degree of life. Mere lifeless sticks would come far short of performing the functions of bones. While not as highly vitalized as some of the more rapidly changing tissues, they possess sufficient vital activity to enable them to perform their functions and to repair injuries which may occur. All the bones of the body taken together form the skeleton, for a representation of which see Fig. 19.

STRUCTURE OF BONES.—Bones are made up of a peculiar structure, which has been already described. The osseous tissue proper is covered over with a tough membrane called the *periosteum* and commonly known as the whit-leather. Fig. 20. This membrane supplies blood-vessels to the bone, and it is from it that the bone grows. Bones are classified, according to their form, into long, short, flat, and irregular. Long bones are hollow, having a canal running through a greater or lesser portion of their length, which

FIG. 19. The Skeleton.

is called the *medullary canal*. This canal is lined with a membrane similar to the periosteum, called the *endosteum*, and is filled with medullary substance, which consists of blood-vessels, nerves, fat, and connective tissue.

FIG. 20. Portion of a long bone, showing the periosteum slit up and separated from the bone.

The shaft of long bones is composed of a dense, firm structure, called *compact* tissue, while the expanded ends are chiefly made up of a looser structure, known as *cancellous* tissue. See Fig. 21. Short, flat, and irregular bones are composed of a shell of compact

tissue, the interior being spongy in character.

The periosteum and the medullary substance, or marrow, of bone are very important portions of these organs, since injury to either of these parts is quite certain to be followed by death of the bone on account of interference with its nutrition.

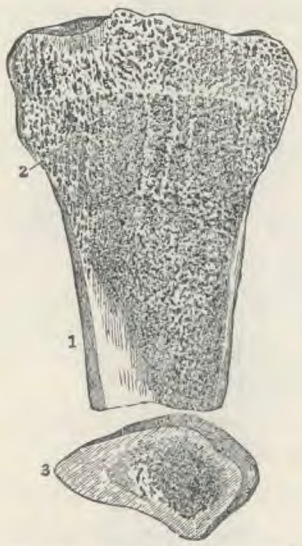

FIG. 21. The upper part of the cut shows a longitudinal section of the large end of a bone. At 3 is to be seen a transverse section of the shaft, showing the medullary canal.

THE JOINTS.—The points at which bones come together are called articulations, or joints. The parts which enter into the formation of joints, in addition to the bones, are cartilage, synovial membrane, and ligaments. Wherever bones come in contact with any degree of motion, the surfaces of contact are covered with a dense, elastic, non-sensitive substance known as cartilage. In order that the bones shall be held together in proper position, they are bound by firm bands of fibrous tissue, called ligaments, which are so arranged as to secure firmness without interfering with the necessary movements of the joint. In order to provide for the maintenance of the joint in a healthy condition, a means is furnished for lubricating the articulating surfaces and thus lessening friction. The lubricating material is known as synovia, and is furnished by the synovial membrane, with which every joint is provided for this purpose.

VARIETIES OF JOINTS.—A number of different kinds of joints are illustrated in the human body, the most important of which are the *hinge* joint, illustrated by the knee, the elbow, the fingers and toes; the *ball-and-socket* joint, of which the hip and shoulder joints are examples; and the *gliding* or *planiform* joint, in which one flat surface glides over another, as in the short bones of the wrist and the ankle.

Oleomargarine.—This rather recent fraud, artificial butter, was lately introduced into a lunatic asylum in Paris; but the crazy people there discovered its real character, and the damaging effects upon the health were such as to cause the authorities to prohibit its use. It seems the madmen's heads were more nearly level after all than those of the Congressional committee lately appointed to investigate the fraud.

FOOD SUBSTANCES.

THE various substances used for food are classified, first, as animal and vegetable. The first class includes the flesh of animals of all kinds; for every one of the various classes of the animal kingdom, from highest to lowest, has been drawn upon to contribute to the sustenance or to gratify the palate of human beings. Eggs and milk are included in this class. The second class also includes a great variety of productions, all parts of plants of one species or another contributing to the food of man.

Vegetable food is rather imperfectly classified into fruits, grains, and vegetables. This division is quite faulty, as neither of the classes properly includes nuts or such seeds as peas and beans. Vegetables include all parts of plants used as food, with the exception of the seed portions. Pumpkins, squashes, cucumbers, melons, and similar foods usually called vegetables, are really fruits.

The following table shows the proportion of solid matter, chiefly nutriment, contained in one hundred parts of some of the more common substances employed as food; the table is arranged from Letheby's and Smith's works on food, and gives the results of the most recent examinations of the several articles named in the list.

TABLE OF NUTRITIVE VALUES OF VARIOUS ARTICLES OF FOOD.

ARTICLES.	Water.	Albumen, Etc.	Starch.	Sugar.	Fat.	Salts.	Total Nutritive Elements.
Bread	37	8.1	47.4	3.6	1.6	2.3	63
Wheat Flour	15	10.8	66.3	4.2	2	1.7	85
Barley Meal	15	6.3	69.4	4.9	2.4	2	83
Oatmeal	15	12.6	58.4	5.4	5.6	3	85
Rye Meal	15	8	69.5	3.7	2	1.8	85
Indian Meal	14	11.1	64.7	0.4	8.1	1.7	85
Rice	13	6.3	79.1	0.4	0.7	0.5	87
Peas	15	23	55.4	2	2.1	2.5	85
Beans	15	23	55.4	2	2.1	2.5	85
Lentils	....	....	....	....	....	....	77
Arrowroot	18	....	82	....	....	....	82
Potato	75	2.1	18.8	3.2	0.2	0.7	25
Sweet-Potato	68	1.5	17.3	10	0.3	2.9	32
Carrot	83	1.3	8.4	6.1	0.2	1	17
Beet	83.5	1.5	0.8	10.5	....	3.7	16.5
Parsnip	82	1.1	9.6	5.8	0.5	1	18
Cabbage	....	....	....	....	....	....	5.6
Turnip	91	1.2	5.1	2.1	....	0.6	9
Sugar	5	....	....	95	....	....	95
Treacle	23	....	....	77	....	....	77
New Milk	86	4.1	....	5.2	3.9	0.8	14
Cream	66	2.7	....	2.8	26.7	1.8	34
Skim-Milk	88	4	....	5.4	1.8	0.8	12
Buttermilk	88	4.1	....	6.4	0.7	0.8	12
Lean Beef	72	19.3	....	....	3.6	5.1	28
Lean Mutton	72	18.3	....	....	4.9	4.8	28
Veal	63	16.5	....	....	15.8	4.7	37
Poultry	74	21	....	....	3.8	1.2	26
White-Fish	78	18.1	....	....	2.9	1	22
Salmon	77	16.1	....	....	5.5	1.4	23
Entire Egg	74	14	....	....	10.5	1.5	26
White of Egg	78	20.4	....	....	....	1.6	22
Yolk of Egg	52	16	....	....	30.7	1.3	48
Bread-Fruit	80	....	....	....	....	....	20
Banana	73	....	....	....	....	....	27
Date	33	9	....	58	....	....	67
			ACID.				
Grape	79.8	1.7	1.1	13.8	0.5	0.5	17.6
Apple	82	8	0.8	6.5	....	0.4	15.7
Pear	85	4.6	....	7.9	....	0.3	12.8
Peach	85	0.5	0.6	1.6	....	0.4	3.1
Plum	81	0.5	1	3	....	0.3	4.8
Mulberry	84.7	0.4	1.8	9.2	....	0.7	12.1
Blackberry	86	0.5	1.2	4.4	....	0.4	6.5
Cherry	80.5	2.7	1.3	8.7	....	0.6	13.3
Apricot	82	0.4	0.7	1.5	....	0.8	3.4
Gooseberry	85	0.4	1.6	8.2	....	0.5	10.7
Strawberry	87.5	0.5	1.1	7.5	....	0.6	9.7
Strawb'y (wild)	87	0.6	1.3	4.6	....	0.6	7.1
Raspb'y (wild)	84	1.6	0.2	3.6	....	0.3	5.7
Raspberry	86.5	2.3	1.3	4.7	....	0.5	8.8
Currant	85	0.5	1.8	6.4	....	0.6	9.3

In the foregoing table only the nutritive elements are given. In a few instances the proportions given will not aggregate one hundred parts, as the innutritious elements are left out.

It will be observed by reference to the table of nutritive values that the proportion of the various elements varies considerably. Experiments upon both animals and human beings show that it is of great importance that the proportion of elements should be such as will best meet the demands of the system,

especially in the case of the albuminous and carbonaceous elements (gluten, albumen, fats, starch, and sugar). Many and extended experiments and observations have shown that the proper proportion is about one part of nitrogenous or albuminous elements to seven parts of carbonaceous elements. From this it will at once appear that most articles of food are deficient in one or the other of these classes of elements, requiring that they be supplemented by other substances eaten with them. The following table shows the proportion of carbonaceous elements to one of the albuminous in some of the more common articles of food, by the use of which any one will be able to combine various articles of food in such a manner as to secure just the right proportion of nutritive elements :—

PROPORTION OF NITROGENOUS TO CARBONACEOUS ELEMENTS IN VARIOUS FOODS.

	ALBUM. OR NITROG.	CARBONACEOUS.		ALBUM. OR NITROG.	CARBONACEOUS.
Lean Beef,	1	.5	Wheat Meal or		
Eggs,	1	1.9	Bread,	1	7.0
Peas,	1	2.7	Indian Meal,	1	7.7
Beans,	1	2.7	Rye Meal,	1	9.8
Lentils,	1	2.4	Potatoes,	1	10.7
Milk,	1	3.6	Carrots,	1	11.5
Fat Beef,	1	5.0	Barley Meal,	1	12.7
Oatmeal,	1	6.1	Rice,	1	13.0

By the above table it will be seen that wheat meal is the food which of all single substances the most perfectly meets the requirements of the system, containing exactly seven parts of the carbonaceous elements to one of the albuminous.

Beef and eggs are deficient in the carbonaceous elements. Potatoes and most other vegetables, and rice, are deficient in albuminous elements. Oatmeal has an excess of the albuminous elements. By combining food substances which are deficient in one class of elements with those in which the same class is in superabundant proportion, the two classes of elements may be furnished to the system in just the right proportion. For instance, lean beef, eggs, peas, beans, milk, or oatmeal, may be used with potatoes, rice, or other foods deficient in albuminous elements. It is for this reason that the Irish or Scotch laborer by instinct combines with his potatoes oatmeal porridge or buttermilk.

For the convenience of the reader who may not wish to take the trouble to figure out the proper proportions of different foods necessary to furnish just the right amount of the albuminous elements, we have constructed the following table of combinations, which is sufficiently accurate for practical purposes (we have purposely omitted small fractions), and will be perfectly safe to follow, as we have taken care to have the albuminous, the most important element, in slight excess :—

TABLE OF COMBINED FOODS.

	oz.			lb.	oz.	
Combine	8	Lean Beef	.. With	4	8	Potatoes.
"	7½	" "	.. "	1	8	Rice.
"	1½	" "	.. "	1	8	Indian Meal.
"	12	Eggs,	.. "	1	6	Rice.
"	9	"	.. "	5	2	Potatoes.
"	3	pts. Milk,	.. "	1		Rice.
"	2½	" "	.. "	4	4	Potatoes.
"	7½	oz. Peas,	.. "	1	4	Rice.
"	6	" "	.. "	5		Potatoes.
"	1 lb. 5	" Oatmeal,	.. "		5	Rice.
"	1 " 4	" "	.. "	1	11	Potatoes.
"	1 " 4	" "	.. "		5	Rye Meal.
"	15	" "	.. "		10	Indian Meal.

The quantity of each kind of food given in the above table, when added to that of the food substance given on the same line in the opposite column, makes just the quantity necessary to sustain life well for one day. Persons engaged in very active labor of course need more food than others, and the amounts may be increased accordingly, the same proportion being always preserved.

It may be observed that it is not necessary to combine flesh with vegetable food in order to secure the proper proportion of the nitrogenous and carbonaceous elements, since there are several vegetable foods which contain the albuminous elements in excess, which is also the case with eggs and milk. For example, three pints of milk and one pound of rice make as perfect a combination, so far as the proportion of elements is concerned, as seven and a half ounces of lean beef and a pound and a half of rice. Seven and one-half ounces of peas and a pound and a quarter of rice is an equally perfect combination of food elements, which may also be said of one pound five ounces of oatmeal and five ounces of rice ; one and a quarter pounds of oatmeal and one pound and eleven ounces of potatoes ; the same quantity of oatmeal and five ounces of rye meal ; or fifteen ounces of oatmeal and ten ounces of Indian meal.

Bread is not included in the list of combinations, because it is a perfect food by itself, and hence does not need to be combined with other foods, except for variety. This remark applies, of course, only to wheat-meal

or graham bread. White or fine-flour bread is very deficient in albuminous elements.

Another advantage in combining various foods is to be found in avoiding too great bulk in the case of vegetable foods, and too great concentration in the case of some animal foods. This will be readily apparent when it is observed how great quantities of some single food substances are necessary to supply the system with the proper quantity of nitrogenous elements, when eaten alone, as shown by the following table :—

AMOUNT OF VARIOUS FOODS NECESSARY TO FURNISH THE PROPER DAILY AMOUNT OF NITROGENOUS ELEMENTS.

	OUNCES.		POUNDS.
Lean Meat	15.6	Grapes,	11.0
Eggs,	21.2	Apples,	2.5
Peas,	11.2	Peaches,	37.5
Oatmeal,	23.6	Plums,	37.5
Baker's Bread,	36.7	Cherries,	7.0
Wheat Flour (fine),	27.5	Carrots,	14.2
Graham Flour,	25.5	Turnips,	15.4
Indian Meal,	26.8	Cabbage,	15.4
Rye Meal,	37.1	Parsnips,	16.9
	POUNDS.		PINTS.
Rice,	3.0	Milk,	4.5
Potatoes,	8.8	Beer,	185.0

By reference to the preceding tables any one will be able to so combine various articles of food as to secure the proper amount of nitrogenous matter without overloading the digestive organs, and yet give to the food the bulk necessary for good digestion. Evidently, it would overtax the stomach to digest turnips in sufficient quantities to supply the wants of the body, while lean meat would afford to little bulk, as well as being deficient in carbonaceous matter.—ED.

THE FOOD WE EAT.

How much the success or failure of our lives depends upon the food we eat, we little comprehend. No science is so neglected and so little understood. Man would not dare to treat a valuable horse with the same recklessness with which he treats himself. For with care he selects food for his horse, few if any changes being allowed, and he procures a competent groom to look after and care for the animal, that he may be capable of fleetness and endurance ; while with himself he sits down to his table, groaning under its burden of variety and richness, and, without regard to the requirements of his system or the affinity the food may possess, fills himself to the utmost capacity of his stomach, regardless of consequences. But had he first passed this partaken dinner over to his chemist and allowed him to analyze it and hand it back to him labeled, he would have turned pale and wondered if such were truth. Again, were he to step into a drug-store and attempt to mix chemicals as he does his food, without regard to chemical laws, he would soon have his head blown from his body. Why not then study and investigate the laws of our own natures, and be as wise as is the ox or the ass, that knoweth his master and his master's crib, and accuse not a kind and loving Providence of cursing us with disease and suffering when we are ourselves alone responsible.

THE HEALING POWER OF THE IMAGINATION.

THE records of medical practice are full of illustrations of the influence of the imagination, for good or evil, over the functions of the body, and philosophy finds in them a key to the wonderful persistence of more popular superstitions. The firm belief that any disastrous physiological result, even death itself, will surely follow a given act or occurrence, is very apt to bring about the dreaded calamity; and every repetition of the seeming sequence of cause and effect tends to confirm and strengthen the mischievous belief. As a means of counteracting this tendency of perverted imagination, charms for averting evil often play a conspicuous part. The protection is as imaginary as the dreaded evil ; but, assuming a belief in the fictitious danger, —a belief strongly tending to make the danger real,—the charm substitutes a more hopeful belief, and the danger ceases.

A curious illustration of this action of the mind is reported from San Francisco, in connection with a case of transfusion of blood. An aged negro, at the point of death, was saved by this operation, the blood—about eight ounces—being taken from his wife's arm. The man recovered, but the woman went into a curious decline, against which tonics and nourishing food were of no avail, At last the patient confided to the doctor the secret of her ailment, which kept her from resting day or night.

"I tell you, doctor," she said, whisperingly,

"it's that blood of mine the old man is carrying about inside of him; and, doctor, when that old man comes back, I want you to give me my blood back." The doctor, seeing that the woman would not be appeased unless he complied with her request, promised to return the next day, first informing her of the dangers of the operation, and that it was resorted to only in the most urgent cases. She would hear of no explanations, but demanded that the operation be performed. It was accordingly done the next day, the doctor taking from the man about half an ounce of blood and transfusing it into the woman's veins. After the operation the woman brightened up perceptibly, saying, "I'll be all right now, doctor." And that the operation did prove a success was fully demonstrated by the sick woman, who began work a few hours afterward, declaring that the doctor was a wonderful man, and that now she's got her own blood back again she is all right.—*Scientific Assembly.*

NATURE.

BY W. B. LEWELEN, M. D.

ALL cures of diseases are effected by nature; art is only her assistant, and cures by her means. Physicians have great difficulty in believing this truth, and those who admit it, only do so because the evidence of physiology and pathology force the conviction on the mind so strongly that they cannot resist. Every practitioner, if he looks within, will find that he is frequently congratulating himself upon results which he has simply witnessed, and had no hand in producing. And not infrequently we find that this engenders a degree of egotism that prevents any progress in knowledge, in fact, removes every incentive to study and investigation.

If we examine the mechanism of the body we shall find it perfect in all its parts, and accurately adapted for the position in which it is placed. It is formed with strict reference to every other body or force in nature, so that, instead of being an isolated creation, it forms but a minute part of a vast whole. Considered with reference to the universe, it has the same power of reproduction and of growth, and the same power to resist influences unfavorable to its existence, as has the fish, the bird, the animal, the tree. Like these, also, its structure is so arranged that it has an allotted time to live, and dies, simply because the force inherent in it, and which holds its component parts together, is exhausted.

No other living body with which we are acquainted has the powers of adaptation possessed by man. He lives alike in the arctic and torrid zones, breathes the rarefied air of the highest mountains, or the denser atmosphere of the low-lands, and receives the materials for the nutrition of his body from every source in nature. Causes of disease are those forces acting upon the body from without, which tend to impair either its structure or function. In its natural condition the body possesses the power of resisting them, as much, perhaps, as any other organized body; and though this power of resistance is to some extent enfeebled by civilization, it is yet retained in a very marked degree.

It has likewise the power of removing disease when produced, by re-establishing arrested or deranged functions, and restoring structures to their normal condition, or one so near it that life can be maintained.

Numerous examples of this power of removing disease might be named, but we see no necessity of proving a fact that must be admitted by all.

It is well established that in cases of remittent fever, ninety-six per cent would recover without the administration of medicine; that typhoid fever would have a mortality of not more than five or ten per cent, and that in pneumonia, both single, double, and complicated, but seven and four-tenths per cent die, according to Dr. Deithl; ten to thirteen per cent according to other authorities. No better illustration of *natura sanata* could be given than that some scores of years ago, this mortality was doubled, and not infrequently quadrupled. As heretofore remarked, I am one of those who believe that medicine has been one of the greatest scourges of humanity, ranking with war, pestilence, and famine, and yet, that when fully developed and shorn of excrescences, it will be one of the greatest blessings.—*The Medical Brief.*

—Air and sunshine cure more than physic.

ARGUMENTS IN FAVOR OF TEA AND COFFEE CONSIDERED.

(*Concluded.*)

8. Tea and Coffee are Necessary Condiments.—One writer upon dietetics tells us that the utility of tea and coffee does not depend upon their peculiar principle, theine, but that it is wholly the product of a certain aromatic oil which they contain, and which he denominates "osmazome." This gentleman argues that food cannot be digested unless it is relished; and that since tea and coffee, in company with other condiments, make the food more palatable to the taste, they must be essential to nutrition.

While it is certainly true that the value of any article as a food depends very largely on its gustatory properties, it cannot be for a moment supposed that the mere question of taste is *sufficient* to settle the nutrient quality of an aliment. In other words, an article may be exceedingly pleasing to the taste, and yet be equally injurious to the health and quite unfit for food. If this were not the case, how would the epicure and the glutton rejoice; for then they might gratify their appetites without restraint!

Again, an article may be possessed of little or no gustatory properties, and yet be a most valuable and indispensable aliment. Such is the case with pure water. We do not hesitate, then, to declare this argument for the use of tea and coffee to be without weight. It is, indeed, a fact now coming to be recognized more and more fully, that all condiments are not only useless, but injurious, tea and coffee with the rest.

9. Tea "Cheers and not Inebriates."—Philosophers have speculated, theologians have moralized, and poets have waxed eloquent about "the cup that cheers and not inebriates." Doubtless we shall startle such when we say that, although this is very pretty poetry, it is false in fact. Tea and coffee, as well as tobacco, are as truly capable of producing a condition of intoxication as is alcohol. Intoxication is a condition in which the sensibilities are paralyzed and the mind delirious. In more than one instance has this identical condition been induced by the use of tea and coffee.

In Australia, drunkenness from the use of tea is very common. In South America a person who is greatly addicted to the use of coca is called a *coquero*, which means the same as our word drunkard. The Maté or Paraguay tea of South America, the active principle of which is precisely the same as that of tea and coffee, produces not only intoxication but delirium tremens. Abyssinian tea, another form of the same principle, used in Shoa and among the poorer classes in some parts of China, is said by Johnson to be very intoxicating.

We have already referred to the fact that Dr. Edward Smith, of England, when conducting some experiments on the "physiological action" of coffee, was thrown to the floor, insensible, in company with his assistant, as the effect of drinking strong coffee.

Dr. Cole, of England, describes the cases of several individuals who were frequently found lying insensible as the result of tea-drinking. One case which he mentions, was an author who was thus found two or three times a week.

Indeed, the man who is so far bereft of his reason that he is wholly insensible is not the only person who is drunk. Every man who takes into his system any kind of stimulant, be it tea, coffee, tobacco, opium, arsenic, or alcohol, is drunk just in proportion to the dose, and all his actions will be more or less unnatural.

The word intoxicate is derived from the Latin word *toxicum*, poison, *intoxicatum* meaning to drug or poison. Intoxication, then, is a condition of poisoning; and it is wholly immaterial whether opium, alcohol, tobacco, tea, or coffee, is the agent employed.

10. Tea and Coffee are Substitutes for Food.—Tea and coffee, as well as alcohol and tobacco, have been called by some physiologists "accessory foods," because, as was alleged, they prevent the rapid disorganization of tissues, which always accompanies organic activity. It might be easily shown that this would be most undesirable, if it were really true; for vital action is not only accompanied *by* organic change, but is inseparably connected *with* it. Some even say that it is dependent upon it. But we need not enlarge upon this; for it is claimed by our best au-

thorities that careful experiments demonstrate the fact that change is *accelerated* instead of impeded by the use of tea and coffee. While we have little confidence in the reliability of any of these experiments, there being many chances for error, they are very interesting on some accounts.

A popular writer says, "Science almost always finds some foundation in fact for popular prejudices." In this case, we have a very excellent illustration of this fact. Quite a number of illustrious individuals have been for some time recommending the use of tea and coffee, because, as they claimed, they prevented the ordinary rapidity of tissue change, and so lengthened life and economized food. But now we find Dr. Smith, the author of the latest and most popular and reliable work on foods, telling the people that they should use tea and coffee because they *increase* the rapidity of tissue change, and so increase the available force of the individual. Thus it appears that those who use tea and coffee need to eat more food instead of less, as heretofore claimed.

The only conclusion to be drawn from these facts is that even scientific men are sometimes so blinded by the fogs of appetite that they lose sight of true principles and allow themselves to be guided by their prejudices. Reason and common-sense must decide from the facts in the case, independent of all such contradictory, and hence unreliable, testimony.

Holding that tea and coffee are harmless beverages, many temperance workers have urged their introduction as substitutes for alcoholic drinks; and for this purpose, temperance(?) coffee houses have been established in many of our large cities.

We believe, however, that in the attempt to reform drunkards and prevent intemperance, no greater mistake can be made than to attempt to substitute one stimulant or narcotic for another. It is possible that temporary benefit may be derived from the establishment of coffee houses in districts where a sudden and extensive temperance reform has been effected, but the ultimate effects of substituting tea or coffee for alcoholic drinks as a cure for intemperance will prove it to be a fatal error. The great sin of intemperance is not in the use of alcohol *per se*, but in the gratification of the desire for artificial stimulation.

We fully believe that the use of tea and coffee, especially when it is begun early in life, or indulged in to any degree of excess, is by no means an insignificant cause of intemperance, the use of one stimulant leading to another until the grossest forms of intemperance are reached. The facts to which attention has already been called, in our consideration of the subject, will justify this conclusion. We fully agree with the sentiment expressed by an eminent New York physician that "the only consistent teetotalism is that which abstains from all forms of stimulants and narcotics." We thoroughly believe that more harm is done at the present time by tobacco, tea, and coffee, than by all forms of alcoholic drinks combined; and we deem it of the greatest importance that the efforts of temperance workers should be turned in this direction. We are glad to see omens of progress toward true teetotalism, one of the most promising of which is the recent formation of the American Health and Temperance Association, which, although only inaugurated on New Year's of 1879, has already effected more than twenty auxiliary State Societies, and more than a hundred local organizations, and secured a membership of more than ten thousand. The teetotal pledge of this association requires abstinence from alcohol, tobacco, tea, coffee, opium, and all other narcotics and stimulants.*

The work of this organization is being pushed with vigor through its agents in all parts of this country, and in England, Sweden, Norway, and Switzerland. It is to be hoped that other temperance organizations will take hold of this work also. J. H. K.

*Those who desire further information respecting this organization can obtain it by addressing the association at Battle Creek, Mich.

Tobacco Substitute.—A Minnesota man has invented a substitute for tobacco for which he has received a patent. The compound consists of spikenard, red clover, hyssop, hops, slippery-elm bark, tarred rope, pennyroyal, mullen leaves, kinnikinic, wild-cherry bark, and ginseng. If we were to choose between the two, we think the tobacco would be preferable to such a nauseous compound.

NEAL DOW ON THE TOBACCO BONDAGE.

SOME time since, I met an Englishman on a steamer, both of us making the same journey, to whom I was fortunate enough to render some service, under certain circumstances which were awkward for him, but from which he was extricated with my help. By-and-by we took the shore, and I invited him to a share of a wagon I had engaged to take me to a town to which he was also bound, seven miles away over a country road.

We were no sooner started on our little journey, than my friend took a cigar case from his pocket, and said,

"Will you have a cigar?"

"No, thanks; I never smoke nor use tobacco in any way; that's a part of my education that was entirely neglected."

"But it is a very great pleasure to smoke; I could not get on without it."

"Perhaps I'm not well informed as to the sort of pleasure that comes from tobacco. I have heard a great deal said about it, and have talked with a great many people upon the subject, but am not certain that I understand it thoroughly. Now, I think it a good opportunity to learn from you all about the pleasure of smoking, so that I can form an intelligent opinion as to the wisdom or unwisdom of the habit. Now, in what does the pleasure really consist?"

"Well, after eating, a good cigar is a great comfort; it is a greater pleasure even than a good dinner to a hungry man."

"Yes, I understand that; I have heard smokers say so many times. But what I wish to know is in what the 'pleasure'—the 'comfort'—consists. We have just had a good dinner at the landing place, in that nice hotel. I am perfectly satisfied and comfortable. I cannot at this moment think of anything to eat or to drink that I should like. I am thoroughly comfortable. But you want something more, your cigar, and if by some accident you could not have one, would n't you be uncomfortable?"

"Yes, I confess that I should."

"Would n't you be *very* uncomfortable?"—(with a strong emphasis on the "very.")

"Yes, I acknowledge that I should be so."

"Pray excuse me for pressing the matter, because I am really anxious to ascertain as accurately as I can whether any real pleasure comes from tobacco,—a pleasure that a sensible man need not be ashamed of. No man likes comfort, real, downright comfort, better than I do. I greatly enjoy suitable and intelligent pleasure. Now, if I were to allow myself to be influenced by your example so as to have a share of the pleasure you speak of, what would happen? I could not smoke freely at once, I suppose, as you do now?"

"No. You must learn to smoke by slow degrees."

"During this process of learning I suppose I should be sick?"

"Yes, of course you would be sick."

"Very sick I suppose. I have heard it said that there would be deathly nausea at the stomach, and violent, prolonged vomiting, with a cracking, snapping headache; is that a fair description of what I should suffer?"

"Probably; but all beginners do not suffer so much."

"Yes, I understand that; there are differences in physical constitutions. And besides that, some children are saturated with tobacco smoke; they live in a tobacco atmosphere, so that they would not suffer so much in learning to use tobacco in any way. But as a rule, people learning to use tobacco are dreadfully sick and suffer very much."

"Yes, as a rule they do. I did."

"For how long did this suffering continue?"

"That varies in different persons. I was sick for about four weeks. That's the average time. Some people suffer less, and some more, and some persons cannot learn to use tobacco; they are always sick if they touch it."

"Yes, that corresponds with what I've often heard. But, now, suppose I've fully made up my mind to learn to smoke so as to have my share of the 'pleasure,' the 'comfort,' coming from it. I have great powers of endurance; I sit down to my task, as in a dentist's chair to have all my teeth pulled out. I don't flinch, but endure heroically the torture of the dreadful nausea, the retching and violent vomiting, and the crashing headache. My lips are livid, my face has the pallor, the anguish of the most painful death agony. You are standing by me, and doing

your best to keep my courage up. 'Do n't be afraid,' you say, 'you'll not die. I've been through it all and more. For all this suffering and anguish you'll be rewarded many fold in the pleasure and comfort of smoking.' Would you not say all that to encourage me?"

There was a pause. He did n't answer at first. Then he said, "I've never thought of it in that way. I do not think I should encourage you, or even stand by the bedside of any one learning to use tobacco and encourage him to persevere." Laughing heartily, "I never thought of the ridiculous, absurd figure a man makes in learning to use tobacco. In fact, men never acquire the habit, or very rarely, and then under exceptional circumstances. It's boys who learn, because they think it smart and manly to use tobacco. They steal away into secret places; they hide behind the barn or creep under the wood-shed, out of sight, because they're ashamed, and there they smoke and vomit. That's the way in which ninety-nine of every hundred tobacco users have acquired the habit."

"But to come back to myself. I do not nauseate now, or but very little. I've conquered that, but I have no desire whatever for a cigar. I can smoke one without being sick, but I would not touch one but for the example of others. Is n't that exactly what would happen?"

"Yes, that was precisely my case."

"But I persist in smoking; and by-and-by it becomes a necessity, because if I omit the customary cigar I should suffer. After a year or two of the tobacco habit, I should suffer very much if I could not have my cigar. Is that not precisely where I should be, where you are now?"

"Yes, that is exactly the case; that's a fair statement of it."

"Then, in short, I have suffered all this dreadful pain in learning to use tobacco, only to fasten upon myself a most expensive and offensive habit, which I cannot throw off except at the cost of torture almost unendurable. I continue the tobacco habit only to avoid the intense suffering which would otherwise torment me. The 'pleasure,' the 'comfort,' coming from the tobacco habit is this, only this, and nothing more: it wards off pain."

"I have never heard the matter put in that way before, but I must confess that that is the whole of it. If I cannot have my cigar I suffer; while I am smoking, the pain is relieved, is gone; and in fact that is all the pleasure to be derived from smoking."

"Upon the whole, then, I do not think I shall learn to use tobacco: to acquire a habit which is very costly, which makes one offensive to many people,—a habit which unmans a man so far that he feels himself under a bondage which he cannot throw off without an effort that few men who are subject to it find themselves equal to."—*Witness.*

THE VALUE OF SUNLIGHT.

WHETHER your home be large or small, give it light. There is no house so likely to be unhealthy as a dark and gloomy house. In a dark and gloomy house you can never see the dirt that pollutes it. Dirt accumulates on dirt, and the mind soon learns to apologize for this condition because gloom conceals it. Flowers will not healthily bloom in a dark house, and flowers are, as a rule, good indices. We put the flowers in our windows that they may see the light. Are not our children worth many flowers? They are the choicest of flowers. Then, again, light is necessary in order that the animal spirits may be kept refreshed and invigorated. No one is truly happy who in working hours is in a gloomy house or room. The gloom of the prison has ever been considered as a part of the punishment of the prison. It is so. The mind is saddened in a home that is not flushed with light; and when the mind is saddened, all the physical powers soon suffer; the heart beats languidly, the blood flows slowly, the breathing is imperfect, the oxidation of the blood is reduced, and the conditions are laid for the development of many wearisome and unnecessary constitutional failures and sufferings.

Once again, light, sunlight I mean, is of itself useful to health in a direct manner. Sunlight favors nutrition; sunlight favors nervous function; sunlight sustains, chemically or physically, the healthy state of the blood. Children and older persons living in darkened places become blanched or pale; they have none of the ruddy, healthy bloom of those who live in light.

Lately, by architectural perversity, which is simply astounding, it has become a fashion to build houses like those which were built for our ancestors about two centuries ago, and which are called Queen Anne houses or mansions. Small windows, small panes, overhanging window brows, sharp, long roofs, inclosing attics with small windows; these are the residences to which I refer,—dull, red, dark, and gloomy. I am told that their excellence lies in their artistic beauty, to which many advantages that we sanitarian artists wish for must necessarily be sacrificed. I would be the last to oppose either the cultivation of art in design, or of art in application, and I do not for one moment believe that such opposition is necessary. But these beetle-browed mansions are not so beautiful as health, and never can be. I am bound to protest against them on many sanitary grounds, and on none so much as on their interference with the work of the sun. They produce shade, and those who live in them live in shadow.—*Dr. B. W. Richardson.*

THE EVILS OF HOT BREAD.

THERE is no law in this country to prevent the consumption of hot bread but the law of common-sense, and unfortunately that is a dead letter as a governing principle in the lives of a great many people. That hot bread in nine cases out of ten will produce dyspepsia is no newly discovered fact, and especially is this terrible result sure to follow persistent indulgence on the part of those whose pursuits are quiet, in-doors, and sedentary.

And yet the reformers, or those who call themselves such,—the men and women who work themselves into a white heat over the sale of a glass of cider,—will go on year after year, not only making no outcry against this pernicious indulgence, but actually filling themselves up day by day with the hot and poisonous gases of the oven. This servant of the housewife can be made as terrible a stomach destroyer as the distillery, and the sworn foes of the latter are apt to be its best patrons. Dyspepsia paints the nose and sours the temper as surely as dram-drinking, and many sufferers from the former, though by their own willful acts, inveigh the most loudly against the latter. A well-defined case of jim-jams is the climax to a course of intemperance, and warns the victim that his alternative is death or immediate reformation. But the dyspepsia that hot bread, mince-pie, and kindred abominations cause, has no sudden warnings. The man who uses them goes on making both himself and those around him wretched, and refuses to acknowledge that he is a sinner above those whose lighter faults he fiercely condemns.—*Sel.*

TYPHOID FEVER.

TYPHOID fever is, of all diseases, pre-eminently a *filth* disease, traceable with as much certainty as fire from smoke. Wherever it exists it points unequivocally to unremoved filth; and is a disease, therefore, altogether and wholly preventable by proper sanitary measures. Notwithstanding this, during the census year 1870, there were, in the United States, 22,187 preventable deaths from typhoid fever. But, had there been the same ratio to the total population of the United States as in Philadelphia during the Centennial year, the mortality from this cause would have been over 37,000. And this was far from being all, as regards Philadelphia. All over the country fatal cases of typhoid fever, and other diseases nearly allied to it, were attributable to the Centennial visitation,—the neglected drainage, criminal insufficiency of water-closets, and bad plumbing. These conditions, so pre-eminently manifest at the Centennial, and apparently to an extraordinary degree in Philadelphia even yet, as judged by the prevalence of typhoid fever, are of all cases of mortality the most criminal, because the most easily prevented. Universal experience attests that water-closets inadequately provided with means for speedy and complete cleansing and aëration are prolific sources for typhoid fever and kindred affections in all temperate latitudes, and with prevailing high temperature and moisture, of the still more deadly disease, yellow-fever. The existence of typhoid fever or allied diseases in any place is prima-facie evidence of filthy surroundings.—*Sanitarian.*

—Absence of occupation is not rest.

LITERARY MISCELLANY.

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

TOIL.

MRS. E. E. KELLOGG.

To LIVE, one of the many
Watching aloof the strife,
A user only of bounties,
Is but to mock at life.

Such, like the atoms floating
On the ocean's broad expanse,
When the storm has burst in fury,
Are gone—none seeketh whence.

But he who has bravely battled,
If only with homely want,
Has thereby grown the stronger,
Till naught shall his spirit daunt.

All earth is a scene of labor,
From vale to lofty hill;
Whether cataracts pour in thunder,
Or flows the tiny rill,

Or afar in the sea's dark caverns,
Deep under the waves' turmoil,
The patient island-builders,
At their work of ages, toil.

And man has caught the watchword
That Nature sounds amain,
And flashes it under the ocean,
And shouts it over the plain.

And the ring of his busy hammers,
The whirr of his hurrying wheels,
The grating of spade and trowel,
Are tones in the organ peals

That blend with the voice of Nature,
And sing for aye and aye,
"All needful work is worship,
And to labor is to pray."

ALCOHOLIC STIMULANTS AND NURSING MOTHERS.

A HEALTHY-LOOKING young mother, with a very bright face, sat with beaming smile, watching the eager way in which her little babe of six months old took his dinner, delayed somewhat beyond the usual time, as "mother" had been doing a little marketing.

It was a very pretty sight, the happy face of the mother, with the eager, hungry, fully determined look and manner of the round-cheeked baby.

"What a lovely baby!" I exclaimed, as I stood in the doorway of the cottage where the young mother sat—she was only a visitor there, having called in on her way home into the country.

A bright smile was the only answer. I went up to the child and looked at it more closely.

"It looks the very picture of health," I said, gently touching its plump little face. You do not, I hope, nurse your baby upon stimulants?"

A flush, more of surprise than anger, came into the mother's cheeks, as she said hastily,

"That is all you know about it, *Miss*. If you had had any children of your own, you would have known, as mothers only can tell you, how very much we are forced to depend upon stimulant in nursing our little ones. Why, the milk would do them but little good if it were not for what we took!"

"Indeed," I said, smiling, warmly admiring the woman in her motherly dignity, but a little grieving for her in her ignorance. "Well, let me first tell you that I am not the '*Miss*' you call me, but a married woman with three little ones of my own, all of whom I have nursed without even a thimbleful of stimulant. Next let us compare notes. How do your babies sleep?"

"Sleep? Oh, as well as babies usually do," she replied hurriedly. "We have no need to complain. I suppose all children are more or less restless."

"Those nursed *without* stimulant are far *less* restless than those nursed with it," I replied, sitting down beside her; "mine, for instance, have often slept without a move for eight, ten, and even eleven hours, and I always put them down awake."

"Eight, ten, or eleven hours!" exclaimed the little woman with surprise. "Well,

yours must have been model children! I never get more than three or four hours' sleep at a stretch with mine, but then, if they want to sleep, poor little dears, they mostly get disturbed with flatulence. My children always suffer a good deal from wind."

"Well, mine never do," said I, feeling I was rapidly gaining ground, more from the young woman's admissions than by my own arguments. "Unless I have been injudicious in my eating I have never known them to be disturbed with flatulence after the first month or six weeks from their birth, and my doctor has told me that this fact is quite to be traced to my nursing without stimulants."

"Well, I cannot understand how you manage, ma'am," said the young mother thoughtfully; "why, I am forced to take something every few days to soothe the dear babe's griping pains, or to give him a little strength when he has been pulled down with the diarrhea. What should I take in the place of stimulants for these things?"

"It strikes me," I replied earnestly, noting the troubled expression of the young woman's face—"it strikes me that but for the stimulant you take, your dear baby would never suffer in the way you say. My own children have been particularly free from these troubles, and in comparing notes with other mothers who are total abstainers I find their experience verifies my own."

"Well, you do surprise me," said the little woman—and there was a tearful ring in her voice—"if only I had known this earlier I—well, I never would have broken my pledge. I was a teetotaler until my first baby came, and it has only been for my children's sake that I have ever touched strong drink."

"You say you have done it for your children's sake," I said quickly. "What a sad mistake we make when, in our love to them, we blindly lead them into sorrow! Do you know that the alcohol which you take whenever you drink a glass of ale or stout, or of spirits and water, which I suppose you have taken to 'do baby good' when he has been suffering from diarrhea,—do you know that the baby gets it, little darling, and perhaps the very first taste of that which in after-years may prove his ruin *he gets direct from his mother!*"

"Oh, how dreadful!" exclaimed the young woman earnestly, and she snatched baby up from her knee, where he was now lying quietly as if listening to our conversation, and covered his little face with kisses.

"How very dreadful! Who would dare to give her child a taste so cruel?"

"Ah! who would?" I said, touched by the evident feeling in her voice. "Do we not, as mothers, long to be the first to bring our little ones to the Saviour to be blessed? And yet often while urging their little footsteps forward to him we ourselves lay a stumbling-block in their way, over which, in years to come, they shall fall. With one hand we seek to bring them to Christ, but with the other we hold them back. Oh! think of the value of our children's souls—we know their value only as we rightly estimate the sacrifice of Him who died to redeem them from death. And shall we tamper with their eternal welfare by leading them, though it be but a step or even *half a step*, nearer to the precipice over which so many have fallen?

"Only recently I have met with a clergyman, a woeful if not hopeless drunkard. He says from early babyhood he *liked the drink*. Ah! could his gentle mother undo the past, would she, knowing the awfulness of her son's life to-day, run the risk of giving to the babe at her breast his first taste for alcohol?"

"I never thought of it in that light before," exclaimed the young mother, blushing scarlet as she added in an undertone, "My poor father was a drunkard!"

And here followed a little talk, which ended in the young mother's promise to abstain from the use of stimulants for the future, cost her what it might, so long as she was "a nursing mother."

"If only some one had told me these things before!" she said, looking wistfully at her babe. "I believe there must be numbers of mothers who, through ignorance, think, as I did, that it is altogether impossible to 'nurse a baby' without the help of stimulants."

And it is to bring the subject before the

many who are laboring, like that young mother when I first spoke to her, under most cruelly wrong impressions, that I venture to give to the world this little scene. Were it merely a matter of erroneous belief, with no fear of after-consequences, enlightenment would be less important. But when it may be that the highest and best interests of our offspring are immediately associated with the fact of our belief in the use or non-use of stimulants in nursing, it is surely as wise as kind to seek to bring the subject before all classes, and as far as possible to plead with mothers everywhere to prove for themselves the truths here proclaimed.

While over Heaven's doorway there is written in letters too plain to be misread, "Drunkards shall not inherit the kingdom of God," we cannot surely lay too great a stress upon the responsibility of the mother who has it in her power to give to the innocent babe at her breast a taste, which to the drunkard of maturer age is what the acorn of to-day is to the oak of future years.

And as the great object I have in view is to bring an enlightened medical testimony before the mothers of our land, I append a letter from a London physician whose large experience in matters relating to nursing mothers and their children well qualifies him for the position of authority here accorded him; and when it is known that his voice is the voice of a non-abstainer, his words will doubtless be listened to by some who otherwise would give them but little attention.

Dr. Edis says, in writing to me upon the subject of nursing mothers and stimulants:—

"I have often thought that if mothers were only fully aware of the enormous amount of misery and suffering produced by the use of alcohol, whether taken in the form of beer, wine, or spirits, during the time they are nursing their offspring, they would have considerable scruples as to the indulgence of such a habit. Many a child born of healthy parents, with every prospect of attaining adolescence, has had its little life cut short, its constitution deteriorated, or the seeds of much future suffering and premature decay sown in its system, by the pernicious custom of its mother's resorting to the use of stimulants with a view to increase, or to keep up, the supply of that upon which alone the child is nourished.

"Women who were little given to alcohol at other times become, for the nonce, determined tipplers; this being, perhaps, of all times, that when alcohol is calculated to do the most harm and least good. Apart from all consideration of the risk of encouraging the habit of chronic tippling in the mother, the influence upon the child is most injurious.

"Many a case of convulsions, marasmus, so-called consumption of the bowels, diarrhea, flatulence, colic, vomiting, and countless other disorders among infants, is due simply and solely to the popular fallacy that the nursing mother cannot properly fulfill her duties unless she resorts to the aid of stimulants.

"I have had frequent and numerous opportunities of testing practically the truth of these statements. When mothers have relied on drinking milk in place of beer, and have studiously avoided the use of alcohol in any form, their children have been strong and healthy, suffering little or seldom from any stomach derangement, and running the gauntlet of the usual disorders of childhood, without causing undue anxiety to their parents, or being more than temporarily inconvenienced by the course of the malady.

"Not so in the case of mothers who depend largely upon stimulants: the children are frequently puny, excitable, and always ailing. They succumb readily to attacks of bronchitis, diarrhea, and similar ailments, and even when they survive the period of childhood, are often subject to various forms of dyspepsia that unfit them for the actual warfare of existence, and render their lives miserable.

"In cases where the mother's milk is inadequate to supply the wants of the child, it is a far wiser plan to give cow's milk (diluted with one-third water and slightly sweetened) by means of the bottle to make up the deficiency than for the mother to attempt to force the secretion of milk by resorting to stimulants.

"It is a popular fallacy that it is not a wise plan to mix the milks. This has no foundation in fact. Children thrive and do well where the bottle is alternated with the

breast, provided no thick or starchy food be given. In those cases where the mother's milk is deficient in quantity, or defective in quality, much may be done to improve its condition by the mother's taking a more liberal diet, of which cow's milk forms an important element. This will be far more likely to prove successful than a resort to stimulants—such as stout, port-wine, or even spirits, which more often tend to produce a feverish state of the system, and thus defeat the very object we have in view by diminishing the secretion of milk."—*Temperance Record.*

HOE-HANDLE MEDICINE.

On a bright, pleasant summer morning, a young man with a silk muffler around his throat and a woe-begone look on his pale face, plied the big knocker upon the doctor's dwelling. A lady answered the summons, and informed the applicant that the doctor was in his garden at work. To the garden the young man went, where he found the man of medicine engaged in hoeing his sweet-corn.

"Well, sir, and what is the matter?" the doctor asked, when the applicant had stated that he had come for medical advice and assistance.

"Well, doctor," with a lugubrious face and a whining, moaning tone, "I feel poorly all through. My head has spells of aching, my appetite is poor, my food does not set well, and I am very weak. Really, I need help."

"Yes, I see. Let me see your tongue. Ah! yes. Now—your pulse."

The pulse was felt, and after due deliberation, said the doctor,

"Look you, young man, you do certainly need help. Now, see; I must attend an important case at ten o'clock, and I must have this corn hoed before I go. So, while I am gone to make up a prescription for you, do you take my hoe and go on with my work here. You know how to use a hoe?"

"Yes, sir. My father was a farmer; but I have n't worked on a farm since he died."

"And you have n't worked much anywhere else, I take it," the doctor threw in, pleasantly.

"No, sir; I am not obliged to."

"Very well. I'll warrant you the work here won't hurt you, so go on with it until I come back."

With that the doctor trudged off, and the young man went at the work of hoeing. He hoed to the end of the row, and there removed the light muffler from his neck. Then he went at it again. Half-way down the second row he stopped and looked up, but no doctor was in sight. At the end of the row, as the absent one had not yet appeared, he pulled-off his coat.

The third row he hoed more slowly, stopping several times before the end was reached; but he finished it, and after a good rest, attacked the fourth row. There was but one more row after this, and the fancy seized him to have it done before the old fellow got back. It would be a surprise to him. The thought quickened his pulses, and gave him renewed vigor. He had just completed the last hill of the last row when the doctor came back.

"Well, well, my young friend, how are you feeling now?"

The patient really had to consider. He had been looking to see what the physician had brought with him of medicine; but he had brought nothing. His hands were empty.

"The work has n't hurt you, has it?"

"Oh, no, sir," his face glowing with the exercise.

"I thought not. Let me feel your pulse again." He held the young man's wrist for a brief space, and then—

"It has worked to a charm. Now, sir, do you go home, and repeat this dose twice a day, every morning and every afternoon; do it faithfully, and be honest with your diet, do n't use tobacco, and if that does n't work a cure, come and let me know. My fee, sir, is one dollar."

"One—dollar?" gasped the astonished youth.

"That is all I charge when patients call at my door."

"But, sir, in mercy's name, what is it for? Where is your prescription? What have I taken of yours?"

"My prescription, my dear young friend, I gave you before I left you here with my hoe; the medicine you have been taking in my place—a health-giving potion which I should

have enjoyed had I not given it up to you. And now, dear sir, I will tell you frankly, you are rusting out, literally tumbling to pieces for want of exercise of both body and mind. That is all, sir. You can follow my prescription and be cured, or you can take your own way."

The young man paid the dollar and went his way. Not then could he be cheerful; but afterward, when he had allowed reason fair play, and had come to prove the life-saving and the new life-giving virtues of the doctor's prescription, he came and thanked him.—*Sel.*

BEAUTIFUL LIVES.

BEAUTIFUL hands are those that do
Work that is earnest, brave, and true,
Moment by moment the long day through.

Beautiful feet are those that go
On kindly ministries to and fro
Down lowliest way, if God wills it so.

Beautiful shoulders are those that bear
Ceaseless burdens of homely care,
With patient grace and daily prayer.

Beautiful lives are those that bless—
Silent rivers of happiness,
Whose hidden fount but few may guess.

THE WISE CHOICE.

AN ancient philosopher classified all things about him into those things which concerned him and those which did not concern him. To the first he gave his thought, his time, his heart, his hand. He admitted them into his life. From the latter he conscientiously withheld himself. He could afford to spend no time upon them. A little thought will show any one that a wisely-ordered life must always maintain and resolutely observe a similar classification. It is not enough to divide all things into right and wrong, and admit all the right. There are many things, not sinful in themselves, that we cannot afford to take up into our life. The fittest only ought to be selected, and the fittest for one are not so for another.

This thought may be made more practical by applying it more closely and definitely. No one can read more than a very small proportion of the books in the world. How shall we decide what to read? Some, in their busy life, cannot master more than two or three books in a year. Should they not select out of the millions the two or three very choicest and best, those which will help them the most and leave the fairest touches on their lives? Out of the vast multitudes of men and women about us we can have but a few close friends whom we can take into the innermost circles of our hearts' companions. Should we not discriminate wisely, and select for those few friends the very rarest, choicest, noblest spirits we can find? We can do but a very few out of the multitude of possible things. We may work in sand or in marble: if in sand, the first wave will sweep away every trace; if in marble, it will endure for ages. Or, we may work on human life, and it will stand for eternity. Should there not be decisive selection as to the material on which we shall work and the things to which we shall put our hand?

Many people are perplexed as to what amusements are right and what are wrong. Continually we hear young persons ask whether they can do this or that and not vitiate their standing and character as Christians. Is there not a higher test? May I wisely do anything and everything which is not absolutely sinful? Should there not be discrimination even among innocent pleasures? Is not the influence of some amusements more refining and improving than that of others? Or, have I time to spare at all for amusements? A young man recently complained that he could get no time for reading, as he had to work all day, and there were social engagements every evening. Can he afford to spend all his evenings at clubs and parties? If he is wise, is he not bound to elect for himself that occupation of his spare hours which shall best help to fit him for manhood's work?

In passing through a magnificent bazar a gentleman remarked, "I am amazed to see how few of these things I need." It is so in this great, busy world. Of the million things about us there are but a few that really concern us, that are really essential to our life's happiness and success. Many of them are positively deleterious in their influence, and will work harm if admitted. It is but the smallest number that we can afford, in our

brief stay here, to take up or to spend time upon.

Hence, our whole life, to be wisely ordered, ought to be one of deliberate, conscious, well-considered discrimination, and careful, thoughtful selection. The few things it is possible for us to take up should be chosen conscientiously from the mass, and should be those which will most enrich our own lives and leave the most beneficent and far-reaching influences on others, and which will appear to have been the truest, fittest, and best when looked back upon from the eternal shores.—*Rev. J. R. Miller, in Christian Weekly.*

A FEW WORDS TO GIRLS.

NEVER in the history of civilization have girls enjoyed such opportunities as at present.

Nearly all avenues are open to them. Possibilities for earning or learning are greater than our grandmothers ever dreamed of.

Society, and that old growler, Mrs. Grundy, become daily more lenient. All necessary work is marvelously lightened by numerous labor-saving machines. Increasing wealth brings each year more comforts and more leisure.

Yet, if we compare the girls of to-day with those of fifty years ago, we shall find they have not kept abreast with the times. They have not advanced in health, beauty, and intellect, as much as they ought to have done.

Ask the girls themselves if they have improved every opportunity that came to them, if they are as well-informed, strong, and capable as they might be, and if they answer honestly, they will say "no." Merely to be pretty, and sweet, and nestling, is a very small ambition for a girl of to-day. When men were tyrants and women were slaves, beauty and physical winsomeness were the only capital needed; in fact, honesty and courage were rather dangerous virtues to possess.

But now-a-days, while women should be as sweet and gentle and beautiful as possible, they should still be strong and sensible.

Let sentimentalists prate of innocence and timidity as they will,—a husband may be proud of his wife if she is the prettiest woman on the street, but he will be prouder of her if she can answer a business letter for him when he is sick, or bind up a cut finger without fainting.

A word right here about this doctrine of innocence. In its general acceptance it means ignorance, and is abominable.

It may do in old countries, where a girl's every step is dogged by a duenna; but here in America, we do not want ignorant girls, nor girls that appear ignorant.

They should learn all that mothers, and books, and practical life can teach them; learn always with the desire for moral as well as mental improvement; then no knowledge can hurt them; neither will the strength so gained make them unwomanly.

I wish I could speak to all the girls in the land, and electrify them with the enthusiasm I feel for them. I would say, Girls, wake up! Grasp the opportunities!

Do not keep always paddling weakly along the shore of the river of knowledge, tied by the string of moral dependence to some father or brother, but get out into the broad current of human events.

Use your arms if you would row your intellectual boat strongly and swiftly. Read the newspapers,—hunt the cyclopedias,—ask questions,—call things by their proper names.

Don't fear some silly person will call you unladylike. Keep a womanly heart, and there is no fear that knowledge or strength will make you less sweet or happy.

Depend on yourselves. Self-dependence does not always mean earning one's living. It means the measuring of one's own path in life. It means to give as well as to receive; to bear as well as to be borne; to love as well as to be loved. It means individuality; and it means the power to *stand* before a blow rather than to fall.

Above all, be thorough. Don't skim books to say what you have read; better KNOW a dozen than *guess* at a gross.

Don't try to do everything, for then you can do nothing.

Better make a perfect bonnet, and know nothing of music and painting, than to murder Mendelssohn, and spoil a square mile of

canvas, a thousand times better. Keep busy; waste of time is waste of heart and happiness.

Be beautiful,—beautiful in dress, in form, in manner, and in heart; and be very careful that you do n't spend all your time and energies on the first two. Untidy, ill-made clothes are a disgrace to any woman; so is an ill-kept person. It does not follow, though, that the brain must always ply the sewing-machine, and never work for the heart.

All these words are but repetitions of what has been said a thousand times; but they cannot be said too often. Such things should appear, in some form, in every periodical. They should be printed like a perpetual advertisement; and well would they pay, if even one girl's mind were stirred into activity by the reading of a dozen such exhortations.—*Sarah Pratt Carr.*

LITTLE ACTS.

It is the bubbling spring that flows gently, the little rivulet which runs along day and night by the farm-house, that is useful, rather than the swollen flood of the roaring cataract. Niagara excites our wonder, and we stand amazed at the power and greatness of God there, as he "pours it from the hollow of his hand." But one Niagara is enough for the continent or the world, while the same world requires thousands and tens of thousands of silver fountains and gently flowing rivulets, that water every farm and meadow and garden, and that shall flow on every day and every night, with their gentle, quiet beauty. So with the acts of our lives. It is not by great deeds, like those of martyrs, that good is done—it is by the daily and quiet virtues of life that it is to be done.—*Albert Barnes.*

EDUCATION IN PERSIA.

It is a prevalent belief that the inhabitants of Persia are kept so low in the scale of civilization by the oppression of their rulers that they may well be classed as barbarians; but such is not the case.

Mr. Churchill, English Consul to Persia, says: "Public instruction in every town of Persia is strictly attended to, although its aims may not come up to the standard of our notions of education. Almost every child, male or female, in the country, is sent to school to learn to read and write, or, at least, to learn to repeat certain favored passages of the Koran; and the natural intelligence of the children is vastly superior to that of European youths. The development of their intellectual faculties at an early age is so astonishing that small children will hold their own with mature minds, and talk on subjects that would make our little folk of the same age stare with wonder. But, owing mainly to the fact that every book in Persian is a manuscript, and, consequently, inaccessible to the lower classes, on account of its high price, very few books are ever read by the people, and their progression as a nation is not marked."

Persia has been so often invaded, and so many races have contributed to the empire, that the present inhabitants are not descendants from the famous Medes and Persians whose laws were unchangeable, yet their antiquated ideas are almost as unalterable as those ancient decrees; and the people will still talk of the four elements,—earth, air, fire, and water,—believed in in the days of Plato, and will not be convinced that all such notions have long since been superseded and proven groundless by scientific discoveries. They still cling to the notion that the sun and all the stars revolve around the earth, which they believe to be motionless.

Logic, metaphysics, judicial astrology, astronomy, and mathematics are the branches of learning cultivated with the greatest degree of success. Geography is little understood, but mathematics is taught on better principles, owing to their possession of the works of Euclid. Alchemy is a favorite study, but chemistry is unknown. Their knowledge of medicine is but little in advance of the state of that science as left by Hippocrates and Galen, whose disciples they profess to be. Very little development is made in "fine arts," it being contrary to the true Mohammedan faith to make a representation of any created thing.

The Way to Find Life's Blessings.—If one should give me a dish of sand and tell me there were particles of iron in it, I might look for them with my eyes and search for

them with my clumsy fingers, and be unable to detect them; but let me take a magnet and sweep through it, and how it would draw to itself the most invisible particles by the mere power of attraction. The unthankful heart, like my fingers in the sand, discovers no mercies; but let the thankful heart sweep through the day,—as the magnet finds the iron, so will it find in every hour some heavenly blessings; only the iron in God's sand is gold.—*O. W. Holmes.*

POPULAR SCIENCE.

A Fossil Forest.—On the slopes of Amethyst Mountain, from 2000 to 3000 feet above the river valley, in the Yellowstone Park, are exposed at different levels, at intervals through the entire height, a series of silicified trees, many rooted in the position in which they grew, and from 20 to 30 feet in height. Some lying down are of great size, the fragments measuring 82 feet in diameter, and comparable to the giant Sequoias. The series of sandstones and conglomerates in which the trees are imbedded are more than 5000 feet thick, forming a vertical mile of fossil forests, the woody structure well preserved; but where cavities have been formed in the trunks of the rotting wood they are lined with crystals of amethyst and quartz.—*Jour. of Chem.*

To Render Cotton Fabrics Fireproof.—At the sanitary convention in Michigan, last winter, Dr. Kedzie, of the State Board of Health, said that cotton clothing could be prevented from taking fire by the use of borax in starching,—a teaspoonful to each pint of starch, after the water has been added. The borax can have no injurious effect upon the cloth or upon the wearer, and it is so cheap that all can afford to use it. It was shown by experiments that muslins and tarletans, the most inflammable goods, when treated with borax starch, could not be made to burn with a blaze. If all cotton dresses and underclothing, and especially the clothing of children, were treated in this way, a great number of lives and much suffering would be saved every year.

Electrical Gardening.—Dr. Siemens has been experimenting upon the use of the electric light to stimulate plant growth, and with some remarkable results. The *Funny Folks* of London takes occasion to make the following funny remarks on the subject:—

"Dr. Siemens, F. R. S., has discovered that the growth of vegetables may be hastened in a marvelous degree by subjecting them to the rays of the electric light. How this discovery will affect the professional gardener of the future may be gathered from the following anticipative notes:—

"Awfully sleepy; up all last night growing a pine forest for Lord Pibroch's new Scotch estate. No time for rest, however. There's the new potatoes for Sir Morris Millyunair's dinner to-day still unplanted; and the Duchess of Doublechin will certainly withdraw her patronage if her bouquet is not in full bloom to the very minute. . . .

"Great nuisance this. While I was at dinner the duchess's flowers have not only blown, but run to seed. Must plant another lot, and put on ten extra candle power, as the evening is drawing on; dig and dispatch the baronet's potatoes; also get the *Muddlepuddleton Chronicle's* annual enormous gooseberry under cultivation. As I have contracted that it shall weigh three tons and measure a mile in circumference by next Thursday, I can't afford to be backward with it. . . .

"Duchess's bouquet all right. Think I should like a few green peas with the lamb at supper. Sit down here and have a quiet smoke, while I watch 'em grow. . . .

"Eh? Hullo! Why, I must have dropped off! May have been asleep for hours, seeing that—No—yes, by Jove, it *is* so! The strongest Jablochkoff is turned full on, and one of my confounded pea vines has carried me up with it. I'm ten feet from the ground already, and I'm still going up! Hi, there! For goodness' sake, bring a ladder, somebody, and turn off that light!"

—An Italian in Nevada is supposed to be the strongest man in the world. He can lift 200 lbs. with one finger.

—The Academy of Sciences was recently presented with a specimen of a species of one-toed deer.

GOOD HEALTH.

BATTLE CREEK, MICH., AUGUST, 1880.

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

POISONOUS WALL-PAPERS.

THE necessity for calling attention to this source of danger to health still exists as strong as ever, and the public cannot be too often warned. We have frequent occasion to examine wall-papers with reference to this point, and have rarely failed to find among the specimens submitted for examination several which contained arsenic in dangerous quantities. The following extract from the annual report of a health officer at Nottingham, Eng., affords another evidence of the serious character of this form of adulteration:—

"At the beginning of the year I reported certain cases of illness due to this cause, that had come under my observation, and it was ordered that hand-bills should be printed for general distribution through the town. This was done, and they were extensively circulated, especially among paper-hangers. Since then, other cases have come under my notice, and I will briefly detail the facts concerning one group which serves as an illustration of others. Mr. and Mrs. R—— and family, consisting of two little girls, aged respectively five and three years, and a baby nine months old, together with two maid-servants, went to reside in a newly built, freshly papered house, about to be opened as a hotel at New Basford at the end of July last. The rooms were papered throughout with papers of two different patterns, both of which were colored with pigment containing Scheele's green in the proportion of .596 and .522 grains per square foot respectively, as was subsequently shown by the analysis of Dr. Truman. Soon after they commenced residence, every member of the household, with one exception, suffered severely from symptoms which are well known to be due to arsenical poisoning. One of the servants was so ill that her mistress sent her home. She then recovered in a few days, but on her return suffered again in a similar manner. The only member of the family who did not suffer in an evident manner was Mr. R——, and this would be accounted for by the fact that he was a good deal from home at the time. As soon as suspicions were confirmed by an examination of the papers, the walls were stripped, and in a few days the patients were well."

Arsenical wall-paper can be easily detected by the following method:—

Place in a saucer a small piece of the suspected paper; a square inch is sufficient. Pour on it half a teaspoonful of strong ammonia water, or spirits of hartshorn. After allowing it to soak a few minutes, allow the ammonia water to run to one side and drop into it a small crystal of nitrate of silver. The presence of arsenic is shown by the appearance of a yellow cloudiness about the crystal.

NEW DISCOVERIES ABOUT TRICHINÆ.

AN epidemic of trichinosis recently occurred in a military garrison at Thionville, in Germany, in which sixty soldiers were attacked by the disease. An investigation of the source of infection showed that the parasite was communicated by the flesh of geese, which must have contracted the disease by eating garbage containing portions of infected pork.

It is also stated that trichinæ have been found in fish caught in the North Sea, near Ostend. A pike examined with a microscope by a physician was found to be full of the parasites. In this case the fish undoubt-

edly became affected through eating the offal thrown into the water of the harbor. It appears that these ugly parasites are getting to be pretty much universal. They have been found in nearly all domestic animals, and wild game, and now it seems that fowls and fishes are becoming affected. The present indications are that a microscope will soon become as necessary a table instrument as a fork, if one has any rergad for the quality of the food he eats, unless flesh food is discarded altogether. The vegetarians certainly have a great advantage over flesh-eaters, since they can masticate their food in peace, without any misgivings that possibly each mouthful of food may have "millions in it," ready to "bore" him like a million of gimlets and play "hide and seek" among his quivering muscular fibers.

THE DOMESTIC MEDICINE-CHEST.

In our opinion, one of the most dangerous things that could be harbored in a house is a medicine-chest, at least unless it were locked and the key lost. Undoubtedly there are many simple remedies which are of service under various circumstances; but for such powerful poisons as usually fill the bottles in the domestic medicine-cases to be found in many homes to be placed in the hands of persons wholly unacquainted with the dangers connected with their use, seems to us to be in the highest degree hazardous, and a practice worthy of the most severe censure. We believe that an almost inestimable amount of harm has been done by the various "doctor books" which have been sold about the country. Instead of instructing the people in the things of real importance for them to know, viz., how to prevent disease, these works, by their reckless recommendation of powerfully poisonous drugs to be used by those wholly incompetent to employ them, even if they were needed or could be used advantageously, have been the means of producing disease and increasing the weight of human suffering. We heartily indorse the following remarks of a recent writer in the London *Lancet* on "The Domestic Use of Poisonous Drugs:"—

"It cannot be disguised that there are great practical difficulties in dealing with the perilous use and abuse of poisonous drugs. It is not easy to control the sale of these 'medicines,' and it is obviously impossible to restrain those who once have them in their possession from employing them in excess or improperly, either intentionally or by accident. The appeal must ultimately be found to lie at the tribunal of common sense. The public should understand that when a full dose of any drug is prescribed, it cannot be exceeded without risk. It not uncommonly happens that even the average dose of a popular remedy is in excess of the special requirements, and may threaten the health or lives of individuals. There are always in any large number of persons some who are especially sensitive to the action of particular drugs, just as there are here and there a few who are peculiarly insensitive. The dose of most remedies sold for public use is fixed to meet the supposed requirements of the mean 'constitution,'—to use a hackneyed term,—and it is at his individual peril any one takes it. If the common dose were fixed so low as to prevent the possibility of danger to any person, the drug would be generally considered useless, because to the majority it would be practically inert. This should be understood. There is, however, another point of even greater importance. A class of persons to which any individual may, for aught he can tell, belong, are so constituted in respect to the nervous system that almost any potent drug acting in a particular way will prove dangerous. When a man takes medicine,—of a potent sort,—without medical advice as to his personal state and need, he does so at his peril. A single grain of mercury in a pill, which is expected to act as a safe aperient, the anticipation being, perhaps, based on experience of a similar medicine, may salivate; a very mild sedative may induce the sleep from which there is no awakening. It is not always carelessness in the use of drugs and 'medicines' that kills, but ignorance; not ignorance of the remedy, or even of its customary effects,—simply want of knowledge as to the way it may operate under special conditions. If the risks of unskilled physic taking or giving were realized, there would be less of this dangerous trifling

in domestic life, fewer deaths by 'misadventure,' and, on the whole, we believe the majority of the people would enjoy better health."

BAD EFFECTS OF TEA AND COFFEE ON CHILDREN.

TEA and coffee dietary for children is as bad in its effects as its use is now universal. Dr. Ferguson, an English physician, found that children so fed grew only four pounds per annum between the ages of thirteen and sixteen, while those who had milk night and morning, instead of tea, grew fifteen pounds each year. This needs no commentary. The deteriorated physique of tea and coffee fed children, as seen in their lessened power to resist disease, is notorious among the medical men of factory districts.

TAKING HOLD RIGHT.

THE city of Chelmsford, Mass., has the good fortune to number among its citizens two gentlemen who are worth to any State more than money can estimate, for their practical common sense. One of the gentlemen, seeing a copy of GOOD HEALTH which was sent to a friend by some one on trial, noticed an article calling attention to the adulteration of vinegar with sulphuric acid, and pointing out a simple means for testing vinegar for the presence of the acid. He at once set about devising means to check the manufacture of the villainous stuff, and with the aid of a friend succeeded in securing the passage of a law to prohibit the manufacture and sale of vinegar adulterated in any way. Then, in order to attract public attention to the subject, this enterprising gentleman prepared the following circular, which he has caused to be circulated widely; we quote the whole, in the hope that some one else may be encouraged to go and do likewise:—

"PURE VINEGAR.

"We, the undersigned, have caused a law to be passed to regulate the sale of cider-vinegar in the State of Massachusetts. As the masses of the people are ignorant of what they have been using under the name of cider-vinegar, we have copied from 'GOOD HEALTH,' a Journal of Hygiene, an article relating to vinegar, and tests for the same, together with the law. The grocery man no longer has the excuse of ignorance for selling a bad article, as any person can purchase at the drug-store an ounce of muriate of baryta for six cents; dissolve as directed, and keep in small bottle as wanted. We have tried the same, and find it a sure test.

"Agricultural papers please copy for the benefit of farmers, and city papers for the information of their readers. Papers in other States please copy, as some vinegar manufacturers are seeking a market outside of this commonwealth.

"ISRAEL PUTNAM,
"GEORGE A. BYAM,
"*Chelmsford, Mass.*

"SULPHURIC ACID VINEGAR.

"As adulteration is the order of the day, it is not surprising that an article which can be sophisticated so easily as can vinegar should be the subject of harmful adulteration. There is no doubt that large quantities of vinegar are sold which contain scarcely a trace of real acetic acid, sulphuric acid, or oil of vitriol, being commonly used as a substitute. This acid is also very largely used for the purpose of giving additional strength to weak cider-vinegar. This adulterated vinegar is exceedingly harmful to the teeth and gums as well as the stomachs of the consumers, and it is very important that everybody who insists on using this condiment should know how to distinguish the pure article from that which has been sophisticated. The following is a simple and reliable plan:—

"Purchase at the drug-store a dram of chloride of barium, or muriate of baryta, as it is commonly called. Dissolve in as small a quantity of water as will completely dissolve it. If the solution is not perfectly clear, allow it to settle. Put a tablespoonful of the vinegar into a wine-glass, and add one or two teaspoonfuls of the clear solution. If there is any sulphuric acid present, a white powder will soon make its appearance at the bottom and on the sides of the glass.

"Considerable quantities of vinegar are made from artificial sugar, or glucose, made from refuse starch, sawdust, cotton rags, etc. Vinegar thus made contains considerable quantities of sulphuric acid, and hence it may be detected by the same test given for that which has been directly adulterated with the acid.—*Good Health.*

"AN ACT TO REGULATE THE SALE OF VINEGAR.

"*Be it enacted, &c., as follows:*—

"SECT. 1. Every person who shall manufacture for sale or who shall offer or expose for sale, as cider-vinegar, any vinegar not the legitimate product of pure apple-juice, known as apple-cider, and not made exclusively of said apple-cider, but into which any foreign substances, ingredients, drugs, or acids have been introduced, as shall appear by proper tests, shall for each such offense be punished by a fine of not less than fifty nor more than one hundred dollars.

"SECT. 2. Every person who shall manufacture for sale, or who shall offer or expose for sale, any vinegar found upon proper tests to contain any preparation of lead, copper, sulphuric acid, or other ingredient injurious to health, shall for each such offense be punished by a fine of not less than one hundred dollars.

"SECT. 3. The mayor and aldermen of cities shall, and the selectmen of towns may, annually appoint one or more persons to be inspectors of vinegar for their respective places, who shall before entering upon their duties be sworn to the faithful discharge of the same.

"SECT. 4. This act shall take effect upon its passage. [*Approved March* 17, 1880."

Sugar from Old Rags.—A few years ago Prof. Pepper, an English chemist, made quite a sensation in this country in a series of popular lectures on chemistry, by announcing that he had made two and one-half pounds of sugar from his old shirt. Sugar from old rags is not so much of a curiosity now as then, the laboratory experiment having been seized upon as a hint of a means of adulteration of foods by the unprincipled sharks who get their wealth by robbing their fellow-beings of health and even life. A French periodical states that "a German manufactory is turning out over a ton a day of glucose made from old linen rags. These rags, which are composed of hard vegetable fibres, are treated with sulphuric acid, which converts them into dextrine. The latter product thus obtained undergoes a washing with milk of lime, and is then treated with a fresh supply of acid stronger than the former, when the mass is at once transformed and crystallizes into glucose, of which 'rich' confections and jellies may be made. The process is said to be a very cheap one, and the glucose chemically identical with grape-sugar. A strong outcry, however, has arisen against the manufacture of grape-sugar from rags, and the enterprise is understood to be in danger of being interfered with by the German Government."

We would be glad to be able to say even so much, that the numerous fraudulent concerns which are in this country engaged in the manufacture of adulterated sugar were even "in danger of being interfered with" by the Government. They pursue their nefarious business unmolested and without fear of disturbance, any more than though they were engaged in some benevolent and philanthropic enterprise.

Poison in the Dinner Pot.—It has been shown by various chemists within the last three or four years that much of the enameled iron-ware sold at the present time contains lead in its enamel lining. The poisonous metal is readily dissolved by weak acids, such as those of fruits, vinegar, etc., and thus becomes a source of serious danger to health. This villainous adulteration may be detected by the following method: To two teacupfuls of water add half a cupful of strong vinegar, and a heaping teaspoonful of salt. Put this solution into the suspected vessel and allow it to remain over night. Remove a portion of the solution and place in a goblet. Add slowly fresh solution of sulphide of ammonia. If the liquid becomes black, or very dark brown, lead is present. If the color is yellow, or very light brown, no danger need be apprehended from the use of the vessel. The sulphide of ammonia can be obtained of any druggist.

Corset Crusade.—Under the above heading the London *Lancet* remarks as follows:—

"A few years ago an association of ladies was formed in Brooklyn, N. Y., to put down corsets, false hair, high-heeled boots, and similar follies. Good. A corset-wearer is very likely to suffer consequences by 'incurring external signs of a cramped liver, with its concomitants of a red and pinched nose, a jaundiced complexion, and an iclens eye.'"

If the ladies only knew how the evil custom of corset-wearing originated, we doubt not that they would be as anxious to discard the cruel "stays" as they now appear to be to retain them. According to a contemporary, "there is an old tradition that corsets were invented by a butcher of the thirteenth century, as a punishment for his wife. Finding

nothing stopped her loquacity, he put a pair of stays upon her, to take away her breath, and so prevent her from going about and talking. This effectual punishment was inflicted by other cruel husbands, till at last there was scarcely a wife in all London who was not tied up in this manner. The punishment became so universal at last that the ladies, in their defense, made a fashion of it, and so has it continued to the present time, which goes to prove, what history is continually proving, that women have the happy faculty of making the most of a bad bargain, and gracefully adapting themselves to circumstances."

A New Freak of Fashion.—Dimples have come into fashion, and are such a rage in New York that it has been necessary to import from Paris a dimple-maker. The following is a description of his mode of procedure:—

"I make a puncture in the skin at the point where the dimple is required that cannot be noticed when it has healed, and with a very delicate instrument I remove a slight portion of the muscle. Then I excite a slight inflammation, which attaches the skin to the subcutaneous hollow I have formed. In a few days the wound—if wound it can be called—has healed, and a charming dimple is the result."

Medical Uses of Eggs.—Under this heading, an exchange makes the following suggestions, which we heartily indorse from personal experience:—

"For burns or scalds, nothing is more soothing than the white of an egg, which may be poured over the wound. It is softer, as a varnish for a burn, than collodion, and being always at hand can be applied immediately. It is also more cooling than the "sweet-oil and cotton," which was formerly supposed to be the surest application to allay the smarting pain. It is the contact with the air which gives the extreme discomfort experienced from ordinary accidents of this kind; and anything which excludes air and prevents inflammation is the thing to be at once applied.

"The egg is also considered one of the best remedies for dysentery. Beaten up slightly with or without sugar and swallowed at a gulp, it tends by its emollient qualities to lessen the inflammation of the stomach and intestines, and by forming a transient coating on those organs to enable nature to resume her healthful sway over the diseased body. Two, or at most three, eggs per day would be all that is required in ordinary cases; and since the egg is not merely medicine, but food as well, the lighter the diet otherwise, and the quieter the patient is kept, the more certain and rapid is the recovery."

Symptoms of Chronic Arsenical Poisoning.—A recent writer, in a pamphlet on the subject, mentions the following symptoms, illustrating the effects common to the use of arsenical wall-papers and cosmetics:—

"The symptoms of chronic poisoning by arsenic begin with what appears to be an ordinary cold and cough, dryness and irritation of the throat, and frequent headache; extreme restlessness; great debility, accompanied with cold, clammy sweats; cramps of the legs; convulsive twitchings; and a group of nervous symptoms, varying in each case. Inflammation or irritation and smarting of the eyes and nostrils is often the most marked symptom, lasting for days, weeks, or months, sometimes accompanied with irritation of the whole mucous tract; short, dry cough; sore throat, running on to diphtheritic throat; ulceration and soreness of the mouth and tongue; irritative fever, which, if persistent, exhausts the patient, and death takes place by collapse, coma, or convulsions. Among the symptoms there has been occasionally irritation of the skin, accompanied with eruptions."

The Era of Pads.—The *Pharmacist* suggests that the present is an "Era of Pads," and remarks as follows:—

"We refer not to the foot-pads, who are indeed plentiful enough, but to those little specimens of medical upholstery now hawked about for almost every ill that flesh is heir to. Medical philosophers who were wont to hold up the temporary success of the Perkins tractors as an example of the superstition once prevalent among the people, and to congratulate themselves on the intellectual superiority

of this age, stand in amazement as spectators of a repetition of the folly of faith. Already we have 'liver pads,' 'lung pads,' 'kidney pads,' 'headache pads,' and of course will soon have 'heart pads,' 'stomach pads,' 'worm pads," etc. Erelong we may expect enterprising firms to advertise as complete a line of pads as they now do of elixirs or sugar-coated pills. The padites or paddies appear to believe that remedies permeate the body, as do bullets, in a direct line, regardless of teguments, tissues, or circulating fluids."

Another Quack Nostrum Exposed.—People who are prone to put confidence in the multitudinous quack nostrums which are so much lauded in the advertising columns of the newspapers should know that the wonderful remedies to which such astonishing cures are attributed, are in ninety-nine cases out of a hundred worthless weeds, the remaining one being some noxious poison which is only capable of harm. The much-lied-about "anti-fat" is a good illustration in point. A writer in the *British Medical Journal* states that this nostrum is an extract from the *Fucus vesiculosus.* He adds, "Some who are paying expensively for the remedy may be surprised to hear that the *Fucus vesiculosus* is here largely used as a food for pigs, and that it in no way interferes with their growth. It will require a number of well-reported cases to convince me that what fattens a pig will make a Christian lean. I have myself visited a sty to verify the fact that it was really the *Fucus vesiculosus* which the pigs were getting."

THE MICHIGAN STATE BOARD OF HEALTH.

THE regular quarterly meeting of this Board was held at their rooms in the State Capitol at Lansing, on Tuesday, July 13, commencing at 9 o'clock, A. M. The following members were present: Dr. R. C. Kedzie, President, of Lansing; Rev. Dr. D. C. Jacokes, of Pontiac; Dr. Henry F. Lyster, of Detroit; Dr. J. H. Kellogg, of Battle Creek, and Dr. Henry B. Baker, Secretary.

Dr. Lyster called the attention of the Board to syphilis, a disease to which but little attention is paid by sanitarians, but which causes much sickness and many deaths in this State. He was requested to prepare a paper on the subject, and present it at the next meeting of the Board.

The resignation of Dr. H. O. Hitchcock, of Kalamazoo, as a member of the Board, and the appointment of Prof. E. H. Strong, of Grand Rapids, by the Governor, were announced, and resolutions of regret were adopted.

A letter from Dr. Hitchcock commended very highly his successor, Prof. Strong, as also did other members.

BOARD OF HEALTH IN DETROIT.

The Secretary presented a communication from F. G. Russell, city attorney of Detroit, suggesting that the State Board address a letter to the mayor and aldermen of that city, recommending the organization of a board of health, and the appointment of a health officer.

Dr. Lyster said there was no way of getting reliable statistics relative to sickness and mortality in Detroit. The record of interments is the only source of information, and is not reliable, as the reports to the city clerk are voluntary, and there are many interments (especially of Israelites) outside the city. The old board of health was not efficient, because unwieldy; but the "sanitary squad," of the police force, does some efficient work in enforcing the ordinances relative to garbage, etc. The city police, however, oppose the appointment of a health officer, fearing it will interfere with the work of their "sanitary squad." It was suggested that perhaps the people of Detroit did not wish the real facts relative to sickness and death disclosed. Drs. Lyster and Baker were appointed to prepare a plan for a board of health in that city, and endeavor to secure its adoption.

SICKNESS AND PAUPERISM.

A communication was presented from Hon. H. W. Lord, Secretary of the State Board of Corrections and Charities, relative to pauperism as a result of sickness. After some discussion relative to the amount of pauperism caused by sickness, and the extent of the field over which a study of the subject should reach, a committee was appointed to investigate the subject, to be known as "the committee on the relations of preventable sickness to taxation," with Dr. J. H. Kellogg as chairman.

SANITARY SCIENCE EXAMINATION.

The remainder of the forenoon session was principally occupied with routine work, and the perfection of details for examining and marking the standing of candidates in the examinations in Sanitary Science inaugurated the following day, and which require: "The replies on each set of topics shall be marked on a scale of 10, and an average standing of 70 per cent on all topics shall be necessary in order to pass the applicant." One who successfully passes the examination receives a certificate that he is considered qualified to act as health officer of any township, city, or village in Michigan.

A paper on "Unsanitary Conditions in our Public Schools," by G. E. Corbin, M. D., of St. Johns, was read. The paper consisted of details of over-crowding, bad ventilation, and the sickness resulting therefrom, which came under his personal observation. The paper will be published in the Report for 1880.

Two valuable papers by A. W. Nicholson, M. D., of Otisville, were presented. One was on "Ozone," and contained details of numerous experiments; and one was on "Periodic Fevers," containing detailed records of cases and coincident meterological conditions. The papers were accepted with thanks, and ordered printed in the Annual Report for 1880.

ADULTERATIONS OF FOODS.

Dr. Kedzie said he had received a request from gentlemen in Chicago to enter upon an investigation of adulterations of foods, and had replied that the Board had no funds. He stated that the adulteration of sugar with glucose was increasing rapidly, and was being done more skillfully; that adulteration with pure glucose did not endanger health, but the sugar was not so sweet. The manufactured glucose, however, was unhealthful to take into the stomach, because of poisonous substances which are always associated with it. Dr. Lyster said a prominent candy-dealer had informed him that all candies excepting rock-candies were composed in part of glucose. Dr. Kedzie said nearly all syrups were made from glucose.

The Board adjourned until October 12, 1880.

LITERARY NOTICES.

HINTS ON HEALTH. London, England: Lakeman and Son.

This is a lecture, printed in pamphlet form, delivered by Richard Paramore, Member of the Royal College of Surgeons of England. The following selections will show its general character:—

"Health is a talent for which we shall have to give an account. There is an inexorable law in nature, 'Whatsoever a man sows, that will he reap.' Most of our evils can be traced to thoughtlessness, inattention, and carelessness. We are constantly bemoaning the brevity of life, and yet we are lacking in method as regards the proper use of time. No greater cause of ill health is in operation than laziness, 'the devil's cushion.'"

"It must not be forgotton also that cleanliness is next to godliness. No one should neglect to have a bath once a day, and wash every part of the body at least twice a week with soap and water, because the skin contains an oily liquid, and in the products of dirty skin are also myriads of living creatures, both animal and vegetable, and they do not like soap and water. We should be scrupulously careful as regards our clothing, our underclothing, and everything else appertaining to the body."

"Dirt and disease are the same. How many are eternally lost for want of being washed in that fountain opened for sin and uncleanness! How many in the tomb are silently, yet eloquently, appealing to us to be clean! Few are aware of the thousands who are constantly borne to the cemeteries for want of water being used sufficiently. How many merely wash the face and hands so as to appear 'clean,' when they are a mass of decomposing matter in parts hidden from vulgar gaze."

This is the kind of information which is of greatest practical value to the people. The more we have of it the better.

SCIENCE. New York: Terms $4.00 per year.

This is a new journal, started in the interest of scientific progress. It is a weekly, and according to the prospectus, its "aim will be to afford scientific workers in the United States the opportunity of promptly recording the fruits of their researches, and facilities for communication between one another and the world, such as are now enjoyed by the scientific men of Europe." Each department of science conducted in the journal is to be supervised by some recognized authority in that field of research. Among the associate editors are to be found the names of several of the scientists of this country.

LE BON CONSEILLER. Paris, France: 20, Rue Bergere.

This is a temperance journal published in the French language in the interest of the *Societe Francais de Temperance*, and especially adapted to the instruction and counsel of the youth as well as those of more mature years. Too much cannot be printed in the cause of temperance, and every effort to forward the work of rescuing mankind from the terrible vice of intemperance and to educate the young to an understanding of its evils should meet with a hearty second.

ANNUAL REPORT OF THE STATE BOARD OF HEALTH OF MICHIGAN FOR 1879. H. B. Baker, M. D., Secretary. Lansing, Mich: W. S. George & Co., State Printers.

In noticing the above report we cannot do better than to quote the following paragraphs from a lengthy review which appeared in the Lansing *Republican*:—

The seventh annual report of the State Board of Health, for the fiscal year 1879, just received from the press of the State printer, contains evidence of an increasing interest in sanitary work, both in those to whom the guardianship of the public health has been intrusted and on the part of the people generally. Without the spur of such great epidemics as have desolated Memphis and New Orleans, the people of Michigan seem slowly to be learning that the every-day sickness and the usual rate of deaths of young and middle-aged people from the so-called ordinary diseases, make a burden hard to be borne, and one which can largely be and ought to be avoided. Besides the Secretary's report of the work of the Board, etc., the report contains twenty papers and reports on a large variety of sanitary subjects, mostly written by members of the Board. These papers may be classified somewhat with reference to the several departments of the work which the Board has undertaken.

Against the judgment of the Board, the Legislature in 1879 reduced the flash-test for the inspection of illuminating oils from 140° to 120° F., and abolished the chill-test for paraffine. In view of this, Dr. Kedzie, by request of the Board, prepared a historical review of the inspection of illuminating oils in Michigan. In this is set forth the urgent necessity of the protection of life, limb, and property, which led to the adoption of the Michigan law, the growth of that law under the test of experience, and the essential requisites of a safe and effective law. While Dr. Kedzie does not approve the reduction of the flash-test and the abolition of the chill-test, he thinks that on the whole there has been, since 1869, real progress in the oil legislation of the State.

Next to its advocacy of a high test for illuminating oils, the Michigan Board of Health is coming to be known for its war on the less-recognized contagious diseases, especially on those two great scourges of childhood, scarlet fever and diphtheria. The great aim seems to be to secure a recognition of the fact by all classes of people that these diseases are contagious and are to be prevented, and held in check whenever they may "break out," by the same rigid isolation of the sick and thorough disinfection or destruction of whatever may have come in contact with the sick, that is found successful in small-pox. This idea runs through the report of the committee on epidemic, endemic, and contagious diseases, the summary of replies by correspondents relative to diseases in 1878, the circulars to health officers and other officers of local boards of health, and the article on weekly reports of diseases. In this respect the evidence differs from the belief of those who hold that the great means of preventing these diseases is the removal of ordinary filth. It is stated, for instance, that the first case of diphtheria in Three Rivers for thirteen or fourteen years was contracted from clothing taken from a trunk to be aired, by a lady who had lost a child two months previously from diphtheria, and that of the four cases contracted therefrom three were fatal. Another similar instance is given.

The subject of privies and water-closets at railway stations, slaughter-houses, and rendering establishments, the ventilation of buildings already constructed, the reclaiming of drowned lands, the falling of the grand-stand at Adrian, the wrecking of the Pacific express train at Jackson, the danger from quackery in medicine, and the proper removal of night-soil or filth, have received the attention of the Board. The question of the need of further legislation in Michigan to prevent such calamities as those at Adrian and Jackson has been referred to Hon. LeRoy Parker, of Flint, as committee on legislation in the interests of public health.

Dr. Hitchcock condemns all vaults under privies attached to station-houses, or near station-houses, and advocates for smaller stations the use of the dry-earth commode, and for larger stations the removal of the ordure from its receptacles by means of an odorless excavating apparatus. Incidentally, also, the dry-earth system is recommended in a paper by Dr. Kellogg.

Rev. Dr. Jacokes gives a series of illustrations of practicable methods of attaching sheet-iron ventilating jackets to stoves, stove-pipes, and chimneys, and at small cost, which leaves no excuse for living in close, unventilated rooms because of the cost of warming, or ignorance of methods of warming, pure fresh air.

Dr. Lyster gives statements of successful drainage near Bay City and in Macomb and Wayne counties by means of dikes and ditches inclosing large tracts of land, the water being pumped out either by horse or wind power.

In a report of the meetings of the Sanitary Council of the Mississippi Valley and the National Board of Health held at Memphis and Atlanta, Dr. Kedzie gives an abstract of a valuable discussion of the principles of maritime and inland quarantine, which incidentally shows how important it is that methods of protection from yellow fever be employed which shall not destroy the commerce of the Mississippi Valley. He also gives an address on general sanitation prepared by a committee of the council of which Dr. Kedzie was a member, the address containing a summary of sanitary rules applicable from Michigan to New Orleans.

Mr. Parker contributes a paper relating mostly to the power of a board of health to abate nuisances, and the steps first necessary to be taken; and also an opinion as to the duties and compensation of the health officer of a city, written in reply to questions from the health officer and a member of the Board of Health of Grand Rapids. Dr. Hitchcock, also, in a general answer to a communication from a man in Dowagiac afflicted with a slaughter-house near his dwelling, shows that the law has made provision for the abatement of nuisances by local boards of health, or even the individuals offended by the nuisance, if they will but use the means within their power.

The failure of the authorities of towns to protect citizens from nuisances and from preventable exposure to contagious diseases has led in some places to the formation of voluntary sanitary associations for self-protection and mutual benefit. Dr. Kellogg presents the history of such associations in this country and in England, and offers suggestions as to methods of organization and lines of work.

The occurrence of two fatal cases of glanders in men in Michigan, in 1879, is made the occasion for a full discussion, by Dr. Baker, of the nature of the disease, the means of its communication in horses and in man, and the measures necessary to its prevention. Destruction of all glandered beasts, and complete isolation of those suspected, are held to be the only effective means.

Publishers' Page.

☞ The Sanitarium has at the present time the largest number of patients ever in the institution at one time since its first establishment. The capacious dining-room has for some time been full to overflowing, and it has at last become necessary to convert the gymnasium into a dining-room for the accommodation of the new patients who are almost constantly arriving. We are glad to know that several other health institutions are equally prosperous, and take this fact as an indication that the public are coming to see the value of this plan of treatment for many classes of chronic invalids.

☞ July 14, the State Board of Health, of Michigan, held, according to appointment, the first examination in sanitary science ever held in this country. The increasing interest in hygienic and sanitary reform has created a demand for competent health officers to examine into the sanitary condition of cities and towns, and to take the proper steps for the abatement of nuisances of various sorts. The inefficiency of health officers is one of the greatest difficulties with which State Boards of Health and other sanitary workers have to contend. The object of the establishment of annual examinations in sanitary science for the position of Health Officer, is to stimulate improvement in this direction, so as to secure for the principal towns and cities in the State, some time in the near future, thoroughly capable and efficient men.

☞ Our trial-trip subscribers give evidence of appreciation of the journal by subscribing very promptly for a year when the short subscription runs out. We are glad to see that several hundred names have been transferred to our regular list from the trial list. The good results of this experiment are seen not only in an increased subscription list, but in the good that has been accomplished by the introduction of important hygienic and sanitary truths into new fields. The case mentioned in the editorial department of this number is only one of a number of instances illustrating this fact which have come to our notice. This sort of missionary work is certainly profitable. Still let the work continue. The trial trip may continue as long as names are sent in.

☞ In place of the usual *H. & T. Quarterly* we send to members of the H. & T. Association this month the *Health and Temperance Budget*, which will explain itself.

☞ We are glad to see a general appreciation of the importance of sanitary subjects, as manifested in the liberal extracts from GOOD HEALTH in the columns of our exchanges, as well as in the kindly notices of the journal bestowed by the press generally.

HOW TO MAKE MONEY AND DO GOOD.—There is no other business which will afford so good returns for the amount of money invested and the time required to attain success, as the book-canvassing business. A large share of the best books are now sold in this way, and many talented men are engaging in the business. There are few kinds of employment in which so much good can be accomplished as by a good agent with a good book.

We offer to all who desire to enter into this field of work and have ability to succeed in the work, an opportunity to canvass for the "Home Hand-Book of Hygiene and Medicine," the latest popular medical work published, and, according to present prospects, destined to be the most popular. Agents now canvassing for it are doing remarkably well. One man took twenty-six orders the first eight days. A lady canvasser took twenty-three orders in six days. The same agent one day obtained eight subscribers in seven hours. Agents of much experience in good territory can do even better. We have State agents established in the following States, and wish canvassers to introduce the book at once :—

Iowa, Kansas, Nebraska, Illinois, New York, California, Oregon, and Washington Territory. The price of Outfit, including prospectus book, guarantee cards, circulars, instruction book, etc., is $2.50 postpaid.

A liberal commission is given, according to the amount of work done. Although the work has been offered for sale but a short time, orders have already been received for over 3,000 copies. For terms, etc., address, Good Health Pub. Co., Battle Creek, Mich.

TO TEMPERANCE WORKERS.—It was found necessary to publish last month 1600 copies of the *Temperance Budget* to supply the various clubs, at an expense of about $50. It is desired by the executive committee of the society that there should be an immediate response from all who received the *Budget* in answer to the questions, How do you like it? Shall we have another? Will you pay for it? Did you use it as designed? Have you any suggestions to make? The secretaries of clubs which held meetings will please send reports of the same for publication in the next issue of the *H. & T. Quarterly*.

WANTED AT ONCE.—Fifteen strong, healthy, intelligent, energetic girls are wanted at once to learn the business of making knit goods by machinery. The trade is easily learned, and fair wages, from $3.00 to $4.00 a week, can soon be earned by those who are quick and apt to learn. Employment will be given for one year or longer. Also,

TEN STRONG GIRLS to work in laundry and dining-room, and at general housework. Address, sending testimonials and other particulars, Sanitarium, Battle Creek, Mich.